CRACOW UNIVERSITY OF ECONOMICS

FOUNDATION OF THE CRACOW UNIVERSITY OF ECONOMICS

EFFECTIVENESS AND COMPETITIVENESS OF MODERN BUSINESS

CONCEPTS – MODELS – INSTRUMENTS

EDITED BY

ANDRZEJ JAKI, TOMASZ ROJEK

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Concepts – Models – Instruments

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Department of Economics and Organization of Enterprises
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Reviewer

Krzysztof Janasz

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Contemporary enterprises are undergoing constant evolution, adjusting the objectives, functions and tasks, as well as the methods of the organisation of work and management to changing conditions of conducting business activity. The sources of the evolution and the change in their behaviours must be searched for in less and less transparent but dynamically changing environment which, on the one hand, creates new opportunities for the functioning and development of enterprises, and, on the other hand, poses new requirements and challenges to them. What determines the effects and future developmental opportunities of business entities and institutions is the speed and the rightness of the identification of changes undergoing in the environment, an adequate analysis and assessment, as well as flexibility and readiness to reorient the activities of enterprises towards the proper organisation of the existing and new structures in relation to the market and crisis situations, perceiving customers and competitors as intrinsic elements of their activity, producing a capability of overcoming the resistance of the environment and creating own strategic potential. Therefore, the key element influencing the quality of this potential is the environment in which enterprises function - in relationship with other entities, in a specific region and in conjunction with the state. The environment influences the elements which constitute it, creates chances and opportunities, requirements and constraints, but also entities of this environment have impact on it, link it to them and define its character. In this way, it becomes more and more complex and volatile, and imposes an implicit need for the evolution of its elements. In consequence, it leads to constant extension of the scope of connections between enterprises and the environment. The scope of these connections concerns not only the technical and economic sphere but it spreads onto the sphere of social, political and cultural problems. Thus, the environment of enterprises makes business entities stay in constant tension and readiness to react to the effects of turbulent changes. The sensitisation of enterprises to these changes may vary a lot and be very complex. It mainly depends on the force of changes, the position of the enterprise on the market and the implemented strategy based on the vision of the future which explains the sense of changes and sets the direction for the activities. As a result, entities functioning in the contemporary economy, regardless of the size or industry in which they operate, the forms of ownership or the way in which they are organised, undertake various ventures as a way of flexible adaptation to market conditions, operating competition and an increase in the effectiveness of operations. In this context, market competition, known since the beginning of the functioning of the market and conducting business activity, has now considerably changed its nature. Today, building competitiveness on the global market implies an inevitable necessity to conquer new and new markets and constantly raise the effectiveness of operations. The survival and development of enterprises in

such conditions require not only to understand the principles of entrepreneurship and the functioning of international business, but also to search for new tools of building competitiveness. It bears the need to properly diagnose the determinants of competitiveness, indicate paths of their development, and adjust management systems to the changing management conditions. The consequence may be the statement that contemporary enterprises are under a very strong pressure of changes, the source of which is both the growing complexity and volatility of their macro- and micro-environment and the increasing competition on the market, and following it need for the growth of the effectiveness of management.

In economic studies enterprise effectiveness has become not only a basic ordering notion serving the analysis of the assessment of the past, but also an ordering idea in setting new directions of operations. Economics has absorbed such terms as economic progress, economic growth, economic development, "extra-economic" factors, which to a great extent influence the development and effectiveness of enterprises, are now appreciated. At the same time, one should be aware that every operation of an enterprise is conditioned by an individual situation in which it is. Therefore, business entities should permanently analyse their needs with regard to the growth of effectiveness on based on that premise they should define their own detailed strategies of operation. The strategies must change in time and in the phase of their implementation there should be constant verification of the adopted concept and its adjustment to the changing environment. For all these actions, it is necessary for the enterprise managers to be aware that achieving the adequate effectiveness level is a necessary condition for the stable functioning of the enterprise. Simultaneously, it is an axiomatic imperative of its existence on the market. The effectiveness of an enterprise directly results from the possessed and skilfully used resources which, in turn, enable to create competitive advantage. The theses have already found its justification in the practice of enterprise functioning, and they have also been entered in the scope of economic studies in the area of the economics of enterprise. Hence, the shaping of enterprise effectiveness is an activity which is now a permanent part of both the canon of management studies and the pragmatics of conducting business activity.

However, regardless of the challenges facing business entities and new business models created by them, contemporary enterprises cannot forget about the classical and always current goals of functioning and management principles. Management is unalterably the process which in an univocal way determines the quality of the organisation and the effectiveness of its functioning, regardless of new and evolving challenges caused by the conditionings presented above.

This publication refers to the presented diagnosis of the current transformations of economy and entities functioning in it. It is a scientific reflection on the contemporary conditionings and trends of the process of conducting business activity, shaping competition among enterprises, as well as searching for new management strategies and tools which in the face of permanent changes in the economic environment will enable to raise the effectiveness of management and meet the requirements of the contemporary market. The book presents the scientific output of various academic centres and can be included in the stream of deliberations over the activities aiming at the creation of new mechanisms and solutions in the area of contemporary enterprise management. The entirety of the deliberations presented in the publication is divided into the following four parts depicting theoretical, methodological and practical aspects of the presented problems:

1. Competition strategies and business models.
2. Management concepts and their applications.
3. Instruments of management in contemporary enterprise.
4. Selected aspects of the effectiveness of the Polish capital market.

This book is a theoretical - cognitive and methodological study, the aim of which is the presentation and systematics of the scientific and practical output concerning selected thematic areas, the discussion and critical assessment of this output, as well as the presentation of own reflections and proposals with regard to the analysed issues and problems. The publication is a result of many years' cooperation of

the Department of Economics and Organization of Enterprises of the Cracow University of Economics with the representatives of various Polish and foreign scientific centres and persons representing the economic practice.

Handing over the discussed work to the Readers we express our belief that the publication in the presented form is fully justified, both from the theoretical-cognitive, practical and didactic point of view. It may be a point of reference for new reflections, inquiries, polemics, analyses and a critical discussion over the presented problems. The commitment of a large circle of the Authors has enabled the presentation of the discussed issues in a broad and multi-threaded way. As the scientific editors of this work, we would like to express gratitude to all the Authors for accepting the invitation to co-create the publication and share the findings of the research conducted by them with the Readers.

Andrzej Jaki, Tomasz Rojek

PART I

COMPETITION STRATEGIES AND BUSINESS MODELS

Estera Piwoni-Krzeszowska
Wrocław University of Economics, Poland

RELATIONSHIP STRATEGIES AS A CONTEMPORARY TREND OF THINKING ABOUT STRATEGY

Summary

The paper presents a proposal of a typology of relationship strategies from the viewpoint of the portfolio. The relationship entities, the attractiveness of relationships and the security of relationships are dimensions making up the portfolio. Thus there have been identified relationship strategies. The first group are strategies using the potential of cooperation (i.e. the strategy of partnership, the strategy of commitment in relationships with stakeholders and the strategy of collaboration or co-opetition in relationships with competitors). The second group are strategies that focus on competition (i.e. the strategy of monitoring, the strategy of defense in relationships with stakeholder sand the strategy of coexistence or the strategy of fighting in relationships with competitors).

* * *

Introduction

The problem of relationships has been undertaken in the literature for many years. Currently, there is particular interest in management studies, but a relational approach to strategy is a research trend which is only beginning to be explored. The relationship strategy seen as an ongoing and dynamic process of choices about acquiring, building satisfaction, maintaining or breaking off relationships that are realized in conditions of greater or lesser uncertainty of functioning of a company in order to create value, build and maintain the competitive potential and to get a relationship premium underpins the development of the company. The relationship strategy affects the strategic choices across an enterprise, business units and function-wise, which have impact on its development. The relationship strategies also apply to various inter-organizational relationships, i.e.: relationships based on cooperation, on transactions, on competition, and finally on coopetition and the sestrategie scan be viewed in various cross-sections which make it possible to build a typology of relationship strategies. Due to the complexity and multiple threads of shaping of inter-organizational relationships there exists a taxonomic gap in the field of relationship strategies whose elimination is believed to be necessary. In this context, the objective of this paper is to explain the essence of relationship

strategies and propose their typology from the portfolio viewpoint which will contribute to at least partial bridging of the gap research. The article is of an epistemological nature and literature research is an applied method.

Relationship strategies as a manifestation of contemporary strategic goals

Currently, the approach to build a strategy both from the point of view of the structure of the sector as well as from the perspective of individual entities in the sector appears to be not fully fit for building a competitive position. In today's world it is ever more clear that paradigms related to methods of developing company strategies in positional and resource terms are getting less valid[1]. The reasons for this development should be primarily traced in the increasing rate of change and unpredictability of operational conditions,ever increasing competition, which means that companies face an ecessity to complement internal competences, which in turn results in the increasing interdependence of actors of exchange. In these circumstances,relationships become the basis for the company's strategic activities[2]. Thus,we are witnessing the third era of formation of strategy development[3], i.e. which is based on"the portfolio of relationships", which complements the previous stages of this strategy i.e. the "portfolio of business" and "portfolio of capabilities"[4]. The relational approach to a resource trend strategy is related to the resource premises through the necessity of sourcing required resources. However, the relational approach complements the resource theory with an importance of external relational resources in creating value and building a competitive edge. On the other hand, the perception of the importance of the external environment in the creation of this edge is a common point of the positional and relational approach. The development of the positional school of thought can be seen in highlighting the significance of adjusting the positions of the relationship parties against other entities of the surroundings[5]. In this context, relational strategies for the company's growth are an expression of an adaptation to a selective environment while shaping the environment and conditions of survival"[6].

However,it should be stressed that the relational strategies area broader category than the network strategies because the relation it self is a set of feelings, attitudes and behaviors towards each of two (or more)players in the market and interactions between them, which can be positive, negative or neutral[7]. In contrast,the network consists of entities that establish long-term relationships, described by the exchange(material, information, energy), commitment and

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1 Sz. Cyfert, K. Krzakiewicz, *Przesłanki i dylematy zastawania koncepcji organizacji sieciowej z perspektywy zarządzania strategicznego*. /W:/ *Zarządzanie strategiczne Quo Vadis*, red. naukowy: R. Krupski, Prace Naukowe WWSZiP nr 22 (2), Wałbrzych 2013, s. 229.

2 A. Zakrzewska-Bielawska, *Ewolucja szkół strategii: przegląd głównych podejść i koncepcji*. /W:/ *Zarządzanie strategiczne. Rozwój koncepcji i metod*,red. naukowy: R. Krupski, Prace Naukowe WWSZiP nr 27 (2), Wałbrzych 2014, s. 20-21.

3 J. Niemczyk, *Strategia. Od planu do sieci*, Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu, Wrocław 2013, s. 23.

4 N. Venkatraman, M. Subramaniam, *Theorizing the future of strategy: Questions for shaping strategy research in the knowledge economy*. /W:/ *The Handbook of Strategy and Management*, red. naukowy A. Pettigrew, H. Thomas, R. Whittington, Sage Publications 2002, s. 461-474.

5 A. Zakrzewska-Bielawska, *Ewolucja szkół strategii: przegląd głównych podejść i koncepcji*. /W:/ *Zarządzanie strategiczne. Rozwój koncepcji i metod*,red. naukowy: R. Krupski, Prace Naukowe WWSZiP nr 27 (2), Wałbrzych 2014, s. 19.

6 E. Stańczyk-Hugiet, *Dynamika strategiczna w ujęciu ewolucyjnym*. Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu, Wrocław 2013, s. 135.

7 E. Piwoni-Krzeszowska, *Zarządzanie wartością relacji przedsiębiorstwa z rynkowymi interesariuszami*. Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu, Wrocław 2014, s. 22.

reciprocity[8]. Thus, the relational approach to strategy involves strategic choices concerning decision-making about establishing different types of relationships in order to get a relationship premium[9]. In the case of short-term relationships whose value is created first of all in economic terms, actors seek primarily to satisfy their own interest sand if it comes to any co-ordination of exchange,the so-called Burt premium is created[10]. In contrast,the basic premise of a decision about shaping the long-term relationships is a drive to get the relationship premium i.e. the so-called Coleman[11] premium, evidenced by"an additional profit generated jointly by the parties in the relationship, which could not be achieved by any of the parties alone and which is based on common expenditures incurred by the parties in he rent to this relationship"[12]. Companies of ten aim to obtain a premium not only through relationships with stakeholders but also with competitors[13]. The pressure of competition and willingness to cooperate constitute coopetition[14], which is defined as"a system of actors operating on the basis of partial compatibility of interests and objectives"[15].

Thus,dependent on internal and external conditions specific for them companies make decisions about with whom,at what time and what type of relationships to shape, but at the same time they are also subject to such decisions made by other entities in their environment. The relationship strategy is therefore always the result of choices more or less intentional or emergent. The relationship strategy can therefore be defined as a continuous and dynamic process of choices about acquiring, building satisfaction, maintaining or breaking off relationships that are realized in conditions of greater or lesser uncertainty of a company's functioning in order to create value, build and maintain the competitive edge and to get a relationship premium that underpins the development of the company[16],[17].

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[8] W. Czakon, *Dynamika więzi międzyorganizacyjnych przedsiębiorstwa*. Wydawnictwo Akademii Ekonomicznej w Katowicach, Katowice 2007, s. 40.

[9] A. Zakrzewska-Bielawska, *Ewolucja szkół strategii: przegląd głównych podejść i koncepcji*. /W:/ *Zarządzanie strategiczne. Rozwój koncepcji i metod*,red. naukowy: R. Krupski, Prace Naukowe WWSZiP nr 27 (2), Wałbrzych 2014, s. 18.

[10] B. Kogut, *The network as knowledge: Generative rules and the emergence of structure*, "Strategic Management Journal" 2000, vol. 21, s. 413.

[11] B. Kogut, *The network as knowledge: Generative rules and the emergence of structure*, "Strategic Management Journal" 2000, vol. 21, s. 414.

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[13] A. Lado, N. Boyd, S. Hanlon, *Competition, cooperation, and the search for economic rents: A syncreting model*, "Academy of Management", 1997, vol. 22 (1), s. 110–141.

[14] M. Bengtsson, S. Kock, *Coopetition in business networks – to cooperate and compete simultaneously*, "Industrial Marketing Management",2000, vol. 29 (5), s. 411–427.

[15] G. Dagnino, E. Le Roy, S. Yami, W. Czakon, *Strategie koopetycji – nowa forma dynamiki międzyorganizacyjnej*, „Przegląd Organizacji",2008, nr 6, s. 3–7.

[16] Lookat A. Zakrzewska-Bielawska, *Ewolucja szkół strategii: przegląd głównych podejść i koncepcji*. /W:/ *Zarządzanie strategiczne. Rozwój koncepcji i metod*, red. naukowy: R. Krupski, Prace Naukowe WWSZiP nr 27 (2), Wałbrzych 2014, s. 21.

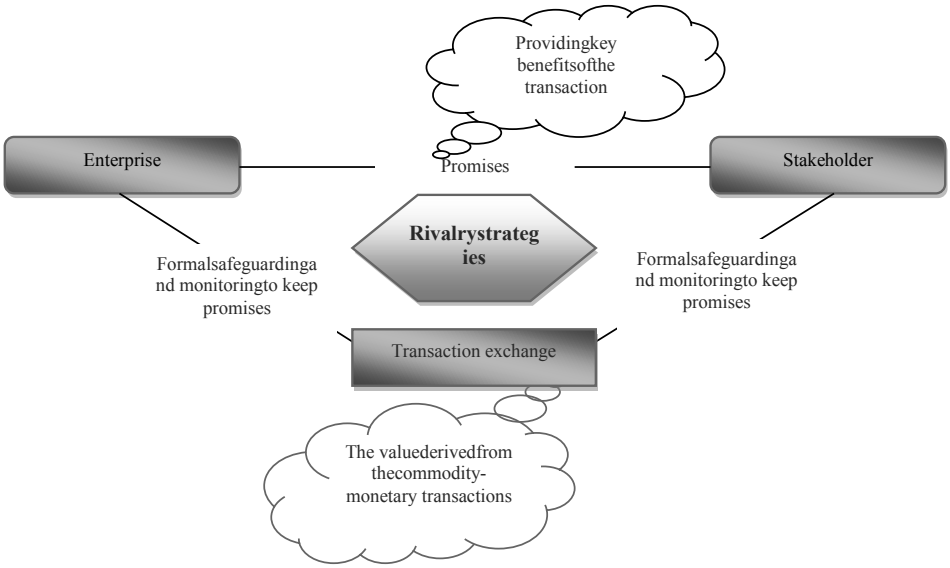
[17] Such a perception of relationship strategies is much broader than their understanding by the STRATEGOR group according to which relationship strategies refer only to privileged relationships established by an enterprise with selected partners from its business environment [STRATEGOR, Zarządzanie firmą. Strategie, struktury, decyzje, PWE, Warszawa 2001, s. 255-256].

In the above terms,the relationship strategy is a component of the relational concept of zero degree levels of epistemological strategy[18]. Thus, it is one of the general strategies of the company, influencing its development and strategic choices at both a corporate level as well as a business unit and functional one[19].

The essence of the relationship strategies with stakeholders and competitors

Companies deciding on the choice of the relationship strategy balance between strategies that use the potential of cooperation and strategies that are focused on competition. The relationship strategies that are focused on competition in shaping relationships with stakeholders are based on the promise to deliver the key benefit so fan exchange[20]. The obligations of the parties are limited delivering the flow of products and / or services and money. This flow is formally secured and monitored. The value of the relationship is drawn from the commodity-money exchange and the relationship entities seek to capture the material exchange value(figure 1).

Figure 1: The essence of the relationship strategies including competition in relationships with stakeholders



Source: own study.

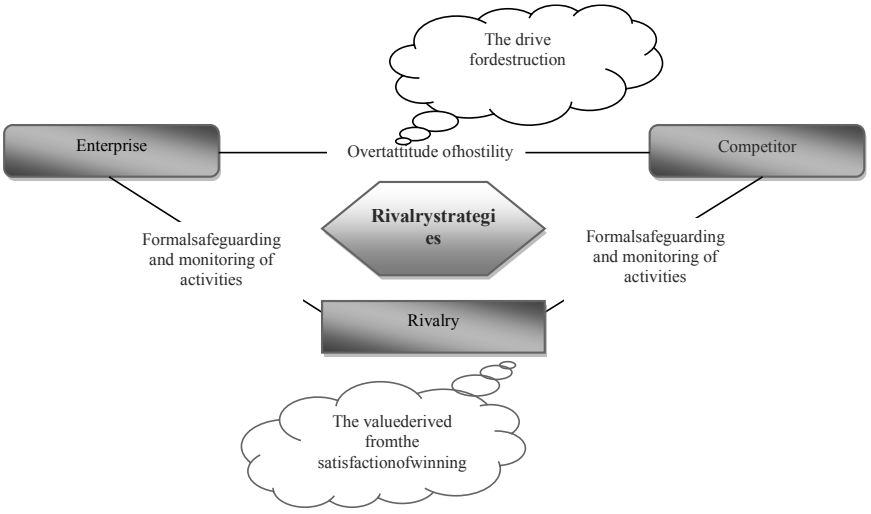
The basis for the use of relationship strategies based solely on competition against competitors is the attitude of enmity and the desire to destroy a competitor. The competing entities will apply the formal safeguards and monitoring activities. The value of such a relationship is derived from the satisfaction obtained by winning (Fig. 2).

[18] R. Krupski, *Rodzaje strategii przedsiębiorstwa*. /W:/ *Zarządzanie strategiczne. Koncepcje. Me*tody, red. naukowy R. Krupski, Wydawnictwo Akademii Ekonomicznej im. Oskara Langego we Wrocławiu, Wrocław 2001, s. 57.

[19] A. Zakrzewska-Bielawska, *Ewolucja szkół strategii: przegląd głównych podejść i koncepcji*. /W:/ *Zarządzanie strategiczne. Rozwój koncepcji i metod*, red. naukowy: R. Krupski, Prace Naukowe WWSZiP nr 27 (2), Wałbrzych 2014, s. 23.

[20] B. Axelsson, F. Wynstra, *Buying Business Services*, Wiley, Chichester 2002, s. 213.

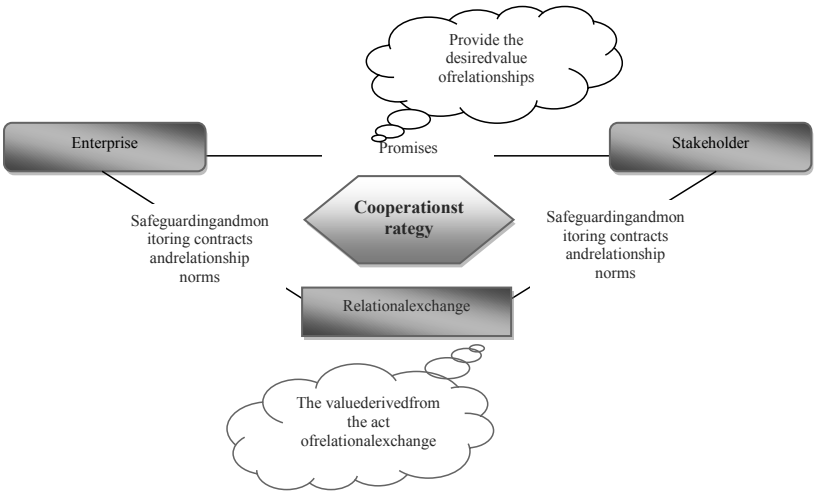
Figure 2: The essence of the relationship strategies focusing on the rivalry in relationships with competitors



Source: own study.

The relationship strategies that focus on co-operation with stakeholders are based on the promise to deliver the desired relationship value. The value of the relationships is associated with achieving both key and additional benefits and incurring any costs associated with obtaining these benefits. Obligations of the parties are adapted to individual needs of each relationship. These obligations include tangible and intangible aspects of the transaction. Supervision of the fulfillment of obligations is not limited to the formal enforcement of duties but is also based on the observing the relationship norms (Fig. 3).

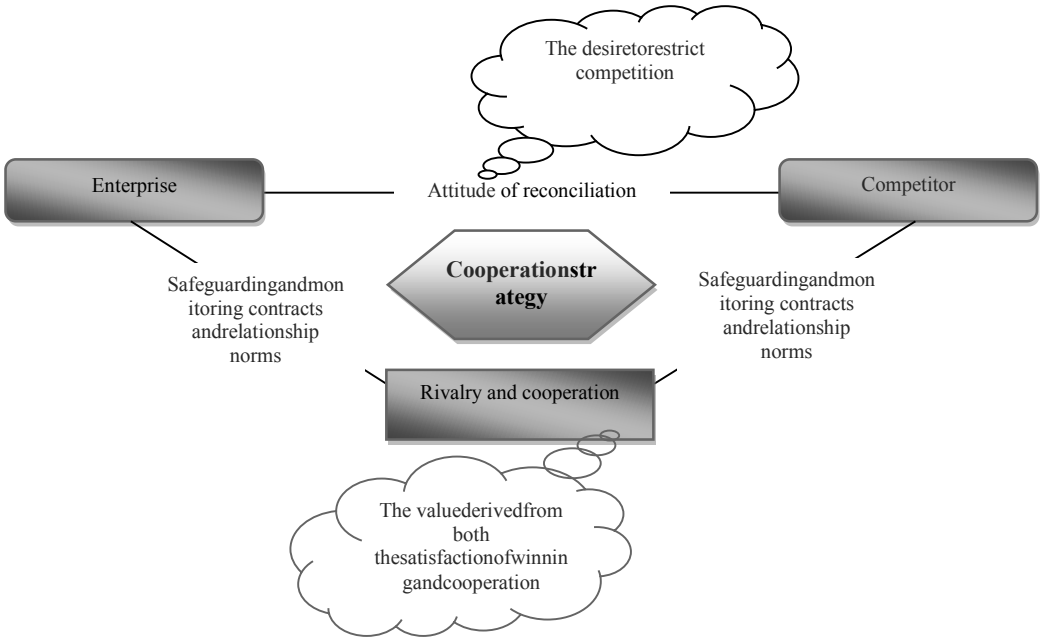
Figure 3: The essence of the relationship strategies including cooperation in relationships with stakeholders



Source: own study.

However, the basis for the use of relationship strategies with reference to competitors that take into account the possibility of cooperation with them is the attitude of reconciliation and a drive to restrict competition. Companies and their competitors that base their relationships on both competition and cooperation apply not only formal safeguards and monitoring of their mutual activities but also observation of the relational norms. The value of such a relationship is derived from both the satisfaction obtained by winning and cooperation (Fig. 4).

Figure 4: The essence of the relationship strategies focusing on both the rivalry and cooperation in relationships with competitors



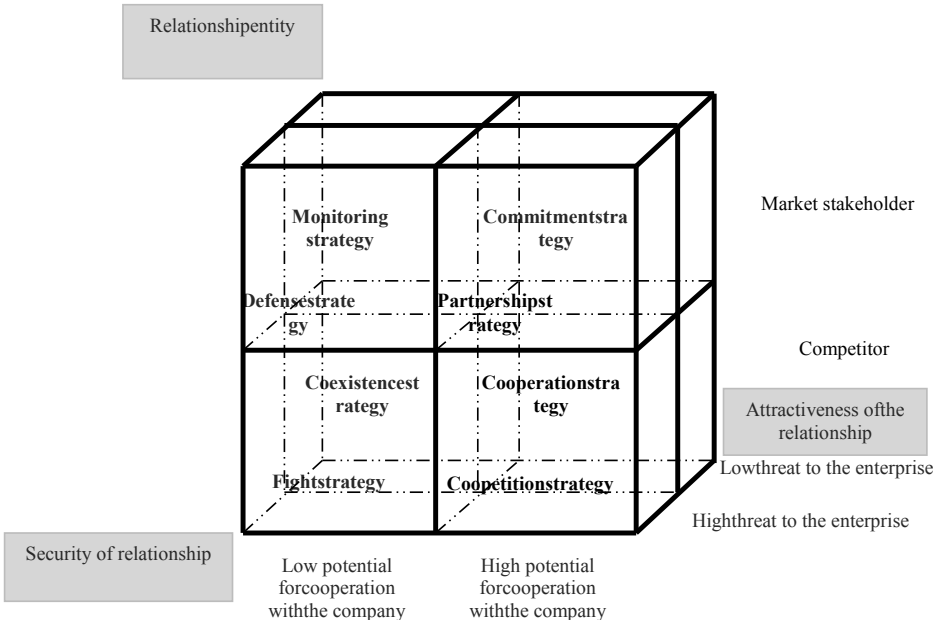
Source: own study.

Relationshipstrategy - the portfolioapproach

In practice, different typologies of relationship strategies can be developed[21]. Relationship strategies can build the following dimensions: an entity to a relationship(stakeholder, competitor), the attractiveness of a relationship (the potential of a business environment entity to cooperate with the company) and the security of a relationship(the threat potential of a business environment entity for an enterprise)(Fig. 5).

[21] Selected criteria of distinguishing types of relationship strategies are listed *inter alia* in:A. Zakrzewska-Bielawska, *Ewolucja szkół strategii: przegląd głównych podejść i koncepcji*. /W:/ *Zarządzanie strategiczne. Rozwój koncepcji i metod*, red. naukowy: R. Krupski, Prace Naukowe WWSZiP nr 27 (2), Wałbrzych 2014, s. 23.

Figure 5: Types of relational strategies - the portfolio approach



Source: own study.

A company operating in the market enters into relationships with various actors of exchange. These may be back vertical relationships(with suppliers) or forward (of buyers) ones, thus with market stakeholders[22,23] as well as direct horizontal relationships (with competitors) and indirect (with competitors from outside the sector).[24] Thus, a company shapes relationships of different types–ranging from cooperation to hostility[25]. Inter-organizational behaviors of companies can therefore take the form of competition, cooperation, coopetition or coexistence[26]. Therefore these behaviors pose a different threat to the survival and development of the organization. That's why companies take various initiatives aimed at increasing the safety of their operation, including the reduction of hostility or/and building the friendliness of the exchange entities and counteracting the negative effects of competitors' actions. The reasons for strengthening the relationship maybe a desire to share resources, a move towards integrating activities or an aspiration to adjust the positions[27]. However, the delivery of these objectives is contingent upon the potential of the relationship entities for cooperation.

[22] E. Piwoni-Krzeszowska, *Zarzadzanie wartością relacji przedsiębiorstwa z rynkowymi interesariuszami*, Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu, Wrocław 2014.

[23] An enterprise also enters into relationships with other entities in the social-cultural, economic, political-administrative and technological areas, thus with contextual stakeholders that are not the subject matter of considerations here, though.

[24] B. De Wit, R. Meyer, *Synteza strategii*, PWE, Warszawa 2007, s. 219-220.

[25] Lefaix-Durand A., Poulin D., Kozak R., Beauregard R., *Interfirm relationships and value creation: A synthesis, conceptual model and implications for future research*, Working Paper, Centor, Québec2005, s. 21.

[26] M. Bengtsson, S. Kock, *Coopetition in business networks – to cooperate and compete simultaneously*, "Industrial Marketing Management",2000, vol. 29 (5), s. 411–427.

[27] B. De Wit, R. Meyer, *Syntezastrategii*, PWE, Warszawa 2007, s. 222.

From the points of view of the stakeholders' potential for cooperation and their threat potential for the company the following relationship strategies can be identified: a partnership strategy, a commitment strategy, a monitoring strategy and defense one[28].

The partnership strategy should be used for relations with primary stakeholders whose potential for cooperation with the company as well as their threat potential to the organization is big. The idea of using this strategy is establishing cooperation between the company and the *stakeholders* which would restrict the latter's ability to pose a threat to the organization. The success of this strategy will determine whether a particular stakeholder will continue to support the company or not.

The commitment strategy can be used in relation to stakeholders that support the company, whose potential for cooperation is large, but who pose a low threat for the company. The manifestation of the commitment strategy is the maximum commitment of a company in shaping the relationship with stakeholders in order to induce the potential of cooperation.

Marginal stakeholders do not pose a high threat for the company nor have big potential for cooperation. This is why, the relationship strategy with reference to this group of stakeholders is based on monitoring the course of the relationship.

Stakeholders that don't support actions of the company and that don't show interest in transforming relationships into cooperative ones are most worrying for the company. The relationship strategy in relation to such stakeholders must be based on defending against threats which can hit an enterprise from their side. The company, using a defense strategy, is trying to reduce its dependence on the market stakeholder which is its foe. The possibility to use the defense strategy is determined by having diverse and/or redundant relationships, the use of which will enable and ensure the company's continued operation. The application of the defense strategy may be necessary; however, but it must be emphasized that the company should always first look for ways to change the opponent's status into a more friendly entity.

From the points of view of the competitors's potential for cooperation and their threat potential for the company the following relationship strategies can be identified: a fight strategy, a coexistence strategy, a cooperation strategy and a coopetition one[29].

The competition strategy is based on treating aggressive behavior in relation to competitors as a priority because the potential of rivals to cooperate with the company is low and they pose a relatively high threat for the company. By adopting a strategy of coexistence a company does not focus excessively either on competing or co-operating. The company does not do this because both the rival's potential for cooperation with the company and their threat to the company are low; however, the company positively perceives the weakening of the competitor. When a company decides to establish closer, more partnership-like relationships with a competitor at the cost of competitive relationships it embarks on the co-operation strategy. This strategy is used for a competitor with a high potential for cooperation with the company and a low threat to him. "Finally, in the *syncretic* behavior a company develops both aggressive relationships and cooperation ones. It is this latter behavior that corresponds to the coopetition strategy"[30]. This strategy can be applied to rivals with a high potential for cooperation with the company and high threat for it.

Summing up a partnership or commitment strategy in relationships with stakeholders and a strategy of co-operation and coopetition in relationships with competitors are relationship strategies utilizing the potential of cooperation, and a monitoring and defense strategy in relationships with stakeholders as

[28] G. Savage, T. Nix, C. Whitehead, J. Blair, *Strategies for assessing and managing organizational stakeholders*, "Academy of Management Executive", 1991, vol. 5 (2), s. 65.

[29] G. Savage, T. Nix, C. Whitehead, J. Blair, *Strategies for assessing and managing organizational stakeholders*, "Academy of Management Executive", 1991, vol. 5 (2), s. 65.

[30] G. Dagnino, E. Le Roy, S. Yami, W. Czakon, *Strategie koopetycji – nowa forma dynamiki międzyorganizacyjnej*, „Przegląd Organizacji",2008, nr 6, s. 6.

well as a strategy of coexistence or fighting in relationships with competitors are relationship strategies focused on competition.

Conclusion

Currently, companies are operating in the constellation of entities of their business environment on which they are dependent to varying degrees and with which they have relationships of various kinds. We also know these days that competition is not the primary factor affecting inter-organizational relationships because the intensifying volatility and unpredictability of the company's business environment make establishing cooperation between the entities a necessity for the survival or development of an enterprise. This is why organizations are not separate entities, but they are involved in relationships. Entities, however, differ in their potential for cooperation and pose different threats for mutual operations. This in turn requires a different approach to shaping relationships with them. This is why companies are balancing between strategies using the potential of cooperation (i.e. a strategy of partnership or commitment in relationships with stakeholders and a strategy of collaboration and coopetition in relationships with competitors), and strategies focused on competition (i.e. a monitoring or defense strategy in relationships with stakeholders and a strategy of coexistence or fight in relationships with competitors). The choice of the right relationship strategy determines the creation of the enterprise's value, building and maintaining the competitive potential and receiving a relational premium, which in turn determines the growth of the company and the achievement of success in the market.

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Tomasz Lis
Czestochowa University of Technology, Poland

COMPETITIVE FACTORS OF ENTERPRISES IN DYNAMIC ENVIRONMENT

Summary

The activities of modern enterprises is largely associated with the acquisition of new and maintaining already existing customers. It has also been a continuous fight with the competition. The market success are able to relate only to those companies, that are able to quickly adjust to changing needs and expectations of customers and emerging events (hazard occasions). In the literature, it has been pointed to the existence of a number of factors, affecting a competitive advantage. The key is therefore to select such a course of action, that will provide real competitive advantage and more importantly, will help to keep it.

This article's aim is to identify and analyze factors, affecting the gaining and maintaining competitive advantage. The aim is also to try to understand the essence of competitive advantage particularly in a dynamic environment.

* * *

Introduction

Modern companies operate in a dynamic market. This is due to[1],[2]: dynamic changes in the environment, uncertainty in decision-making, the emergence of new competitors, request to make the fastest possible action, changes in preferences and tastes of customers, rapid technological change, mutual penetration of geographic and sector boundaries (due to globalization), clustering resources financial result of establishing cooperation between the old rivals. Competing in such a reality is a difficult matter. The more difficult it is to maintain a competitive advantage. Environmental variability and instability mean, that it can be concluded, that the competitive advantage, dealt with in the time frame, consists of individual

[1] M. Matejun, M. Nowicki, *Organizacja w otoczeniu – od analizy otoczenia do dynamicznej lokalizacji*. /W:/ Nauka o organizacji. Ujęcie dynamiczne, red. naukowy A. Adamik, Oficyna a Wolters Kluwer business, Warszawa 2013, pp. 152-158.

[2] L. H. Shi, F. Wu, *Dealing with Market Dynamism. The Role of Reconfiguration in Global Account Management,* "Management International Review", 2011, vol. 51/5, pp. 635-663.

competitive advantages, resulting from the decisions and actions[3]. This follows directly from the fact, that in a dynamic market it is difficult to introduce a long-term strategy to achieve the intended results. The company must adapt to change. It must do it quickly.

Since the 80s of the twentieth century, in competitive struggle, attention has been drawn to the company's available resources, as well as the skills of their practical use. Representatives of the resource mainstream, understanding the realities of business operations believed, at the same time, that the mere disposal of even the most valuable internal resources is not a sufficient factor in the process of gaining competitive advantage. For her achievements, it is necessary to understand and get the knowledge about the external environment and its ability to function. It is mainly about taking the chances and avoiding threats. Considering the role of resources in competitive struggle, it should be noted the particular importance of intangible resources. They have many so important features for competition. That fact, that they are created with the passage of time, their character is influenced by a number of characteristics of individual organizations, makes it difficult to buy, or even duplicate[4].

To ensure a proper use of resources, it is necessary to have the relevant competences. They determine the effectiveness of the enterprise in the market, thereby also possessed competitive position.

Competitive struggle of modern enterprises

The concept of competitive advantage is closely associated with the concepts of competition and competitiveness. Competition means the place of the operation, in which the participants try to act in a manner, that ensures the maximum benefit[5]. This includes both actions directed to the interior as well as those, which are addressed to other "place" participants. Ability to function in such a reality is called competitiveness.

The most important determinant of "effectiveness" of the competitiveness of the company is a competitive advantage. It can be defined by synonym for organizational success in the market. It is a unique position "in the sector in relation to competitors, allows achieving above-average profits and get ahead of the competition" [6].

Among the various concepts of competitive advantage, it can be mentioned[7]:

- The concept based on the resources and core competencies - the key role plays here the unique configuration of resources, with particular emphasis on intangible assets. Possessed competences are important in terms of skills and effectiveness of their use,
- Situational approach - the primary task of resources, available to the company, is to ensure flexibility in the operation. The result is a quick adjustment to market events - strategic fit,

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[3] M. Bratnicki, P. Zbierowski, *Orientacje strategiczne przedsiębiorstwa jako ważny kierunek przyszłych badań zarządzania strategicznego*. /W:/ Zarządzanie strategiczne. Quo vadis?, red. naukowy R. Krupski, Prace Naukowe WWSZiP T. 22, Wałbrzych 2013, pp. 146.148.

[4] J. Bednarz, *Klasyczne a nowe teorie przewagi konkurencyjnej przedsiębiorstw*. /W:/ Problemy współczesnej gospodarki światowej, red. naukowy H. Treder, Prace i Materiały Instytutu Handlu Zagranicznego UG nr 30, Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk 2011, pp. 116-118.

[5] K. Bayer, *Kapitał intelektualny jako podstawa przewagi konkurencyjnej przedsiębiorstw*. „Studia i Prace Wydziału Nauk Ekonomicznych i Zarządzania", 2012, nr 25, Uniwersytet Szczeciński, p. 243.

[6] M. Grzebyk, Z. Kryński, *Konkurencja i konkurencyjność przedsiębiorstw. Ujęcie teoretyczne*, „Nierówności społeczne, a wzrost gospodarczy", Zeszyt nr 20, Uniwersytet Rzeszowski, Rzeszów 2011, p. 107.

[7] J. Rybicki, B. Pawłowska, *Kapitał intelektualny jako podstawa budowy przewagi konkurencyjnej*. /W:/ Kapitał intelektualny i jego ochrona, red. naukowy E. Okoń-Horodyńska, R. Wisła, Instytut Wiedzy i Innowacji, Warszawa 2009, pp. 111-113.

- Relational approach - a key factor in gaining competitive advantage is the ability and power to participate in the structures, based on inter-organizational relationships: virtual organizations, network structures. The company gains access to the resources of partner organizations, the relational resources are also created,
- The concept based on knowledge - is derived from the resource school. A knowledge is a key factor in acquiring and consolidating what's important competitive advantage,
- The concept of time-based and innovation - the key factor is the time of taken actions (earlier than others) with special emphasis on development and innovation.

The traditional model of building competitive advantage, is based on achieving the greatest gains, due to lower their prices, or costs (eg. through the sale of goods with a low degree of processing, low labor costs). Currently, this method is insufficient. As noted by D. Hendzel "one of the most important factors of market advantage is innovation in manufactured products or offered services, and innovative changes in the systems of the enterprise"[8].

Innovation and changes must correspond with the market requirements. It is necessary to adapt to events occurring, but also the ability to predict the future. Environment's turbulence makes it a continuous process. As noted by R. Borowiecki "changes in the environment precipitated the company from the state of internal and external equilibrium. Every company in order to exist and to achieve and maintain a competitive advantage, must be in equilibrium, by appropriate adjustment processes and anticipatory directed inwards and outwards"[9].

The company to gain a sustainable competitive advantage, which is derived from the instantaneous advantages, must be internally stable. Processes related to adaptation to and overtake market events, may not cause harmful interference. It can be said, that it is necessary ability to smoothly transition from event to event.

This requires a well functioning access to information giving knowledge, and knowledge of how to use it[10]. Knowledge is one of the most important factors in building a competitive advantage. "(...) Knowledge plays a decisive role in building a competitive advantage. Knowledge is the main potential and economy functioning is based on the generation, distribution and use of knowledge"[11]. However, knowledge only is not a sufficient factor for success. The efficient and effective management is necessary as well. Knowledge management increases the chance of a better use of resources, adjust to the changes, identify and use the upcoming changes.

One way of building a competitive advantage is to participate in network structures. Among the advantages of cooperation are as follows: "improve speed, easier to adapt to local conditions and complementarily of functions in the value chain (to avoid tasks' duplication)"[12]. These benefits can be reached not only by large enterprises but also smaller. As a rule, they have a limited capacity and less competitive potential. Such cooperation makes it possible to bridge the existing restrictions.

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[8] D. Hendzel, *Możliwości kształtowania postaw przedsiębiorczych w organizacji gospodarczej*. /W:/ Kształtowanie postaw przedsiębiorczych a edukacja ekonomiczna, red. naukowy P. Wachowiak, M. Dąbrowski, B. Majewski, Fundacja Promocji i Akredytacji Kierunków Ekonomicznych, Warszawa 2007, p. 22.

[9] R. Borowiecki, *Przedsiębiorstwo w obliczu wyzwań współczesnej gospodarki*. „Nierówności społeczne a wzrost gospodarczy", z. 20, Uniwersytet Rzeszowski, Rzeszów 2011, p. 12.

[10] R. Filieri, R.C. McNally, M. O'Dwyer, L. O'Malley, *Structural social capital evolution and knowledge transfer: Evidence from an Irish pharmaceutical network, "*Industrial Marketing Management", 2014, vol. 43, pp. 429-440.

[11] E. Ziemba, T. Eisenbardt, *Technologie informacyjno-komunikacyjne determinantą przemiany kulturowej człowieka oraz transformacji społecznych, biznesowych i gospodarczych.* /W:/ Technologie informacyjne w transformacji współczesnej gospodarki, red. naukowy C. M. Olszak, E. Ziemba, Uniwersytet Ekonomiczny w Katowicach, Katowice 2012, p. 168.

[12] S. Lachiewicz, A. Zakrzewska-Bielawska, *Sieć przedsiębiorstw jako skuteczna forma organizacyjna w warunkach kryzysu gospodarczego*. „Management and Business Administration. Central Europe" 4/2012 (117), p. 41.

During analyzing the different approaches and factors, affecting the creation and maintenance of competitive advantage, it can be noted, that one of the recurring issues is flexibility. The competitive company is one that is able to adapt to market events. Is able to use their knowledge and skills, it is open to new - learning organization, is able to introduce change and innovation, collaboration and co-creation of relational resources. Actions taking in turbulent environments are primarily to exploit opportunities and avoid risks[13].

Building a competitive advantages of polish enterprises

Modern companies face a dilemma: what to do to gain a competitive advantage and more importantly keep it at a certain time? As mentioned above, some researchers explicitly state, that in terms of dynamism of markets, a winning strategy to ensure a sustainable advantage cannot be determined. They believe that this persistence can only be the result of constant changes, in order to adapt to the current situation, seize opportunities and avoid risks.

So what is responsible for the ability to change, to adapt to the ever emerging challenges? Authors, such as I. K. Hejduk, W. M. Grudzewski, A. Sankowska and M. Wańtuchowicz, have tried to answer the above question. The mentioned authors conducted a study on a sample of 70 companies (Table 1).

Table 1: Factors of building a sustainable competitive advantage.

Factor	Completely irrelevant	Not very important	Quite important	Important	Very relevant	I do not have an opinion	Average grade
Knowledge	1,43%	1,43%	4,29%	27,15%	64,29%	1,43%	4,54
Innovations	1,43%	2,86%	10,00%	27,15%	54,29%	4,29%	4,36
Entrepreneurship	1,43%	2,86%	15,72%	22,86%	55,72%	1,43%	4,31
Confidence	1,43%	2,86%	10,00%	40,00%	44,29%	1,43%	4,25
Organizational culture	1,43%	2,86%	20,00%	52,86%	22,86%	0,00%	3,93
Leadership	2,86%	7,15%	21,43%	38,58%	30,00%	0,00%	3,86
Enterprise's value	2,86%	7,15%	20,00%	51,43%	18,58%	0,00%	3,76
Networking	5,72%	10,00%	31,43%	27,15%	14,29%	4,29%	3,49
Virtualization	4,29%	10,00%	40,00%	27,15%	14,29%	4,29%	3,39
Ecology	5,72%	24,29%	45,72%	18,58%	5,72%	0,00%	2,95

Source: I. K. Hejduk, W. M. Grudzewski, A. Sankowska i M. Wańtuchowicz, W kierunku zarządzania drugiej generacji - model diamentu czterech paradygmatów współczesnego przedsiębiorstwa, E-mentor nr 1(33)/2010

On the basis of those test results, it can be stated that in assessing companies, a key role in gaining and maintaining competitive advantage is played by: knowledge 64.29%, innovation 54.29%, entrepreneurship 55.72% and confidence 44.29%. The presented factors are those, that have been pointed out frequently in the range of answers "very important". If the starting point, is taken as an overall view

[13] B. Nogalski, P. Niewiadomski, *Modelowanie wieloaspektowych uwarunkowań w procesach implementacyjnych zakładu wytwórczego sektora mechanizacji rolnictwa – implikacje dla elastyczności*. /W:/ Zarządzanie strategiczne. Rozwój koncepcji i metod, red. naukowy R. Krupski, Prace Naukowe WWSZiP T. 27, Wałbrzych 2014, p. 335.

on the validity of (taking into account the percentage of selections answer: quite important, important and very relevant and completely irrelevant and not very important), then to the "essential" factors, an organizational culture should be also included. Making such a distinction, appears to be justified, which may occur in the surveyed, by problem gradation of significance and insignificance. It can be assumed that the first five factors are generally valid and five more are generally less important. And, certainly the ecology is at least important.

Interesting conclusions of the study, can be represented by analyzing the percentage of selections answers "no opinion". Here we can notice the dominance of factors: innovation, networking and virtualization. At the same time, we will find that networking and virtualization factors were considered to be less important by respondents. A greater percentage of selection answer: quite insignificant and not very relevant factor only ecology gained. In that regard, the discrepancy between the opinions of business and science representatives in the field of management should be pointed out. Among the last ones, there is a perception that they are important factors in competitive struggle[14]. They provide the ability to: adjust to the environment (flexibility), better use of resources of their own, use the resources of partner organizations, increase sensitivity to the upcoming market events. Undoubtedly these are factors, which positively affecting the competitiveness.

Lack of understanding of the possibilities and desirability of creating and co-participation in network structures, can be understood by analyzing the results of a survey, conducted among small and medium-sized enterprises in Warsaw[15]. The report on the state of the sector of small and medium-sized enterprises in Poland in 2012-2013, relates in part to the diagnosis of the condition and needs of entrepreneurs in the field of cross-linking. As the results of the study, companies are primarily interested in establishing cooperation with new customers and suppliers, 59% a lot and a lot of contacts (customers) and 45% of the lot and a lot of contacts (suppliers). At the same time, 51% of enterprises do not see the purpose of maintaining and developing cooperation with companies with which it began earlier. In turn, 56% of organizations in general, are not interested in establishing cooperation with other companies, whose positive effects could occur in the future. The conducted survey indicated that 36% of respondents did not see any purpose (benefits) cooperation with other market participants, besides customers and suppliers. Benefits which were indicated were related to improving the quality of the products and services - 33%, increasing the number of their customers - 27% of respondents. Presented benefits should be, at the same time, mainly associated only with cooperation with customers and suppliers. The results clearly show a lack of understanding of the benefits of participation in network structures. Not surprisingly, therefore, the recognition of networking factor is less important in relation to the acquisition and consolidation of competitive advantage. The perception of networking factor, but also the virtualization as these generally less important, should be considered as a mistake. This is due to the fact that "hiding (...) with their own knowledge and laborious investigation to standalone solutions cannot protect against that others at this time, will not do anything like faster and more efficiently - for example, work with different subjects, and their invention will be first on the market"[16].

For a greater understanding of the benefits (increase competitiveness, including gain competitive advantage) resulting from the cooperation between small and medium-sized enterprises with other market participants, points out a study by R. Stanislawski[17]. The study involved 103 companies from the

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[14] S. Zhao, H. Yu, Y. Xu, Z. Bi, *Relationship-specific investment, value creation, and value appropriation In cooperative innovation, "*Information Technology and Management", 2014, vol. 15/2, pp. 119-130.

[15] *Raport o stanie sektora małych i średnich przedsiębiorstw w Polsce w latach 2012-2013*, Polska Agencja Rozwoju Przedsiębiorczości, Warszawa 2014, p. 118.

[16] *Innowacyjna przedsiębiorczość w Polsce, odkryty i ukryty potencjał polskiej innowacyjności*, Raport Polskiej Agencji Rozwoju Przedsiębiorczości, Warszawa 2015, p. 111.

[17] R. Stanisławski, *Open innovation wśród małych i średnich przedsiębiorstw jako instrument kształtowania przewagi konkurencyjnej*, „Ekonomia i Zarządzanie", 2014, nr 2 T. 6, pp. 179-181.

provinces of Lodz, BC and Bydgoszcz. Of the 55 companies surveyed, declared that they conduct the collaboration with other market participants (studied only cooperate with other enterprises regardless of their size). The desire to cooperate actively in the future (3 years) 70 companies declared. By studying the effects indicated as a result of the cooperation, it was found that 45.4% (25) of enterprises considers it an increase in competitiveness. In the case of declaring their willingness to cooperate, increase competitiveness as a destination recognized the 62.8% (44) of the respondents.

Some interesting conclusions can also be reached by analyzing the meaning of innovation factor - considered by respondents as generally valid. As the results of research[18] innovation in the case: 87% of enterprises apply only to the purchase of machinery, equipment and computer software, 8% internal research and development, 3% of external research and development, 2% acquisition of external knowledge. Thus, polish companies understand an innovation as a purchase of ready-made solutions. It should be considered how such innovations affect meant to gain and maintain a competitive advantage? Buying a ready-made solutions can indeed become more competitive, but the scale of the phenomenon over time is not too long. Given the market volatility and the need to adjust to them, still the companies need to buy new ready-made solutions. It seems that the more economic solution (in the long term) and providing better results is innovation associated with R&D and knowledge. These factors allow for a longer period to obtain sustainable competitive advantage, which in terms of variation means always getting competitive advantages resulting from adjusting to time (the emerging changes). This is confirmed by the creator of the computer, S. Wozniak wrote, "we cannot achieve lasting advantage of innovative without investing in our own research facilities"[19].

It is therefore clear, that indicated as generally an important factor in innovation, (taking into account the approach of enterprises to innovate) actually allows to gain competitive advantage in the short term, and not let her fix at the same time. Interesting is also a summary of the results of the study, in which innovation was identified as generally an important factor in building and consolidating a competitive advantage (91.4% of respondents), the results of research regarding the real innovation of Polish enterprises. It turned out that only about 16% of Polish companies are innovative enterprises[20].

Interesting results of the research on enterprises approach gaining a competitive advantage with respect, T. Lipczyński acquired. Examining in 2012, 102 companies from the Province of the West Pomeranian stated that "the key element in determining the competitiveness of enterprises are still low labor costs, which enables us to offer products and services at relatively low prices (...). Other factors of competitive advantage belonged quality of products and services and customer service. In contrast, the innovative nature of the products and services did not matter for most businesses. Companies also do not provide investment aimed at the introduction of highly innovative products and services"[21].

Conclusion

The issue of competitiveness, as well as to acquire and maintain a competitive advantage, has gained a special significance in the turbulent environment. The speed of change primarily requires from companies the flexibility. They must be able to constantly adjust to. The basis is the use of available opportunities and avoid risks. Importantly, companies should be able to adequately rapid identification of upcoming

[18] *Program Rozwoju Przedsiębiorstw do 2020 r., Program wykonawczy do Strategii Innowacyjności i Efektywności Gospodarki – Świat się zmienia*, Załącznik do Uchwały Rady Ministrów z dnia 8 kwietnia 2014, p. 17.

[19] M. Romanowska, *Przełomy strategiczne w przedsiębiorstwie*, /W:/ Studia i prace Kolegium Zarządzania i Finansów, Zeszyt Naukowy 98, Szkoła Główna Handlowa, Warszawa 2010, p. 13.

[20] Innowacyjna przedsiębiorczość w Polsce …, op. cit., p. 16.

[21] T. Lipczyński, *Transfer wiedzy jako narzędzie wspierania rozwoju małych i średnich przedsiębiorstw*, /W:/ Perspektywy rozwoju przedsiębiorczości w warunkach niepewności i ryzyka, red. naukowy M. Matejun, K. Szymańska, Politechnika Łódzka, Łódź 2013, pp. 62-63.

events. In the competitive struggle, count particular events, which cannot be seen by competition. It is therefore concluded that the most important single factor is time. Apart from the identification time, undoubtedly the time adjustment also counts. It is not enough just noticing the upcoming occasion and interference. It is also necessary to introduce appropriate practical actions.

An important role is played by the knowledge, innovation, ability to work together, aware of their own advantages and shortcomings, competence. The company should be open to the environment. Must be ready to cooperate. This is due to the fact, that today it is hard to compete by relying solely on either way limited only by its own capabilities. As cited results show, enterprises having an awareness of the fact that the main factors of gaining and maintaining a competitive advantage are: knowledge, innovation, entrepreneurship (fitting), confidence and organizational culture. Strangely less attention attach to networking and virtualization. At the same time it can be seen that innovation is considered primarily in terms of buying ready-made solutions. It is therefore a factor allows, in the limited extent, to gain and maintain the advantage. This notion of innovation is due in large part to the lack of understanding of the benefits of cooperation. As a result, facilitate access to new resources, produce relational resources, increase sensitivity to the upcoming market events, access to new knowledge, it is possible to innovate actually giving the possibility to increase competitiveness. There should not be acquired ready-made solution, but ones that in the "group" are developed from the beginning. Innovation concerns at the same time both, the product range and model of the business.

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Sylwia Łęgowik-Świącik
Częstochowa University of Technology, Poland

Sylwia Kowalska
Częstochowa University of Technology, Poland

Małgorzata Kuraś
Częstochowa University of Technology, Poland

THE BUSINESS MODEL OF THE COMPANY IN THE INTER-ORGANIZATIONAL NETWORK

Summary

In the paper, there has been discussed the problem of development of the business model of the company collaborating in the inter-organizational network along with the indication of its impact on the decision-making process of the company under research. The whole of the presented considerations has been divided into two basic parts - the theoretical and empirical ones. In the first part of the paper, there has been presented the essence of the business model based on the collaboration in the network of enterprises. The considerations presented in the second part include the results of the empirical research conducted on the basis of the financial data of the United Parcel Service, Inc. company, published on the website of the NASDAQ Stock Market of the logistics sector in the USA in years 2007-2014. The paper aims at recognition and evaluation of the parameters forming the business model of the company functioning in the inter-organizational network. The research methods applied to achieve this objective are literature studies, descriptive analysis, analysis of the trend in operating revenue, expense and income. In the research, there has been applied Pearson correlation coefficient to describe the link between the level of operating revenue and expense. The problem of the parameters forming the business model is important and up-to-date on account of its impact on decision-making processes in companies collaborating in the inter-organizational network.

Keywords: *business models, enterprises in the inter-organizational network*

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Introduction

Networks in management sciences are defined as a set of two or more companies involved in long-term relations[1]. The essence of the network is the relatively permanent grouping of autonomous, specialized enterprises taking part in the mutual system, following market principles of cooperation[2]. The impact of inter-organizational networks[3] allows to achieve synergy[4], which consists in sharing resources and integrating activities of many economic partners to build common market position[5]. It's worth pinpointing that knowledge in networks is acknowledged as an essential element allowing for understanding economic phenomena at each level of the analysis[6].

The network approach emphasizes the inter-organizational collaboration and coopetition relations, which amounts to stressing the role of co-creating value and not only creating it by single enterprises[7]. This means that creating the development of inter-organizational networks becomes the key imperative in management sciences nowadays[8]. In this context, creating a business model by companies collaborating in the network should be based on positive effects brought by the participation in the inter-organizational network. At the same time, positive effects resulting from cooperation in the network ought to constitute the key component creating a business model of inter-organizational units.

The aim of the paper is to recognize and evaluate the parameters forming the business model of the enterprise functioning in the inter-organizational network. Research methods applied to achieve the objective are literature studies, descriptive analysis, analysis of the trend in operating revenue, expense and income and Pearson correlation coefficient to describe the link between the level of operating revenue and expense in the research period.

Creating a business model based on collaboration in the network

A business model is an instrument presenting logic of the operation of the company in a specific field and in accordance with the dynamic approach, it is the static representation of the adopted strategy[9]. In the subject literature, business models are defined as operation systems, combined and interdependent,

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1 H.B. Thorelli**,** *Networks: Between markets and hierarchies*, Strategic Management Journal, Vol. 7, 1986, pp. 37-51; H. Kościelniak, *Analiza przedsiębiorstw w sieci – wybrane problemy*, [in:] Zarządzanie strategiczne. Strategie sieci i przedsiębiorstw w sieci, R. Krupski (ed.), PN WWSZIP, No 32 (2)2015. pp. 211-212; Z. Pierścionek, *Zarządzanie strategiczne w przedsiębiorstwie*, PWN, Warszawa 2011, p. 399; J. Stachowicz, *Globalne sieci przepływu kapitału, wiedzy oraz wartości jako kluczowe wyzwanie w zarządzaniu przedsiębiorstwami,* ZN nr 9, PTE, 2011, s.201-214.

2 B. Nogalski, P. Dwojacki, *Tworzenie struktur sieciowych jako wynik restrukturyzacji scentralizowanego przedsiębiorstwa*, „Przegląd Organizacji", 1998, No 4, p. 69.

3 A. Parkhe, S. Wasserman, D.A. Ralston, *New Frontiers in Network Theory Development*,
Academy of Management Review, 2006, No 31/3, p. 560.

4 J. Niemczyk, *Strategia. Od planu do sieci*, UE we Wrocławiu, Wrocław 2013, p. 35.

5 S. Lachiewicz, Zakrzewska-Bielawska A, *Sieć przedsiębiorstw jako skuteczna forma organizacyjna w warunkach kryzysu gospodarczego*, Management and Business Administration, Central Europe 4/2012(17), p. 37. J.Niemczyk, E. Stańczyk-Hugiet, B. Jasiński B, *Sieci międzyorganizacyjne. Współczesne wyzwania dla teorii i praktyki zarządzania*, C.H. Beck, Warszawa 2012,p. 27.

6 M. Ciesielski, *Sieci w gospodarce*, PWE, Warszawa 2013, p. 7.

7 W. Czakon, *Sieci w zarządzaniu strategicznym*, Wolters Kluwer, Warszawa 2012, p.92; J. Cygler, *Granice inspiracji w kooperencji*, [in:] Granice zarzadzania, M. Romanowska (ed.), J. Cygler, Oficyna Wydawnicza SGH, Warszawa 2014, pp. 325-336.

8 B. Skowron-Grabowska, *Procesy kreowania strategii rozwoju sieci przedsiębiorstw*, [in:] Zarządzanie strategiczne. Strategie sieci i przedsiębiorstw w sieci, R. Krupski (ed.), PN WWSZIP, No 32 (2)2015. p. 361.

9 W. Rudny, *Model biznesowy w strategii firmy,*[in:] Zarządzanie strategiczne. Rozwój koncepcji i metod, R. Krupski (ed.), Prace Naukowe WWSZIP Nr 27 (2) 2014, p. 213.

which affect the way of running a business activity and contacts with clients and partners[10]. This means that business models are a set of elements and relations taking place between these elements[11] that aim at the improvement of methods of the functioning of the company in the framework of the available resources considering changeability of the business environment. This changeability of the environment brings about "travelling of the model"[12], while transforming a business model into a strategic management tool, which is difficult to imitate.

The problem of business models is often discussed in the subject literature of recent years. R. Casadesus – Masanell and J. E. Ricart name three key elements of a business model, which are: stability, convergence with the objectives of the company and self-strengthening nature[13]. The highlighted components of a business model are to enable generating value and creating feedback loop.

An important feature of business models is changes in external conditions and the reaction of managers to these changes. B. Nogalski characterizes four business models, which reflect the reaction of mangers to changes in external conditions:

– an active model,
– a proactive model,
– a reactive model,
– a passive model[14].

The active model is represented by management staff of enterprises predominating in terms of resources in a specific market segment, at the same time, creating operating conditions which are positive for themselves. The proactive model characterizes managers whose decisions are directed towards predicting market trends. Managers of proactive companies concentrate their activities on maintaining competitive advantage on the market by the current analysis of the external environment and the correction of the internal environment. The reactive model is represented by management staff taking decisions as a result of the occurrence of changes in the external environment. These are, however, late decisions, which is the reason of losing competitive position by the enterprise. The last model is the passive one. It is represented by management staff that do not take adaptation actions compliant with phenomena occurring in the external environment. The passive attitude brings about a loss in competitiveness of enterprises, a fall in their effectiveness or bankruptcy. It follows that business models should constitute the pattern reflecting, in a simplified manner, the way of running a business activity, which will enable the indication of links between markets of products and productive factors and allow for creating value for different groups of stakeholders[15]. Managers must select a business model for the conducted activity so that it would currently enable the adaptation to changes taking place in the business environment[16].

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[10] R. Amit, C. Zott, *Creating Value Through Business model Innovation,* MIT Sloan Management Review 2012, 53(3), pp. 40-50.

[11] B. Nogalski, *Modele biznesu jako narzędzie reorientacji strategicznej przedsiębiorstw,* MBA 2/2009, p. 7.

[12] J. Magretta, *Why Business Models Matter,* Harvard Business Review 2002, 80(5), p. 92.

[13] See: R. Casadesus-Masanell, J.E. Ricart, *Jak skonstruować zwycięski model biznesowy*, "Harvard Business Review Polska", September 2011, pp. 74-85.

[14] B. Nogalski, *Modele biznesu* ... op. cit., pp. 5 - 6.

[15] C. Zott, R. Amit, *Business model design: An activity system perspective*. "Long Range Planning", 43 (2010), p. 222.

[16] M. Reeves, C. Love, P. Tillmanns, *Your Strategy Needs a Strategy,* Harvard Business Review, September 2012, pp. 76-83. J Brzózka, *Wdrażanie i dyfuzja innowacji a zmiana modeli biznesu przedsiębiorstw*, [in:] Zrządzanie przedsiębiorstwem w warunkach współczesnych wyzwań gospodarczych. Modele –Metody – Procesy, R. Borowiecki, J. Kaczmarek (eds), UE Kraków, Kraków 2014, p. 61

Searching for network business models ought to enable answering the question concerning the system of enterprise activity, its structure and the way of its functioning[17]. The network business model should involve some sophisticated rules linking resources, humans and costs, playing the role of the DNA code of the company[18], to create value adjusted to individual needs of customers[19]. Enterprises, while creating network business models, should take into account innovative activities enabling the reduction in the gap between the organization and changes in the environment[20]. Such an approach will allow for revealing specific characteristics of market leaders, who base their strategy on acquiring competitive advantage on the basis of innovativeness with respect to products, services, resources and organizational activities.

Evaluation of the business model of the company in the network - the results of the empirical research

The empirical research was conducted on the basis of the purposive sampling on the basis of the financial data of the United Parcel Service Inc. (UPS) company[21], published on the website of NASDAQ of the logistics sector in the USA. United Parcel Service Inc. is a global network providing logistics services. The UPS Inc. company, possessing the most recognizable brand in the world, deals with the transport of consignments. UPS Inc. provides logistics, transport and financial services in more than 200 countries all over the world. UPS Inc. disposes of a hundred thousand fleet of transport vehicles for carriage of parcels and a fleet of jet and charter aircrafts operating in the key hubs in the world.

The companies dependent on United Parcel Service Inc. are: UPS Supply Chain Solutions, UPS Freight. The first company, UPS Supply Chain Solutions, provides logistics and distribution services in the field of air and sea transport and freight as well as rail and road transport to 195 countries in the world. The UPS Supply Chain Solutions company also provides specialized services in the field of logistics of service parts, technical repairs, designing and planning the supply chain and returns management. The other company, UPS Freight, deals with providing mixed logistics services, performed in the area of the USA. UPS Freight has more than 200 logistics centers with the transport fleet amounting to more than 5700 vehicles.

United Parcel Service Inc. owns the global telecommunication network with three thousand websites which are visited by more than 29 million users a day. UPS Inc. also provides the service of the daily monitoring of the implemented supply chain via the Internet for specific clients.

The latest business solution implemented by UPS Inc. is the processing of consignments with a view to the natural environment. To achieve this there was set up the UPS Reusable Express Envelopes company, which arranges shipments taking into account the principles of sustainable development. Another business trend, currently developed by UPS Inc., is the digital access to resources via the website, for mobile devices (such as smartphones) from any place. The service is available for all the customers of UPS Inc. possessing the data roaming service. The UPS Inc. company also deals with the processing of returns.

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[17] R. Amit, C. Zott, *Creating Value Through Business model Innovation,* MIT Sloan Management Review 2012, 53(3), p. 45., See: B. Moszoro, K. Gadomska – Lila, *Innowacyjny model biznesowy – kluczowe element*, [in:] Management and Business Administration. Central Europe, 2013, Vol. 21. No 1(120), p. 99.

[18] K. Obłoj, *Pasja i dyscyplina strategii. Jak z marzeń i decyzji zbudować sukces firmy?*, Wyd. Poltex, Warszawa 2010, p.104.

[19] B. De Wit, R. Meyer, *Synteza strategii. Tworzenie przewagi konkurencyjnej przez analizowanie paradoksów,* PWE, Warszawa 2007, p. 147.

[20] M. Romanowska, *Przełomy strategiczne w przedsiębiorstwie*, „Studia i Prace" Kolegium Zarządzania i Finansów SGH, z. 98, Oficyna Wydawnicza SGH, Warszawa 2010. p. 8.

[21] http://www.nasdaq.com/symbol/ups; http://www.ups.com/

In the conditions of strong competition on the market of logistics services, the UPS Inc. company, while creating the global supply chain, focuses on the implementation of innovative technological solutions to satisfy individual needs of its customers. The examined enterprise uses the developed network of cooperators and coopetitors. Wishing to maintain the favorable market position UPS Inc. uses branding in its activity since the prestigious brand attracts not only clients but it brings about that they become more loyal towards the company, which is favorable for long-term cooperation.

To recognize and evaluate the parameters creating the business model of the UPS Inc. company there was examined the trend in operating revenue, expense and income in years 2007-2014. While examining the level of operating revenue in the United Parcel Service Inc. company, it can be noticed that in 2008 there was a 3% increase in the level of operating revenue. In 2009 the United Parcel Service Inc. company felt the effects of the crisis in the form of the reduction in the level of operating revenue by 12%. In years 2010-2014, in the UPS Inc. company, there was made a decision concerning the gradual recovery of the market position, which was reflected in an increase in the level of operating revenue in that period by 17%. The level of operating revenue, expense and income in the UPS Inc. company has been presented in Table 1.

Table 1: The level of operating revenue, expense and income in the UPS Inc. company in years 2007-2014

United Parcel Service, Inc., UPS (in million $)	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Total Operating Revenue	49962	51486	45297	49545	53105	54127	55438	58232
Total Operating Expense	49114	46104	41789	43904	47205	52784	48404	53264
Operating income	848	5382	3508	5641	6080	1343	7034	4968

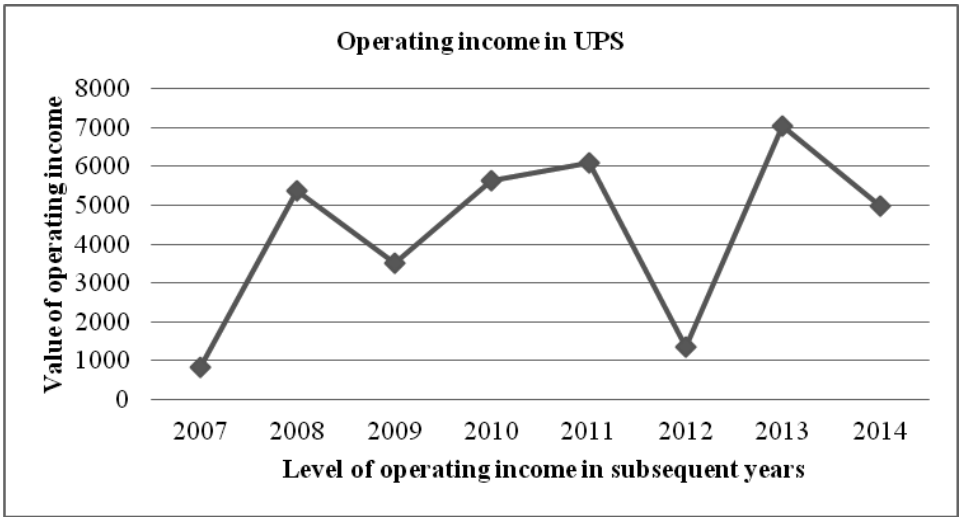
Source: Author's own study based on: www.nasdaq.com/symbol/ups

While analyzing the level of operating expense in United Parcel Service Inc., it can be observed that the trend of operating expense is comparable to the trend of operating revenue. It can be concluded that the UPS Inc. company predicted crisis phenomena since, in years 2007-2009, there occurred a steady decline in the level of expense. In subsequent years of the research period the United Parcel Service Inc. company increased the level of the incurred operating expense. However, in 2012 the level of operating expense was lower by only 2% than the generated revenue, which significantly affected the financial result in that period. In 2013 there was applied strict control of operating expense by reducing its level by 9%, to balance, in 2014 (with better economic situation), the level of operating expense with the level of 2012.

While examining the level of income from the operating activity in the United Parcel Service Inc. company, there can be noticed an interesting trend. Analyzing the level of profit from the operating activity in years 2007-2008 there can be observed an increase, caused both by a rise in sales and reduction in operating costs. In 2009 there was a fall in the level of profit from the operating activity. Interestingly, in the research period, there was slowdown in sales, therefore, the UPS Inc. company applied strict control of expense while reducing its level by 10% compared to 2008. In subsequent years (2009-2011) the United Parcel Service Inc. company increased the level of profit generated from the operating activity. In 2012 there was a substantial fall in the level of income from the operating activity caused by a 12% increase in operating expense with a 2% rise in sales. The year of 2013 brought about the improvement in the level of income from the operating activity by another reduction in operating expense. In 2014

there was a fall in the level of income from the operating activity caused by more rapid increase in expense than revenue. The level of income from the operating activity in the United Parcel Service Inc. company in years 2007-2014 is shown in Figure 1.

Figure 1: The level of income from the operating activity in the United Parcel Service company in years 2007-2014



Source: Author's own calculations based on the data: www.nasdaq.com/symbol/ups

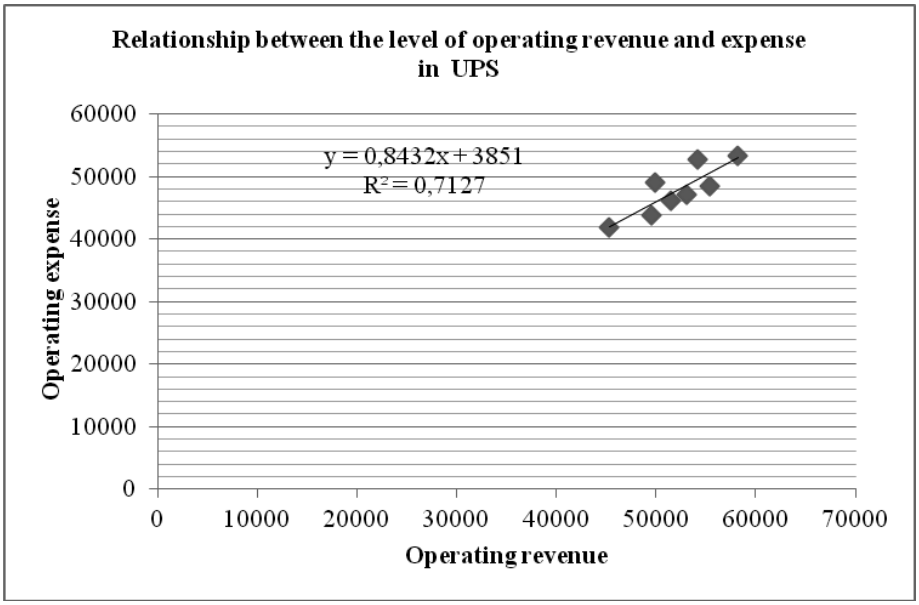
The conducted empirical research in the field of the trend line of operating revenue and expense and income in the United Parcel Service Inc. company provided the information on retrospective decision-making processes, at the same time, constituting the basis for forecasting the amount of expense and revenue and future directions of development. The conducted research indicates that the basic decision-making parameter influencing the level of risk from the operating activity in the United Parcel Service Inc. company is the amount of operating revenue and strict cost discipline.

To make the evaluation of the business model of the United Parcel Service Inc. company, functioning in the global network of logistics services, more detailed, there was conducted the research of the strength and direction of the linear correlation between the level of operating revenue and expense based on the examination of the value of Pearson correlation coefficient[22]. On the basis of the value of Pearson correlation coefficient, calculated for the UPS Inc. company (Figure 2), there can be noticed strong positive correlation between the level of operating revenue and operating expense (0.84). The positive sign of the correlation informs that along with an increase in the level of operating revenue there is a rise in the level of operating expense. While examining the relations between the level of operating revenue and expense from the operating activity there was obtained weak positive correlation (0.28). A similar result was obtained while examining the relations between the level of operating expense and income from the operating activity (0.27). The examined correlative relationship is statistically significant for all the examined comparisons (at the level of α= 0,05). To confirm the research results calculated with Pearson correlation coefficient there were specified the criteria of the evaluation of the model quality with

[22] J. Suchecka, *Metody statystyczne: zarys teorii i zadania*, WZPCz, Częstochowa 2003, pp. 57-62; E. Nowak, *Zaawansowana rachunkowość zarządcza*, PWE, Warszawa, 2007, pp. 42-63.

the coefficient of determination - R^2, which describes the part of dependent variable, which results from its dependency from independent variables, considered in the model. R2 coefficient of determination, calculated for the UPS Inc. company, is presented in Figure 2.

Figure 2: The results of regression model validation. R2 coefficient of determination, calculated for the examined company in years 2007-2014



Source: Author's own study based on the data: www.nasdaq.com/symbol/ups

While making an attempt to evaluate the business model of the United Parcel Service, Inc. company, functioning in the global network of logistics services, based on the results of Pearson correlation coefficient, there can be identified the main constituents of the decision-making process. While analyzing the business model presented by the UPS Inc. company, it can be noticed that the priority is to build the position of the leader of the analyzed market segment, which is confirmed by the trend line of operating revenue. The business model of the UPS Inc. company indicates the proactive nature; it is characterized by strict control of operating expense and the implementation of adaptation activities compliant with the phenomena occurring in the external environment, which brings about an increase in competitiveness in the specific market segment. The conducted research proves that an important decision-making area in the UPS Inc. company is the sales policy based both on the quality and quantity of sold services, which is to provide the maintenance of competitive advantage. UPS Inc. represents the proactive business model directed towards predicting market trends and creating value for the customer, obtained by means of the quality of the offered products.

Conclusion

The aim of the paper has been to recognize and evaluate the parameters creating the business model of the company functioning in the inter-organizational network. The research indicates that the business model in the examined enterprise is conditioned by the quality of information on the business environment and rapidity and accuracy of the decisions taken. The maintenance of the leader's position on the market

of logistics services by UPS involves the selection of appropriate instruments of modern management. The decisions taken at both the strategic and operational level are reflected in the financial results of the analyzed company. The conducted research allows for the following conclusions:

– while examining the trend line of operating revenue and expense in years 2007-2014 in the examined enterprise, there was observed the existence of feedback taking place between these parameters; the UPS company emphasizes the target which is to maintain a long-term market leader position, while not stressing the maximization of profit,
– an important parameter influencing the business model in the analyzed company is revenue from sales since it implies the effectiveness of the entire network and it allows for the development of decision-making variants essential for the efficient management of the enterprises in the network of UPS.

The recommendation for the analyzed company is the implementation of innovative solutions and products which will enable taking effective decisions to improve the effectiveness of the network collaboration. The multi-dimensional nature of the problem of the business model of the company in the network has brought about that, in the paper, some considerations are presented in general terms, which, on the one hand, has made it possible to highlight the complexity of the discussed problem and, on the other, inspires for further studies and search.

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23. Suchecka J., *Metody statystyczne: zarys teorii i zadania*, WZPCz, Częstochowa 2003, pp. 57-62; E. Nowak, *Zaawansowana rachunkowość zarządcza*, PWE, Warszawa, 2007.
24. *Thorelli* H.B.**,** *Networks**:** Between markets and hierarchies*, Strategic Management Journal, Vol. 7, 1986.
25. Wit B. De, R. Meyer, *Synteza strategii. Tworzenie przewagi konkurencyjnej przez analizowanie paradoksów,* PWE, Warszawa 2007.
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Katarzyna Żyminkowska
University of Bielsko-Biala, Poland

ENGAGING CUSTOMERS IN THE FASHION BUSINESS MODELS[1]

Summary

Customer engagement is a novel concept in marketing and customer relationship management. The main objective of the paper is to identify and explore the intensity of customer engagement phenomenon in the fashion business models. The case research method is applied in order to discover how fashion company, Spreadshirt, engages customers and designs each component of its open business model to capture value co-created with customers.

* * *

Introduction

The term fashion has a very wide frame of reference, but the fashion industry tends to be primarily focused on those businesses involved in the design, production, sale and promotion of clothing, accessories and footwear[2]. The business model is a coordinated plan to design a strategy along the customer interaction, asset configuration and knowledge leverage vectors[3]. This broad interpretation of business model, which is preferred in this paper, is also supported by A.J. Slywotzky, who defined it as the totality of how a company selects its customers, defines and differentiates its offerings (value for customer), defines the tasks it will perform itself and those it will outsource, configures its resources, goes to market, creates utility for customers (delivers the value for customer), and captures profit. In other words, business model is the entire system for delivering utility to customers and earning a profit from that activity[4].

[1] The work was financially supported by the National Science Centre in Poland, project no 2014/13/B/HS4/01614.

[2] Jackson, T., *The process of trend development leading to the fashion season /*In:/ *Fashion Marketing Contemporary Issues*, Second edition. Ed. by: T. Hines, M. Bruce, Elsevier Ltd., Oxford, 2007, p. 169.

[3] Venkatraman, N. and Henderson, J.C., *Real strategies for virtual organizing*, "Sloan Management Review", 1998, Vol.40, No.1, pp. 33-38.

[4] Slywotzky, A.J., *Value Migration. How to Think Several Moves Ahead of the Competition*, Harvard Business School Press, Boston, Massachusetts 1996, pp. 4-5.

There are three specific types of business models identified in the global fashion industry[5]. Firms attempted to renovate their business models to BO-DSD type (i.e. Brand Owner - Design, Source and Distribute) which was reported to be the most profitable business model in the fashion sector. Developing business networks, consisted of various partners including designers, producers, and retailers, was a key element of this business model renovation process[6]. The idea of opening the business model and gaining access to the partners' resources, instead of the ownership of those resources, is emphasized in the Extended Resource-Base View (ERBV)[7]. Opening a business model is also a way for increasing the organization flexibility, which is an alternative for maintaining slack resources[8].

Furthermore, according to C. Prahalad and V. Ramaswamy, apart from business partners, also consumers and consumer communities are the source of new competencies, as they are the part of a firm's 'enhanced network'[9]. Enhanced network is the whole system including the company, suppliers, partners, and consumers. In the enhanced network of competencies, the company has access to consumer competence and investment of time and effort from consumers, in addition to the firm's resource base. Value is co-created with consumer, and consumer is both collaborator and competitor for value. Paradigm of R=G and N=1 proposed by C. Prahalad and M. Krishnan offers new principles for innovation in such networks[10]. First principle, N=1 (one consumer experience at a time) refers to the centrality of the individual consumer. Value is based on unique and personalized experience of individual consumer, and firms have to learn to focus on one consumer's experience at a time. Second innovation principle, R=G (resources from multiple vendors and often from around the globe) refers to the focus on access to resources, not ownership of resources. Firms access resources from a wide variety of other big and small firms to satisfy the experiences of one consumer at a time. Aforementioned principles of innovation demonstrate how managers must use technology and analytics to empower a customer to co-create business solutions that serve his or her most important needs. In other words, they imply business models renovation to co-create value within the networks consisted, among others, of individual consumers, actively participating in value co-creation.

The notion of customer involvement and participation in value co-creation with the firms and other customers (consumers) is conceptualized in marketing literature as a "Customer Engagement" (CE) and "Customer Engagement Behaviors" (CEB). CE is the intensity of an individual's (i.e. current or potential customer) participation in and connection with the organization's offerings and / or activities, which either the customer or the organization initiate. It is composed of cognitive, emotional, behavioral, and social elements[11]. CEB is defined as a customer's behavioral manifestations that have a brand or firm focus,

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[5] Perry, P. and Towers, N., *Operational Excellence: Analysis of Key Performance Metrics in the Fashion Industry*, The University of Manchester 2007, p. 62.

[6] Rupik, K., *Business models of Polish clothing companies in their expansion into the CEE markets,* "Journal of Economics and Management" 2009, Vol. 6, pp. 121-135.

[7] Dyer, J., Singh, H., *The relational view: Cooperative strategy and sources of interorganizational competitive advantage.* "Academy of Management Review", 1998, 23/4, p. 660-679; Wójcik-Karpacz, A., *Zdolność relacyjna w tworzeniu efektów współdziałania małych i średnich przedsiębiorstw,* Oficyna Wydawnicza SGH, Warszawa 2012, pp. 21-22.

[8] Rupik, K., *Planowanie marketingowe przedsiębiorstw – ujęcie zintegrowane*. Wydawnictwo Uniwersytetu Ekonomicznego w Katowicach 2013, p. 225.

[9] Prahalad, C., Ramaswamy V., *The Future of Competition: Co-Creating Unique Value With Customers*, Harvard Business School Press, Boston 2004, pp. 141-143 and 115-125.

[10] Prahalad, C., Krishnan M., *The New Age of Innovation. Driving Co-created Value through Global Networks*, Mc Graw Hill 2008, p. 11.

[11] Vivek S., Beatty S., Morgan M., *Customer Engagement: Exploring Customer Relationships Beyond Purchase*,"Journal of Marketing Theory and Practice", 2012, vol. 20, no. 2, pp. 127-145.

beyond purchase, resulting from motivational drivers[12]. E. Jaakkola and M. Alexander[13] distinguish two general types of customer engagement behaviors: (1) customers' communication about the focal firm or brand (customer may acquire new customers for the firm through firm-incentivized referral programs, or influence other customers' perceptions on their own initiative through word-of-mouth, blogging and other forms of customer-to-customer interactions), and (2) customer involvement in product development and innovation (customers help improve or develop the firm's offerings by providing feedback, ideas, and information, or participating in product design or assembly).

Although the R=G and N=1 principles of innovation and customer engagement concept are still novel, its implementation into business practice is already observed. Also in fashion sector the innovative, open business models based on value co-creation with customers are being developed. Therefore, the purpose of this paper is to explore how fashion firms may engage their customers into the value creation and what components of the business models should be considered to capture the value created in such networks according to R=G and N=1 principles of innovation. The case research method was applied to explore this emerging trends in fashion sector. The paper is organized as follows. First, the conceptual framework including the review of literature on business model components and strategies for engaging customers is briefly discussed. The paper continues by outlining the methodological approach and empirical research results. The subsequent sections include research findings discussion and final conclusions.

Business model components

There is an ongoing dispute in specialist literature concerning the concept of the business model. The supporters of the narrow interpretation are attempting to separate this research category from the strategy of a company claiming that the business model is a structure or platform which enables the values to be created; the strategy, on the other hand, is focused on creating a long-term competitive edge[14]. One can also hear voices saying that a business model is a substitute to the development strategy that has been popular for some years; a substitute attractive to those who appear to have lost themselves in the "too rapidly changing world of managers", which allows them to replace the organized, systemic and systematic forecasting and planning for the whole business operations with a less ambitious task of building an effective profit model[15].

However, the supporters of the broad understanding of BM claim that the strategy is a part of the model. According to T. Gołębiowski, the basic elements that constitute the business model include the following:

- Customers (and the range of business of the company),
- Value proposition for the customers,
- Resources and skills (competences),
- The place of the company in the value chain for the end buyers,
- Actions of the company that create and supply the value to the customer (actions defining the internal value chain of the company),

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[12] Van Dorn, J., Lemon K.N., V. Mittal, Nass S., Pick D., Pirner P., Verhoef P.C., *Customer Engagement Behavior: Theoretical Foundations and Research Directions*, "Journal of Service Research", 2010, 13(3), pp. 253-254.

[13] Jaakkola, E., Alexander, M., *The Role of Customer Engagement Behavior in Value Co-Creation. A Service System Perspective*, "Journal of Service Research", 2015, 17(3), p. 249.

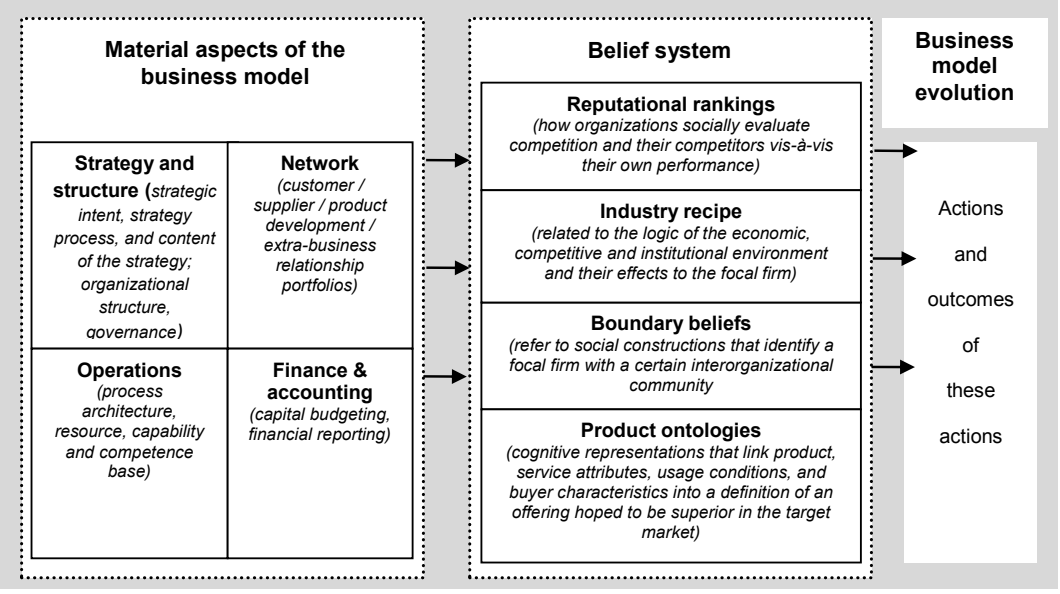
[14] Dudzik, T., Witek-Hajduk, M.K. *Model biznesu – moda czy nowa koncepcja zarządzania strategicznego?* /In:/ *Wspólna Europa: tworzenie wartości przedsiębiorstwa na rynku Unii Europejskiej*. Ed. by: H. Brdulak, E. Duliniec, T. Gołębiowski, Szkoła Główna Handlowa w Warszawie, 2007, pp. 429-439.

[15] Romanowska, M. *Ewolucja myślenia strategicznego*, /In:/ *Dynamika zarządzania organizacjami: paradygmaty, metody, zastosowania: księga pamiątkowa wydana z okazji 50-lecia pracy naukowej prof. zw. dr. hab. Jerzego Rokity*, Wydawnictwo Akademii Ekonomicznej, Katowice 2007, pp. 125-131.

- The character of the relationships with other companies (which are a part of the chain),
- Sources of the income of the company[16].

Abovementioned proposition of business model structure is in line with the framework proposed by H. Tikkanen et al. (see Figure 1). The material aspects of the business model refer to the tangible elements of a company's strategy and structure, network, operations, finance and accounting[17]. Cognitive aspects of the business model are referred to systemic meaning structures or the belief system of a company, where the latter is seen as the driver of decision making, and subsequently, action. Therefore, business model evolution is defined as the relationships between managerial actions and their outcomes manifested in realized economic exchanges and business results.

Figure 1: The business model of the firm



Source: Own work based on: Tikkanen, H., Lamberg, J-A., Parvinen P., Kallunki, J-P.: *Managerial cognition, action and the business model of the firm*, "Management Decision", 2005, Vol. 43, p.793.

Strategies for engaging customers (increasing CEB)

R. Brodie et al. claim that the interpretations of the concept 'engagement' that have emerged in the literature are volitional and/or discretionary and include the notion of connection, attachment, emotional involvement and/or participation[18]. As mentioned previously, customer engagement behavior (CEB) is defined as a customer's behavioral manifestations that have a brand or firm focus, beyond purchase, resulting from motivational drivers. Thus CEB refers to the behavioral aspects of the customer-firm relationship and clearly goes beyond transactions (i.e. includes only nontransactional customer behaviors). This view is supported by Bijmolt et al. who posit that various forms of CEB affect the brand or firm

[16] Gołębiowski, T., *Normatywne modele biznesu polskich przedsiębiorstw na rynku Unii Europejskiej*. /In:/ *Wspólna Europa: tworzenie wartości przedsiębiorstwa na rynku Unii Europejskiej, op. cit.,* pp. 451-460.

[17] Tikkanen, H., Lamberg, J-A., Parvinen, P. and Kallunki, J-P., *Managerial cognition, action and the business model of the firm*, "Management Decision", 2005, Vol. 43, p. 789-809.

[18] Brodie, R., Hollebeek, L., Jurić, B., Ilić, A., *Customer Engagement: Conceptual Domain, Fundamental Propositions, and Implications for Research*. "Journal of Service Research", 2011, 14(3), p. 260.

in ways other than purchase. In other words, customer engagement includes behavioral manifestations of a customer with a rather indirect impact on firm performance. In contrast, direct customer outcomes are generally linked to its current and future transactions with the firm[19]. The abovementioned proposals of reducing customer engagement to nontransactional behaviors is also preferred in this paper. T.H. Bijmolt et al. distinguish three general manifestations of customer engagement: customer complaining behavior, word-of-mouth (WOM), and customer co-creation behavior[20]. As mentioned previously, E. Jaakkola and M. Alexander distinguish two general types of customer engagement behaviors: customers' communication about the focal firm or brand, and customer involvement in product development and innovation[21].

K. Rupik proposed 2x2 classification matrix of CEB with two dimensions: (1) engagement initiator subject (customer or firm may initiate the CEB) and (2) subjects of value co-creating interaction (the value may be co-created in one-to-one interaction between firm and customer or in the interactions many-to-many between customers)[22] (see Table 1).

Table 1: Classification of CEB

Subjects of value co-creating interaction / **Engagement initiator subject**	**Firm – customer**	**Customer - customer**
Customer	**I**	**III**
Firm	**II**	**IV**

Source: Rupik, K., *Customer Engagement Behaviour in the Fashion Industry*, "International Conference on Marketing and Business Development Journal", 2015, Vol. I, No 1/2015, pp. 337-345.

Two bottom quarters (II and IV), where the firm initiate CEB (i.e. the firm engages customers), refer to the possible strategies of engaging customers in firms' business models. In quarter II CEB is initiated by the firm and the value is co-created in the interaction one-to-one, between the firm and the customer (current or potential). It may be called as 'individual engagement'. These CEB forms result from integrating the individual customer into the firm's business processes (e.g. product design, ad design) and are stimulated by information technology and occur mainly in online conditions. Customer may participate in product personalization using online product generator (for example Nike offers "Customize with NIKEiD" option), or act as the product designers in the open innovation model (for example John Fluevog has its forum for customers to submit their shoe design ideas - Fluevog "Open Source Footwear"). Customer may also act as copywriter and design promotion instruments for a firm (John Fluevog asks its customers to submit ad designs for active briefs published online, so called "Fluevog Creative"). In quarter IV CEB is initiated by the firm and the value is co-created in the interactions many-to-many between the customers (current or potential). It may be called as 'collective engagement'. These CEB

[19] Bijmolt, T.H., Leeflang, P.S., Block, F., Eisenbeis,s M., Hardie, B.G., Lemmens, A., Saffert, P., *Analytics for Customer Engagement*. "Journal of Service Research", 2010, 13(3), p. 341.

[20] Ibid.

[21] Jaakkola, E., Alexander, M., *op. cit.,* p. 249.

[22] Rupik, K., *Customer Engagement Behaviour in the Fashion Industry*, "International Conference on Marketing and Business Development Journal", 2015, Vol. I, No 1/2015, pp. 337-345.

forms refer to the crowdsourcing and engaging online communities to perform some firm's business processes (designing the products and analyzing the market perception, promoting and selling the firm's products or even financing the production). For example Threadless asks the customers (artists) to submit designs (prints), the Threadless community scores each design and the best of the best are printed and sold. The designers may also use the Threadless forums to collaborate with others on their designs or ask for a critique. The effects of the aforementioned CEB are positive for a firm since some business processes are performed by the customers (or communities) instead of being executed by firm's employees or commercial suppliers. The strategies of engaging customers may therefore include: mass-customization (if it's volitional for customer) and crowdsourcing. These strategies are also named as customer integration into the firms' business processes and refers to the customer co-creation behavior and involvement in product development and innovation.

Spreadshirt case - research results

In order to explore how fashion firms may engage their customers into the value creation and what components of business models are 'affected' by introducing R=G and N=1 principles of innovation the case research was conducted. This research method is useful in exploration and description of above issues within its real-life context since the boundaries between phenomenon and context are not clearly evident[23]. The firm Spreadshirt was chosen as the example of the European pioneer in engaging customers in fashion market. Spreadshirt company was founded in Leipzig, Germany in 2002 by Lukasz Gadowski and Matthias Spiess - students without any capital. Now Spreadshirt is one of the world's leading ecommerce platforms for on-demand printing of clothing and accessories. Below the description of four material aspects of Spreadshirt business model are summarized and the elements of the strategy for engaging customers are highlighted. The following sources were used in this study: Spreadshirt Press Kit 2015, online; Spreadshirt. The World's Creative Apparel Platform 2010, online; Seybold 2009, and the Spreadshirt website[24].

1. Strategy & structure

Strategy - value for customers

As mentioned above, Spreadshirt is one of the world's leading ecommerce platforms for on-demand printing of clothing and accessories. In a few minutes users can create one-of-a-kind t-shirts which they can either buy or sell. There are three options on the platform:

1. Create: Users can design and order their personalized products. [This is the option available for consumers who want to be engaged in the designing process for themselves. If consumers do not want to engage they may choose other option: "shop"].
2. Shop: User can buy products created by Spreadshirt community in Spreadshirt online shop - Marketplace. [This option refers to the traditional online purchase, consumer is not engaged into business processes beyond the purchase].
3. Sell: With Spreadshirt's online shop platform, customers acts as sellers and offer their creations without worrying about managing inventory, accepting credit cards, manufacturing, shipping, or customer service. Two options of shops are available:

[23] Yin, R., *Case Study Research: design and methods*, Sage Publications, Thousands Oaks, 1984, p.128.

[24] Spreadshirt. The World's Creative Apparel Platform. Published on slideshare on Nov 30, 2010. http://www.slideshare.net/Spreadshirt/spreadshirt-the-company [access on 15 June 2015]; Seybold, P.B., *Smart Customization Comes of Age. Best Practices from the MIT Smart Customization Seminar 2008,* Patricia Seybold Group, Boston 2009; www.spreadshirt.com [access on 13 June 2015].

a) Designer shop: Users can upload their designs to Spreadshirt Marketplace and sell to Spreadshirt's audience. They have to create an account to register. This is completely free of charge and without obligation. Users only need to state their email address. Then users set their commission and make money with every sale (selling to Spreadshirt's audience). [This option available for consumers engage them into the designing of the products offered by Spreadshirt to its customers. At the same time the engaged consumer may benefit from this engagement by receiving the commission if the delivered designs were bought by Spreadshirt customers].
b) Partner shop: Users can open their own online shop and sell directly to their target audience. Using Spreadshirt platform, users need to custom shop layout and embed their shop on their site and then can sell directly to the audience. The shop owner receives a commission from Spreadshirt for each sale of a product or design connected with the own shop.

Spreadshirt provides a platform for designing, buying and selling personalized clothing and other custom merchandise online. In 2015 the range of products for customization included: T-Shirts, hoodies, sweatshirts, aprons, baby clothes, phone cases, and personalized gifts. Before 2007 the assortment was broader and included also puzzles, clocks, mugs, and lanyards. But in 2007, basing on the market research, Spreadshirt refocused on the products that carry the most emotional impact for customers. Jana Eggers (CEO in 2007) described the story of the refocusing:

We asked our employees first; then we went to our customers asking them: "What made it "your own label?" What was discovered is that wearable apparel packed a lot more impact than any other customizable object. And that telling a story or making a statement about yourself is the key emotional driver. The phrase that really summed up the customer research was: "I wear my shirt every time it's clean." This was the big epiphany. Shirts are very personal to them. People comment on them. They wear them proudly. We also learned that the process of creation is a really important part of the perceived value of the experience. Many customers commented that they wanted to spend more time in creating their customized shirts; not less.

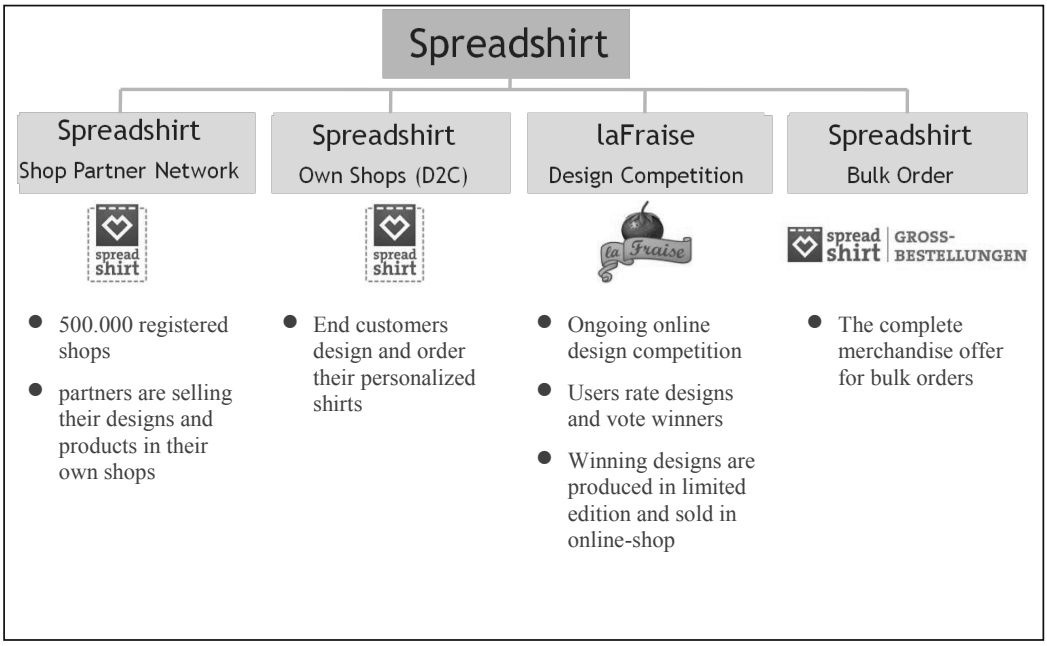
As the result, in 2007 Spreadshirt set up new company goals to put its focus back on apparel, and new mission statement was revealed: "*To be the world's creative apparel platform*". In 2014 over 3 million products were printed by Spreadshirt and sent to more than 150 countries (in 2005 Spreadshirt became available in Polish).

Structure

In 2014 Spreadshirt had 550 employees in six countries. Headquarters are located in Germany, Leipzig and USA, Boston. The company has also three branch offices in: Germany (Berlin), USA (Greensburg) and Brazil (São Paulo). Five of the company's production sites are located in: Germany, Leipzig; USA, Greensburg and Henderson; Poland, Legnica, and Brazil, São Paulo. In 2010 Spreadshirt had four business units (see Figure 2). This element of Spreadshirt business model was modified, and in 2015, instead of laFraise and Spreadshirt for Bulk Orders, two other business units existed:

- Yink: Dedicated for custom textile printing and merchandise in bulk. Customize fabrics and merchandise for 50 or more items, with customers' own designs, at individual prices (this unit replaced Spreadshirt for Bulk Orders).
- TeamShirts: Launching the brand TeamShirts further enhanced Spreadshirt's diversification strategy on the German market. The offer is geared towards a growing number of group orders, such as those placed by sports teams, bachelor and farewell parties or company runs.

Figure 2: Spreadshirt business organization



Source: Spreadshirt. The World's Creative Apparel Platform. Published on slideshare on Nov 30, 2010. http://www.slideshare.net/Spreadshirt/spreadshirt-the-company [access on 15 June 2015].

2. Network

Customer relationship portfolios

The original vision of Spreadshirt wasn't a direct-to-consumer business, but an online shop partner that would empower small retailers to create and sell their own branded goods. This was verified in practice and finally Spreadshirt targets also the end customers. Thus two types of Spreadshirt customers may be distinguished:

1. Buyers: "*Like tattoos, phone skins, and MySpace or Facebook pages, Spreadshirt lets people show who they are through shirts, shoes, bags and more, with affordable prices, high quality, fast delivery, and no minimum quantities*."
2. Sellers: "*With Spreadshirt's online shop platform, sellers offer their creations without worrying about managing inventory, accepting credit cards, manufacturing, shipping, or customer service. Shop partners focus on the creative Spreadshirt delivers the rest. Shops are free to set-up, and standard shops are free to maintain."*

In 2009 approximately 50 percent Spreadshirt's business comes direct from millions of direct customers. Here are some findings that Jana Eggers (CEO) presented about those "direct-to-consumer" customers in the context of customer engagement potential and its factors:

- 80% want to create personalized clothing
- 75% did not know where they could do so
- #1 priority: high-quality, long-lasting printing
- #1 concern: having enough time to create
- 30% purchase as gifts

- 25% purchase to express ideas
- 20% purchase for an event
- 75% wear it "regularly" or "every time it is clean".

More than 50 percent of Spreadshirt's business is with established brands. Brands like Coca Cola, Warner Brothers, many content sites, and lots of community sites and entrepreneurs want to be able to offer their own branded apparel. Spreadshirt offers a cost-effective way for them to provide high quality with fast turnaround and no inventory. "Shop partners" who routinely use Spreadshirt include:

- Large brands like CNN, Coca-Cola, or Warner Brothers offer unique promotions
- E-commerce sites like Otto or Plus offer unique, personalized items
- Content sites like the Guardian, Boing Boing, or cartoonists Katz & Goldt offer brand extensions
- Community sites like ChuckNorrisFacts or Craftster.org offer "fanwear"
- Entrepreneurs like Nekkid Tees or Amorphia Apparel build their own apparel label.

In 2009 there were 500,000 web users' registered shops - from private individuals, companies, teams to music bands. However the number of active sellers is quite smaller. For example in 2014 there were approx. 70,000 active sellers and approx. 2 million designs on Spreadshirt marketplaces.

Supplier relationship portfolios

Spreadshirt does not produce any products since the company offers particular service - on-demand printing on clothing and accessories. Among Spreadshirt clothing suppliers are well-known quality brands such as Hanes, American Apparel, Continental Clothing and Fruit of the Loom.

3. Operations

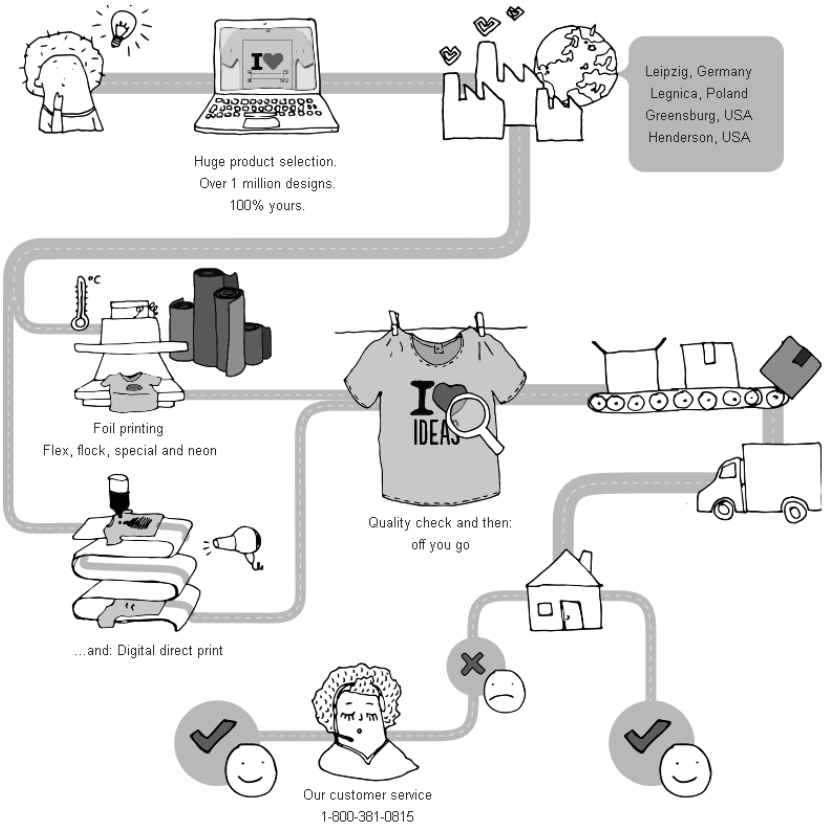
Although the Spreadshirt use the term "production process", this firm does not produce any clothing items or accessories but prints them in its production sites (see Figure 3). Consumer who buys the product with their own design or buy designs from Spreadshirt marketplace receives order in 2-3 days (the products are ready to ship in 24-48 hours). "*Some 300 co-workers at production sites in Europe and the USA make sure that our T-shirts, bags and accessories are embellished to each customer's liking. The products are inspected and routine-tested before being dispatched to all corners of the world. And if there is ever reason for complaint, our friendly customer service will support any queries in 6 languages*." Customers may return the items they bought up to 30 days. In 2009 approximately 1,5 million shirts were shipped worldwide. A day with most orders was 15th of December - 19,200 orders were reported.

For the consumers who want buy a one-off customized item, Spreadshirt developed the "Spreadshirt Designer". With just a few clicks, customers can arrange and order their customized apparel or gift with the design and text of their choice. The processes for sellers (designer and partner shops) are designed as follows:

1. Designers submit their designs and set a commission (earned each time their design taken from the Marketplace to be used).
2. Shop partners pick their favorite designs from the Spreadshirt Marketplace and use them to create products for sale in their own Spreadshops.

"*Opening a shop with Spreadshirt is free and the only requirements are an internet connection and if you have it, the graphic file you want to use as your design. Spreadshirt takes care of the rest: from production, shipping, payment processing to customer services and all the tools necessary for selling your merchandise on the internet."*

Figure 3: Spreadshirt on-demand "production" process



Source: http://www.spreadshirt.com/production-process-C8687 [access on 15 June 2015].

4. Finance & accounting

In 2014 the total Spreadshirt turnover was $96m. The company paid out $10.1m to its sales partners in commission (including approx. 70,000 active sellers).

Spreadshirt users who registered the designer shop earn a profit on their sales by freely setting a commission onto the base price of each product, which they earn each time a product is sold (i.e. their designs are taken from the Spreadshirt Marketplace and used by consumers). Shop partners pick their favorite designs from the Marketplace and use them to create products for sale in their own Spreadshops.

The prices for customized products offered by Spreadshirt to end users are quite higher than the prices of standard products. For example, T-shirt prices offered by Fruit of the Loom in its Internet shop vary from PLN 9 to 24. The similar T-shirts with on-demand printing by Spreadshirt, offered in the Spreadshirt Designer may cost PLN 130 -170 (the price depends on the number and type of prints the consumer designs or chooses).

Discussion

The customer engagement is inbuilt element of the Spreadshirt business model. While engaging customers, Spreadshirt created the solutions to stimulate customer co-creation behaviors and to make

customers involved in product development in each component of it business model. Two types of customer engagement occur in Spreadshirt: individual engagement (when customers create the personalized products for themselves) and collective engagement (when individual customers - designers register their Spreadshirt shops and develop the offerings available in the Spreadshirt Marketplace for other customers).

Co-creation behaviors result with various benefits (non-financial and financial) to the customers. Spreadshirt consumers (80% of them) want to create personalized clothing and have enough time to create. This co-creation is voluntary, since customers may also buy products available in Spreadshirt Marketplace. Although the prices of customized products are much higher than the process of standardized offer, customers are ready to purchase. The reasons to create personalized clothing and accessories is, among others, to express ideas. So the benefits for individual customer are non financial. However the benefits for engaged customers – designers offering their works in Spreadshirt Marketplace may also be financial since they receive commission if their design is purchased by other customers. Thus the Spreadshirt strategy for engaging customers includes both financial and non-financial incentives. The latter are summarized by S. Shah as the following motives for customer co-creation behaviors (in product development and innovation):

- need for product: customer participates in order to create, customize, or improve a product or feature
- enjoyment, desire to create and improve: participating because one enjoys it, finds creation interesting
- identity: participating in order to reinforce or build desired self-image
- affiliation: participating in order to socialize or spend time with like-mined individuals
- values, ideology: participating to promote specific ideals
- reputation and status within community: participating in order to
- training, learning and career concerns: participating to one's skills, with the belief that such improvement will lead to a better job or promotion[25].

Although 80% of Spreadshirt direct customers declare that they want to be engaged in product creation, it doesn't mean that all fashion customers have the same preferences. Customer engagement is rather the continuum type construct (from full engagement to disengagement) and is dependent on the product offered. As mentioned previously, some years ago Spreadshirt reduced assortment range and focused on the products that carry the most emotional impact for customers. This is very important managerial tip for firms attempting to engage customers since the potential for engagement varies depending on the product category and sectoral approach is crucial. Based on the involvement grid proposed by Foote, Cone and Belding (FCB)[26] four types of product categories are distinguished depending on the customer involvement levels (high vs. low) and different forms of this involvement (intellectual vs. affective manner). Fashion goods, which are the high and affective customer involvement products in the FCB involvement grid, belong to the most engaging product category in offline and online environments. On the other side, products as paper towels or shampoo are low involvement products and the potential for engaging customers is quite lower than in the fashion market.

Conclusion

The purpose of this paper was to explore how fashion firms may engage their customers into the value creation and what components of business model should be considered to capture the value created in the networks according to R=G and N=1 principles of innovation. Research findings revealed that business model in which customer engagement (both individual and collective) is an inbuilt feature

[25] Shah, S., *Understanding the Nature of Participation & Coordination in Open and Gated Source Software Development Communities* /In:/ Academy of Management Annual Meeting Proceedings 2004 (1), August 2004, pp. 46-50.

[26] Lambin J-J., *Strategic Marketing Management*, Mc-Graw-Hill France, 1998., p. 136.

already exists in the fashion sector and refers to the customer co-creation behavior and involvement in product development and innovation. Value co-creation with individual customer (N=1) with access to the resources of other customers and suppliers (R=G) occurs in each business model element: strategy and structure, networks, operations, and finance and accounting. Customers may be integrated into the business processes through mass-customization (volitional for customer) and crowdsourcing. Customers (or communities) perform those processes instead of being executed by firm's employees or commercial suppliers.

Aforementioned findings confirm that the service dominant logic in marketing (which is one of the customer engagement theoretical source) is present in the fashion sector. It supports Ch. Grönroos view that the service logic fits best the context of most goods producing business today and value for customers is created throughout the relationship by the customer, partly in interactions between the customers and the supplier[27] (Grönroos 2006). This suggests the need for future research on effective customer engagement management including designing the system of incentives for customers in various sectoral conditions.

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Adam Nalepka
Cracow University of Economics, Poland

HOUSING MANAGEMENT MODELS IN POLAND[1]

Summary

The management of residential properties has its specificity which primarily arises from constant stay of users in them. It requires permanent provision of specific services to flats. The specificity is also significantly influenced by legal regulations residential real estate are subject to, varied for various forms of ownership and type of residential units.

This paper pays special attention to organizational and legal forms applicable in residential property management in Poland.

The undertaken attempt of comprehensive approach to the problem of the institutionalization of residential property management in Poland is a good starting point for in-depth research into the effectiveness and efficiency of individual institutional forms.

* * *

Introduction

Property management consists in proper technical maintenance and rational usage of construction and technical facilities performing various utility, social and economic functions.

Residential properties occupy a special position among properties. The source of the specificity of managing residential properties is primarily the fact that the users constantly stay in them. It requires uninterrupted provision of specific services to flats: water, electricity and heat, gas, solid and liquid waste removal, cleaning, service and maintenance, repair and construction, etc. What is also significant in that respect are legal regulations which residential property management is subject to, different for various forms of ownership, type of residential units, for their structure and equipment.

The aim of this paper is the identification, classification and characteristics of organizational and legal forms used in residential property management in Poland.

The starting point for the discussion is the characteristics of the ownership structure of Poland's housing resources, which indicates the diversity and real significance of various institutional forms of residential property management.

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The framework of this paper does not allow the full presentation of issues related to the institutionalization of managing various forms of residential properties[2]. However, the undertaken attempt of comprehensive and systematic approach to the problem of the institutionalization of managing residential properties in Poland can be, it seems, a convenient starting point for in-depth research into this problem.

Specific problems of residential property management

Residential properties are building properties with the prevailing housing function, of various structure, often including commercial or service units, garages, storage rooms in the basements or free standing, etc. The properties can be equipped with numerous installations and devices providing specific functionality and comfort of the facility. It is particularly visible in newly-built residential buildings[3].

Residential property management must enable permanent residence of people. The specific character of managing housing resources arises from the variety of ownership forms and legal titles of governing residential properties and premises (residential and utility ones). The table below presents the current ownership structure of Poland's housing resources.

Table 1: Ownership structure of housing resources in Poland (as of 31.12.2013)

Specification	Number of flats	Share %
In total	3,852,896	100.0
housing co-operatives	2,248,625	16.2
municipalities (council flats)	934,863	6.7
firms	105,304	0.8
the Treasury	0,527	0.2
social housing associations	2,66	0.7
natural persons	0,441,511	75.4
including:		
- tenants' associations	,523,692	18.2
- outside tenants' associations	,917,819	57.2

Source: own study based on: *Managing housing in 2013*, Central Statistical Office Warszawa 2014

The specific character of residential property management also arises from the division of the area of the property into premises (residential and utility ones), being at users' (owners', tenants') disposal, and shared areas. Thus, operating residential property management consists of managing individual

[2] The problems of institutionalization of residential property management in Poland are presented much more broadly in the paper: *Współczesne problemy zarządzania nieruchomościami mieszkaniowymi*, collective work edited by A. Nalepka, Cracow University of Economics, Faculty of Economics and International Relations, Department of Economics for Real Estate and Investment Process, Kraków 2014 (Statutory research No. 046/WE – KEN/01/2014/S/4242, unpublished material)

[3] Kamiński M., *Wpływ technologii wykonania budynku na koszty utrzymania nieruchomości*, „Nieruchomości C.H.Beck" 2014 No. 10.

premises, which, as a rule, is implemented by the users, and in managing shared parts, implemented by the property manager.

The specificity of residential property management is also influenced by the motives for investing and underlying goals of possessing residential and utility premises.

Numerous entities operate in the area of residential property management in Poland:

- housing co-operatives,
- organizational units of municipalities,
- firms and state institutions, having flats for their employees,
- social housing associations,
- tenants' associations,
- private owners of detached house and tenement houses,
- specialized firms managing properties[4].

The entities have developed a number of organizational and legal forms of managing residential properties. They will be characterized in the further parts of the paper.

Entities managing residential properties

Housing co-operatives

Housing co-operatives are non profit entities, conducting activities which basically aim at fulfilling housing needs of their members and their families, managing these properties[5], as well as social and educational and cultural activities for their members and the environment[6].

The way in which a housing co-operative operates, including the management of housing resources is based on the provisions of Housing Co-Operatives Act [HCA, Article 1, section 1], and the provisions of the housing co-operative statute.

The housing co-operative management functions are performed by the Management Board. Management tasks are divided among the President, his/her deputies, and subordinate organizational units. In the organizational structure of a housing co-operative the following units are most often isolated: general, investment, housing resources management and the accounts.

From the point of view of the goal of the paper, the attention will be focused on the housing resources management unit. It implements operating management of residential properties of the co-operative. The tasks are implemented by adequate units and organizational positions, the example of which can be:

- housing resources management department which deals with maintaining the shared parts of the property,
- housing estate administrations being in direct contact with the residents and their environment,
- technical unit which deals with periodical inspections of equipment and installations, as well as their day-to-day maintenance, performing small repairs in the buildings,
- heat economy department which supplies hot water and central heating to the housing co-operative buildings. In order to do that, it can use its own boiler-houses,
- repair and renovation department establishes repair and renovation needs, organizes repairs using their own resources or it orders their execution to external entities, carries out the acceptance of repair and modernization works,

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[4] Nalepka A., *Zarządzanie nieruchomościami jako obszar przedsiębiorczości* w Polsce, [in:] Inwestycje i nieruchomości we współczesnej gospodarce, collective work edited by K. Marcinek, Wyd. UE Katowice 2013, p. 17 and the next.

[5] Bończak-Kucharczyk E., *Zarządzanie nieruchomościami mieszkaniowymi*, *Aspekty prawne i organizacyjne,* Wyd. ABC a Wolters Kluwer business Warszawa 2008, p. 337.

[6] Myczkowski L., *Housing co-operatives*, Wyd. CHBeck Warszawa 1997, p. 145.

Organizational units of the housing resources management department are supported by various positions and organizational units of the remaining organizational unites of the housing co-operative.

Organizational units of municipalities

The aim of council housing resources is to meet housing needs of low-income households.

Municipalities have developed a number of organizational forms of managing council residential properties[7]. The management of municipal residential properties is usually entrusted to self-governmental budgetary entities, budgetary units, municipal companies or social housing associations.

Self-governmental budgetary entities (single or multi-business ones) manage residential properties based on the resolution of the municipality council assigning a budgetary entity and defining the subject of its activities. In practice, we do not come across cases of concluding property management contracts between a municipality and its own budgetary entity. A budgetary entity, as an entity managing council residential properties does not have a legal personality. It hampers independent conducting of numerous matters related to effective resource management. A self-governmental budgetary entity does not receive residential properties for permanent administration, which prevents it from using numerous instruments of financing modernization-development projects which are available on the market[8].

Municipalities also entrust residential property management to budgetary units. Budgetary units managing council residential properties usually arise as a result of the transformation of self-governmental budgetary entities. Such decisions are taken when a municipality approaches the "debt threshold". Such a transformation enables to increase revenues to the municipal budget (gross budgeting of budgetary units) and reduce the share of credits in the municipal income, averting the risk of compulsory administration. The principles of managing council residential properties by budgetary units are basically the same as in the case of budgetary entities.

Managing housing resources of the municipality is entrusted to single-person companies of the municipality (municipal companies)[9], joint stock companies or limited liability companies. The established company manages residential properties of the municipality based on the order to take over their management, issued by the city mayor (president)[10]. In practice, the cases of concluding "property management agreements" between the municipality bodies and the established municipal company are extremely rare. Contribution-in-kind of managed residential properties is not made to municipal companies, which brings about similar negative consequences as in the case of a budgetary entity.

A special role in managing council residential properties is performed by social housing associations, owned or co-owned by the municipality. The municipality can hand over the management of municipal residential properties to social housing associations based on the contract of mandate [ASRC, Article 27, section 2, subsection 4].

Municipalities can also order the management of council residential properties to professional property management firms. It leads to the privatization of the management process. Then, the Municipality Council works out a housing strategy, formulates the policy of financing the council housing management, the President of the municipality establishes the principles and tools of municipal residential property management, and specialized departments of the Municipal Office arrange the management choosing specialized firms managing residential properties in tenders, and supervise the activities of such firms. Municipal bodies supervise the process and assess the scope and the quality of the tasks performed. The selected firms operate outside the municipality structures, which enables to separate the ownership functions from the function of managing residential properties of municipalities.

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[7] Ciepiela M., *Formy komunalnej działalności gospodarczej*, „Przegląd Ustawodawstwa Gospodarczego" 2001 No. 6.

[8] Pawelec J., *Jak zarządzać nieruchomościami w gminie*, „Nieruchomości C.H.Beck" 2003 No. 2.

[9] Szczepaniak R., *Podmiotowość prawna spółki komunalnej*, „Samorząd Terytorialny" 2013 No. 5.

[10] Pawelec. J., *op. cit.*

Firms

Residential properties, commonly defined as "company flats", are residential units which used to be at the disposal of firms (enterprises) and were hired to their employees or other individuals performing work for the firms[11]. Company flats were an instrument of personnel policy of firms (state-owned, at the time), and they were to attract highly qualified people to work in a given enterprise. The tenancy agreement for such a flat was concluded for the time of the employment relationship[12].

Company residential properties were most often managed by:

- organizational units of these firms,
- ownership-dependent co-operatives or companies.

In the first case, the basic functions of residential property management were performed by employees, usually employed in HR or administration units, in separate departments or sections. The localization of these organizational units in the company structure, their name, staffing and the scope of tasks were varied, dependent on the size of the managed housing resources. The scope of activities of these organizational units rarely included all functions of managing housing resources, therefore, the units cooperated with other organizational units of companies, which fulfilled the tasks related to legal, financial, accounting, repair and maintenance, supply and transport services, as well as HR, social and training tasks. In numerous firms, the tasks related to managing company residential properties were entrusted to ownership-dependent co-operatives or companies, which are organized in accordance with the subjective regulations.

Social housing associations

Social housing associations are one of the instruments of housing policy. The basic task of social housing associations is building houses with moderate rents, financed as a whole or in part from public funds[13] [Szelągowska, 2011, p. 13], and their use as lease [ASRC, Article 27]. Associations can also manage residential buildings they do not own, pursuant to a contract for mandate.

Social housing associations can be established in three organizational and legal forms [ASRC, Article 23, section 1]: limited liability companies, joint stock companies, co-operatives of legal persons. It means that a social housing association is an independent economic entity with legal personality.

The scope of activities of social housing associations includes investment and operating activities.

Operating activities of social housing associations consist in managing their own residential properties and residential properties of other owners, pursuant to contracts for mandate. The basis for financing operating activities is rent at the economic level, which covers the costs of the use of the property and the payment of credit. The revenues from operating activities of social housing associations as non-profit organizations are accumulated for future investment in flats for rent, and not allocated for the division among the partners or members. It is, as it seems, one of the basic reasons for weak development of the social housing association system in Poland. It seems that enabling social housing associations to function for profit could stimulate them to operate more actively.

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[11] Luty Z., *Finansowe problemy gospodarki mieszkaniami zakładowymi w przedsiębiorstwach uspołecznionych*, „Prace Naukowe AE Wrocław" 1992 No. 618.

[12] The Act on the Ownership of Premises of 24 June 1994 abolished the institution of company flats and equated the rights of tenants of former company flats and the rights of tenants of other residential units.

[13] Szelągowska A., *Finansowanie społecznego budownictwa mieszkaniowego*, CeDeWu.pl Wydawnictwa Fachowe, Warszawa 2011, p. 299.

Tenants' associations

A tenants' association is a form of the organization of the owners of residential units in multi-unit buildings, functioning in Poland for a relatively short time, the aim of which is to maintain the shared areas in proper condition and manage the property efficiently. It is created by virtue of law, upon the transfer of the ownership of the first isolated unit in a multi-unit building to another person [AOP]. Tenants' associations can be created by public entities or natural persons which have purchased residential units[14]. Matters of tenants' associations are settled by all the owners in the form of resolutions passed by majority of votes of the owners of units or in accordance with the principle that one vote falls to one owner.

The Act on the Ownership of Premises differentiates between large and small tenants' associations. The difference between them consists primarily in a different shape of shared areas management[15]. In the case of a small association, the management functions can be performed directly by all unit owners. In a large tenants' association, the management function is performed by the association's body, called the association management board, chosen by the resolution of the owners. It manages the association's matters and represents it outside and in the relationships between the association and individual unit owners[16]. The owners of residential units can also entrust the management of the property shared areas to a professional management firm. Establishing cooperation with a management firm can ensure proper maintenance of technical condition of the shared areas and the appropriate comfort of residence. The choice of shared area management form depends on the attitude of the tenants' association members and the willingness to actively participate in the management process[17].

Separate ownership of the premise and therefore of the tenants' associations, can be established on residential properties:
– newly-created by developers,
– of municipalities privatizing council units,
– companies selling their residential units.

Tenants' associations created in developer properties

Upon the completed investment process, in case of residential properties, the developer isolates flats and commercial premises which can be separate ownership, to sell them. When isolating and selling the first unit in the newly-created residential property, the developer chooses one of the following methods of managing the shared areas:
– it undertakes the activities of managing the tenants' association, so-called developer administration,
– it entrusts the management of the tenants' association to a property management firm chosen by itself.

In the case of successive sale of premises, the chosen way of managing the shared areas is usually imposed on each next buyer. It is obligatory for the next buyers of the premises, until it is changed by the members of the association.

The developer decides to take over the obligations of the shared areas management when[18]:
- it is one of the objects of activities of the developer company,
- it is treated as side, short-term activities, aiming at raising additional funds,

[14] Turlej A., *Wspólnota mieszkaniowa,* Wydawnictwo C.H. Beck, Warszawa 2004, pp. 58-59.
[15] Lewandowski K., *Modele zarządzania nieruchomością wspólną wspólnoty mieszkaniowej*, „Administrator" 2004 No. 10.
[16] Turlej A., *op. cit.,* p. 128.
[17] *Gospodarowanie we wspólnocie mieszkaniowej*, collective work edited by W. Kalinowski, Wyd. ZCO, Zielona Góra 2002, p. 65.
[18] Najbar K., *Rola firmy developerskiej w kształtowaniu zarządu nieruchomości mieszkalnej,* „Finanse, Bankowość, Ubezpieczenia" 2002 No. 3.

- it is to provide control over the actions of unit owners with regard to potential claims arising from the reveal of physical defects of the building, which, under the warranty, the developer is obliged to remove at its own expense,
- it wants to maintain full control over unfinished investments,
- there are problems with selling flats and a necessity of occasional lease occurs.

In this case, the developer undertakes all obligations related to the property management, decides about the management costs, the amount of its remuneration, sometimes also about the duration of such a kind of management. The interest of developers in managing tenants' associations is beginning to fall. It results mainly from the fact that effective management of the created housing resources and the package of operations expected by the unit buyers appears to be to too big organizational burden (a necessity to hire experts) and the reason for an increase in costs, higher than profit on these activities.

Entrusting the shared areas management to a specialized property management firm by the developer usually takes place when the developer is not interested in expanding its scope of activities and has sold most of the premises, and the costs of maintaining the shared areas it is encumbered with, are relatively low. As a rule, such a firm is known to the developer before.

Tenants' associations created in council properties

As a result of the municipalization of state assets, municipalities have obtained substantial resources of residential properties. In the situation of legally restricted possibilities to establish the amount of rents for residential units and high costs of maintaining these properties, municipalities sell individual units. In consequence, municipalities become members of tenants' associations.

The associations can be managed in the transitional period by organizational units of the municipality: budgetary entities, budgetary units or municipal companies which have managed the properties so far [AOP. Article 40, section 1]. Such a condition can last only until the owners of the units properly order the principles of managing the shared areas. Then, the owners of the units can determine the way of managing the shared areas, and entrust management tasks to a specialized property management firms.

Tenants' associations created in company properties

Due to a necessity of permanent subsidizing residential property management, companies have begun to privatize their flats, at the same time becoming members of tenants' associations. The situation of numerous tenants' associations created on the basis of company housing resources is very unfavourable, and the main reason for this is poor technical condition of the buildings.

The arising tenants' associations are most often managed by the company organizational units or by isolated companies. As tenants' association members, firms try to control the management process in various ways to protect themselves against unpredictable decisions of tenants' associations. The concern of tenants' associations' members about an increase in the costs of managing the shared areas due to a possible change of the manager is in many cases a motive for maintaining the company in the role of the association's manager.

Private owners of detached house and tenement houses

In the case of managing private residential properties, we can indicate two different situations[19].

The first situation is when the owner himself uses the property. The choice of the method and the scope of the implementation of tasks related to managing such a property depend on the owner. They are subject to his expectations, tastes, preferences. The owner himself takes decisions on maintaining, supplying and using the property and often fulfills them on his own, and makes necessary financial

[19] Bończak-Kucharczyk E., *Zarządzanie nieruchomościami mieszkaniowymi,* Wyd. C.H.Beck Warszawa 2003, p. 189.

settlements. The owner of such a property does not keep books, does not submit any reports to anyone and does not submit any statistical information. He also creates plans for his property by himself, and implements a specific management strategy.

The other situation when the owner manages the whole or a part of the property used by other people based on tenancy agreements. Then, the owner has to additionally comply with the tenant protection regulations, fulfill general obligations of the lessor, and others agreed in the tenancy agreement. He also has to fulfill tax obligations (on rent revenues) and reporting obligations.

Specialized property management firms

The owner can order the property management to a specialized property management firm[20]. The basic document regulating the relationship between the owner and the management firm is the property management agreement[21]. Such a firm implements chiefly the property owner's goals, agreed upon in the property management agreement, and in particular it maintains and increases the real value of the property. The property management firm should reconcile the interests of the owner and the tenants, which may be conflicting, and choose between short-term benefits and long-term value of the property.

To let the property management firm perform its functions efficiently, it should bring about clear-cut specification of goals by the property owner, conduct comprehensive analysis of the local real estate market, consider constantly changing legal regulations governing property management, keep direct contact with tenants and create proper atmosphere of cooperation in the team providing services in the properties[22].

In the case of residential property management, we can indicate two situations in which, on the one side, there is a property management firm, and on the other side there is:
- the owner (co-owners) of the residential property intended for lease,
- tenants' association.

The owners of houses resided by them hardly ever order their management to specialized firms. But they order the management in the case of the discontinuation of residence there and the decision to hire the property in whole or in parts (of individual units).

In residential properties, in which the ownership of at least one unit has been separated, a tenants' association is created by virtue of law. Efficient management of a property by tenants' associations, compliant with applicable regulations, requires to appoint the management board or entrust the shared areas management to a specialized firm with a notary act.

Conclusion

Residential property management is a complex and difficult task, different than managing other, with regard to their functions, types of properties. The specific character of residential property management arises from legal regulations that residential units are subject to, and different kinds of flats in respect of ownership. What is also important here is the performed function which is permanent, uninterrupted use of the premises (the residence of the users), which requires the continuity of providing specific services (supplies) to the flats.

The other situation when the owner manages the whole or a part of the property used by other people based on tenancy agreements. Then, the owner has to additionally comply with the tenant protection

[20] Nalepka A., Najbar K., *Rozwój rynku usług zarządzania nieruchomościami mieszkaniowymi w Polsce,* „Studia i Materiały TNN' 2007, Vol. 15, No. 1-2.

[21] Przybylski P., *Przejmowanie nieruchomości do zarządzania,* [in:] Vademecum zarządcy nieruchomości, edited by W.J. Brzeski, Cracow Real Estate Institute Foundation, Kraków 2001.

[22] Gawron H., *Podstawy zarządzania nieruchomościami*, Wyd. UE Poznań 2010, p. 24.

regulations, fulfill general obligations of the lessor, and others agreed in the tenancy agreement. He also has to fulfill tax obligations (on rent revenues) and reporting obligations.

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13. Przybylski P., *Przejmowanie nieruchomości do zarządzania,* [in:] Vademecum zarządcy nieruchomości, edited by W.J. Brzeski, Cracow Real Estate Institute Foundation, Kraków 2001.
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PART II

MANAGEMENT CONCEPTS AND THEIR APPLICATIONS

Zbigniew Antczak
Wrocław University of Economics, Poland

CONCEPT MANAGER-ATTRACTOR (= KNOWLEDGE AGENT IN NETWORK)

Summary

The functioning of modern organizations under the influence of a competitive environment requires them to systematically improve their knowledge. The dynamic development of Information Technology has caused that it is difficult to imagine a modern Knowledge Management system in an organization without the support of efficient IT solutions. One of the future concepts in the design and implementation of such systems are knowledge agent system in networks. 'Knowledge agent in network' is not a new term, but it has changed meaning and increased importance nowadays. The author presents the results of diagnosis the knowledge agent in network and manager-attractor. He systematized of varied definitions and showed elements constituting notions manager-attractor and knowledge agent in network. The common characteristics of knowledge agent in network definitions (=manager-attractor), which are able to find in contemporary literature, is that knowledge agent in network is a radical change. The author has formulated its own definition and model of manager-attractor (= knowledge agent in network).

Keywords*: knowledge agent, manager-attractor, network-embedded, grapho-logic consideration, contextual consideration*

* * *

Introduction

Contemporary entities, e.g. economic ones, operate in an environment which may be described for instance through the processes of the growing importance of knowledge, increasing globalization, virtualization, networking, environmental variability, etc. The network embedding of the agents of knowledge becomes a critical institutional and corporate process of increasingly fierce competition. It also leads to a series of questions, such as: what is this process? How to systematize it? What are its conditions? What is the impact of the context of events? In order to structure the research field there were diagnosed selected semantic ranges for the basic concepts and – for identification-analytical purposes – systematized (in economic, managerial and social aspects) structure of the process of network-embedding of the knowledge agents.

Semantic ranges for the basic terms used in the analysis

The **analysis** is related to deductions and thoughts of the author concerning the issue defined in the title. The contextual approach takes into account the conditions/situation of the surroundings/environment (e.g. the organizational structure of the corporation, the trajectory of the career path within the company, thickness of the individual layers of the levels of virtual, network and global structures, economic trends, etc.), in which the agent operates. **The grapho-logical approach** to the issue: formal graph grammar are useful for description and modeling – therefore, there have been used simple graphs (the *implicite* assumption: the temporal-spatial logic on many levels of consideration).[1] **Embedding in network**: the functioning of the agent in network and/or mixed hybrid structures, (i.e. in a machine-mechanical-technical approach).[2]

The idea of an agent (in the approach of machine-mechanical-technical) dates back to the 50s. of the twentieth century, although there are voices dating its origins to the 20s. of the last century.[3] Debate and attempts to define the concept of an agent, noticeable in the literature since the 80s. of the twentieth century, did not lead to consensus around a single, commonly accepted understanding of the term (in either of the considered systematizations). The idea of an agent is assigned to J. McCarthy (mid-1950), and the term itself was formulated by O.G. Selfridge several years later, when they both worked at MIT (Massachusetts Institute of Technology).[4] In 1977 C. Hewitt published an article in which he presented his concept of a prototype agent: an **actor**.[5] One of the first, intuitive definitions of the agent was presented in an article by Y. Demazeau.[6] For S. Russell and P. Norvig, the agent was every object/entity which perceives the environment in which it is located and acts on it through sensors, by using effectors.[7] For P. Maes, the agent is an autonomous computer system that functions in a dynamic and complex

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[1] Peng W., Krueger W., Grushin A., Carlos P., Manikonda V., Santos M., *Graph-based methods for the analysis of large-scale multi-agent systems*, AAMAS 2009, 8th International Conference on Autonomous Agents and Multi-agent Systems, Budapest, Hungary 2009, pp. 545 – 552 (http://aamas.csc.liv.ac.uk/Proceedings/aamas09/pdf/01_Full%20Papers/09_46a_18_101_FP_0723.pdf, 2015-07-01); Ehring H., Engels G., Kreowski H.-J., Rozenberg G. (eds.), *Handbook of graph grammars and computing by graph transformation*, Vol. II, *Applications, languages, and tools*, World Scientific Publ., Singapore – New Jersey – London – Hong Kong 1999; Ehring H., Kreowski H.-J., Montanari U., Rozenberg G. (eds.), *Handbook of graph grammars and computing by graph transformation*, Vol. III, *Concurrency, parallelism, and distribution*, World Scientific Publ., Singapore – New Jersey – London – Hong Kong 1999; Rozenberg G. (ed.), *Handbook of graph grammars and computing by graph transformation*, Vol. I, World Scientific Publ., Singapore – New Jersey – London – Hong Kong 1997; Wilson R.J., *Wprowadzenie do teorii grafów*, PWN, Warszawa 2000.

[2] Network structures – see: Antczak Z., *Rozważania nad pojęciami wirtualności i organizacji wirtualnej*, [w:] Jaki A., Kaczmarek J., Rojek T. (red.), *Restrukturyzacja. Teoria i praktyka w obliczu nowych wyzwań*. Księga pamiątkowa dla uczczenia Jubileuszu 45-lecia pracy naukowo-dydaktycznej prof. zw. dr hab. Ryszarda Borowieckiego, Wyd. UEK i Fundacji UEK, Kraków 2011, s. 85 – 102.

[3] K. Čapek, „R.U.R. – Roboty Uniwersalne Rossuma", science-fiction drama from 1920, where you see the word robot.

[4] Kay A., *Computer software*, „Scientific American" 1984, Vol. 251, No 3, pp. 53 – 59.

[5] Hewitt C., *Viewing Control Structures as Patterns of Passing Messages*, „Artificial Intelligence" 1977, Vol. 8, Issue: 3, pp. 323 – 364. It was an interactive entity based on parallel processing that had an internal state and responded to messages from other similar objects/actors.

[6] Demazeau Y., *From Cognitive Interactions to Collective Behaviour in Agent-Based Systems*, 1st European Conference on Cognitive Science, Saint-Malo, France, Avril 1995, pp. 117 – 132. He specified, among others, the motivation to introduce the agent into decentralized systems and a list of requirements it must do, i.e.: use diverse, uncertain and, if necessary, conflicting sources of information; operate effectively in changing conditions by making their accurate evaluation; and adjust its goals to the limited possibilities of perception and action.

[7] Russell S., Norvig P., *Artificial Intelligence A Modern Approach*, Prentice Hall, Englewood Cliffs, New Jersey 1995, pp. 31 – 50.

environment, which sees it and acts on it in order to pursue its objectives.[8] For others, the agent is a unit that continuously performs three functions: perception of dynamic conditions found in the environment, actions to change these conditions, and reasoning to interpret the perceptions, solve problems, arrive at conclusions, and determine the measures to be taken,[9] or a system capable of deliberate, autonomous action in the real world.[10] In the economic, managerial and social aspects, knowledge management optics, the concept of an agent (specifically: knowledge-related [11]), used interchangeably with e.g. an actor, is usually not defined.[12]

For the purpose of these considerations, the author has decided to define the **manager-attractor** (= **agent of knowledge**; *knowledge management* optics in the economic, managerial and social concept of the agent) as ***an individual entity acting in spaces of flows (supply and demand) of value, which – thanks to its skills and wisdom – can, under the given conditions and taking into account the challenges of the future, metamorph information into knowledge (including that which conditions its effective functioning in the future)***. The author assumed (and it is a qualitative conclusion formulated a priori) that the agent of knowledge (as a rule) becomes an attractor,[13] when it has high, specialized qualifications and remains in a higher or mature stage of the career path (corporate alliance relationship capital, explicit knowledge and tacit knowledge).[14]

The agent can be (and most often, in the analyzes, is): a person – a robot – a program – some substance. In the *economic, managerial and social* concept of an agent (defined as a person or an

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[8] Maes P., *Situated agents can have goals*, [in:] Maes P. (ed.), *Designing Autonomous Agents. Theory and Practice from Biology to Engineering and Back*, MIT Press/Bradford Books, Cambridge, MA 1990, pp. 49 – 70 [too: also published as a special issue of the journal „Robotics and Autonomous Systems", Vol. 6, No 1 – 2, June 1990].

[9] Hayes-Roth B., Brownston L., Gent R.V., *Multi-agent Collaboration in Directed Improvisation*, [in:] Lesser V. (ed.), *Proceedings of the First International Conference on Multi-Agent Systems* (ICMAS-95), AAAI Press, Menlo Park, Calif. 1995, pp. 148 – 154.

[10] Brustoloni J.C., *Autonomous Agents. Characterization and Requirements*, Carnegie Mellon Technical University Report CMU-CS-91-204, Pittsburgh 1991.

[11] It is worth noting that the very concept of knowledge in human culture is universal, basic (fundamental) and is a multi/-range/-meaningful/-faceted. It works on both the grounds of social sciences (including philosophy, history, ethics, sociology, psychology, anthropology, management science, computer science, communication theory, political science etc.) and general science (including mathematics, logic, etc.), often in an interdisciplinary context, formulated from different research perspectives. In the comparative analysis of semantic ranges for the concept of knowledge there can be seen a specific impact of, among others, the level of social development, e.g. through the researcher's education, the conceptual apparatus, research methods and techniques, interpretive mechanisms etc. This means that the meaning of the term *knowledge* suffers from differences of interpretation due to the location, time, purpose and other circumstances associated with that particular formulation, and difficulties in the extraction of designates useful in modern and/or prognostic reflections. Using specifications (e.g. soft, quiet, implicit, organizational, theoretical, strategic, etc.) makes the fundamental understanding of the concept even more difficult to grasp, more subjective and conditioned by numerous contextual/local variables. See: Antczak Z., *Kapitał intelektualny i kapitał ludzki w ewoluującej przestrzeni organizacyjnej*, Wyd. UE, Wrocław 2013, s. 134 – 152, 264 – 269.

[12] Perhaps they are regarded as primary terms/definitions, thus being non-definable. See for example: Perechuda K., *Dyfuzja wiedzy w przedsiębiorstwie sieciowym*, Wyd. AE, Wrocław 2005, pp. 140 – 145.

[13] Attractor – (attract) a set in space (phase), towards which, over time, are directed the trajectories starting in different areas of space (phase). The attractor can be a point, a closed curve (limit cycle) or a fractal (a strange attractor). The attractor is one of the fundamental concepts used in the chaos theory. The attractor attracts the trajectories situated close to it. Sometimes it is called "ściek" (sewer) in Polish. Each attractor has its own area of attraction (called a pool of attraction: a collection of such initial conditions for which the trajectory is directed towards the attractor). See: https://pl.wikipedia.org/wiki/Atraktor (2015-06-16); http://sjp.pl/atraktor (2015-06-16); http://sjp.pwn.pl/sjp/atraktor;2551128 (2015-06-16).

[14] Bohdziewicz P., *Kariery zawodowe w gospodarce opartej na wiedzy (na przykładzie grupy zawodowej informatyków)*, Wyd. Uniwersytetu Łódzkiego, Łódź 2008.

institution) it occurred relatively quickly. In the field of management and economics, since the 70s. of the twentieth century there has been a theory of a principal/agent (PAT, *Principal/Agent Theory*).[15] The basic problem of such designed system (principal – agent) is the control on the part of the principal and its evasion by the agent, which is a frequent process in the management of multi-level structures (MLG, *Multi-Level Governance*).[16] In the *knowledge management* approach, the agent of knowledge (a hired professional, constantly improving their skills, the carrier of *KH*) participates in the project (organized by the corporation – the integrator of the network) and, on the one hand, forwards/internalizes their knowledge (but does not do it completely) and on the other hand, their implicit knowledge is multiplied (enrichment of intangible resources).[17] On another note, in the cybernetic/IT approach (generally defined and commonly encountered in the literature) the agent (their structure) consists of: a program (i.e. a set of algorithms that determine the relationship between the observations and the activities of the agent) and the architecture of the system.[18]

Popular ***specifications*** of the term "agent" [of the program (software agent) and/or so-called robot, bot (softbot), thermostat]: softwar,[19] rational,[20] intelligent,[21] simple – complex (systemically), universal (non-universal, specialized, e.g. anti-viral), purposeful (with targets; also: viruses, e.g. Trojan), with a utility function, reflective, software [e.g. monitoring,[22] bibliographic, bio-informatics, analytical (in a specified range), educational in long-distance learning environments, exam, customer service, to check the status of a particular service, knowledge acquisition for the public administration, etc.], and the like.[23] With the systematization of the issues of distributed artificial intelligence (DAI), with the identification of two main areas of research (i.e.: DPS, distributed problem solving, and MAS, multi-

[15] PAT's theoretical foundations have been developed by R. Coase in the application of transaction costs and management of corporations (including the framework of the so-called multi-level governance). In economics, the PAT theory was applied in 1976 by M. Jansen and W. Merkling.

[16] Eluding a principal by the agent promotes, among others: information asymmetry (and the asymmetric distribution of information) between the principal and the agent; concealment or hiding of the operating methods by the agent; the problem of evaluating the agent; the problem of owners (residual) of the results of the agent's actions (which are the principals); lack of control on the part of the principal or an escape from the control of the principal; non-compliance (or ***a conflict***) of preferences and interests (because agents have their own preferences which they enforce using their positions); the problem of ensuring obedience (to ensure that the agent acts in the service of the principal). See for example: Ruszkowski J., *Zastosowanie teorii PAT do analizy wielopoziomowego zarządzania w UE*, „Studia Europejskie" 2008, nr 4, s. 119 – 141.

[17] Perechuda K., *Dyfuzja wiedzy w przedsiębiorstwie sieciowym*, Wyd. AE, Wrocław 2005, s. 142n.

[18] Which consists of: hardware and software environment; access to external data (perception); control over program execution and access to the effectors. See: Duch W., *Sztuczna inteligencja. Reprezentacja wiedzy II. Agenci*, (pdf; 2015-06-16).

[19] Any system that receives information from the environment and responds to this information; software agent (also called the system agent) is a system based on knowledge; it is defined as an autonomous program included in the current environment (and being a part of it), which is able to analyze this environment and act on it in time, seek to obtain its goals and simulate the impact of changes in that environment.

[20] I.e. it should have a measure of assessment of its operation (in regard to its objectives), and to use the information in the coming perceived data in order to optimize this measure on the basis of available knowledge.

[21] Godniak M.K., *Wspomaganie zarządzania w organizacji wirtualnej z wykorzystaniem technologii typu 'Muti-Agent System'*, http://www.swo.ae.katowice.pl/_pdf/54.pdf (pdf, 2015-06-16); Krygier N., Karczmarz P., *Systemy agentowe w zarządzaniu wiedzą*, Acta Universitatis Lodzensis. Folia Oeconomica No 261, Łódź 2011, s. 271 – 284; Wooldrige M., Jennings N.R., *Intelligent Agents. Theory and Practice*, „Knowledge Engineering Review" 1995, Vol. 10, Issue: 2.

[22] E.g. RCS, used by the country's intelligence (in Poland for instance by ABW) to monitor computers and phones, or PRISM used to monitor, capture, and collect large amounts of data ("an uncontrolled surveillance *on a massive scale*").

[23] Duch W., *Sztuczna inteligencja. Reprezentacja wiedzy II. Agenci*, (pdf; 2015-06-16); Landowska A., *Rola agentów edukacyjnych w środowiskach zdalnego nauczania*, „Zeszyty Naukowe Wydziału Elektrotechniki i Automatyki Po-

agent system), there are two types of agents (artificial agents, and human agents), and systemizing the classes of agent programs it is worth mentioning: reactive agents, intentional agents, and social agents (chatterbots).[24] They have, among others, opportunities for coordination, cooperation, negotiation, and planning.

Specifications of the agent (a person) are associated with the person's roles, e.g.: changes (change agents),[25] insurance (e.g. property, real estate, et al.),[26] customs, export, commercial transactions, lobbying,[27] intelligence (spy, data analyst, sleepy-agent, undercover, scout, operational, coordinator, communications officer, cryptographer, cleaner, freelancer, impact agent, so-called personal source of information, etc.),[28] [so-called] departments,[29] special forces, fiscal control, specialist, broker (multi-functional-process), dealer, stockbroker, shipbuilding, maritime, port, tourism (including resident tourist office, tourist guide, etc.), banking, credit, transfer, design, operational, plain – supervising, *call center*, active – retired, for football players/actors/celebrities (manager), pyramid schemes (also so-called multi-level marketing), commercial networks et al.

Popular **specifications** of the term "agent" (substance): *X*, *Orange* [chemical, defoliant used in Vietnam by US Army], a foaming agent [substance to facilitate the creation and maintenance of foam], decoy (attractor, e.g. for insects, fish, etc.), energy-stimulating drugs, etc. For the most part they correspond to synonyms.[30]

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litechniki Gdańskiej" 2008, nr 25, s. 83 – 86; http://www.inzynieriawiedzy.pl/systemyinteligentne/agentprogramowy (pdf; 2015-06-16).

[24] Durfee E.H., *Planning in Distributed Artificial Intelligence*, [in:] Jennings N., O'Hare G.M.P. (eds.), *Foundations of Distributed Artificial Intelligence*, Wiley-Interscience, New York 1996, pp. 231 – 246; Moulin B., Chaib-Draa B., *An Overview of Distributed Artificial Intelligence*, [in:] Jennings N., O'Hare G.M.P. (eds.), *Foundations of Distributed Artificial Intelligence*, Wiley-Interscience, New York 1996, pp. 3 – 55; Müller H.J., *Negotiation Principles*, [in:] Jennings N., O'Hare G.M.P. (eds.), *Foundations of Distributed Artificial Intelligence*, Wiley-Interscience, New York 1996, pp. 211 – 230; Sycara K.R., *Multi-agent Compromise via Negotiation*, [in:] Jennings N., O'Hare G.M.P. (eds.), *Foundations of Distributed Artificial Intelligence*, Wiley-Interscience, New York 1996, pp. 231 – 246.

[25] Antczak Z., *Zarządzanie zmianą a komunikacja społeczna w firmie*, [w:] Skalik J. (red.), *Zmiana warunkiem sukcesu*, Prace Naukowe nr 779, Wydawnictwo AE, Wrocław 1997, s. 243 – 254; Krzemiński T., *Agenci zmian – zarządzanie zmianą*, (pdf; 2015-06-16); Quirke B., *Communicating corporate change*, The McGraw-Hill, London 1996.

[26] Sokołowska A., Topczewski W., *Wykorzystanie wiedzy i umiejętności agenta ubezpieczeniowego w świetle społecznej odpowiedzialności firmy ubezpieczeniowej*, „Współczesne Zarządzanie". Kwartalnik Środowisk Naukowych i Liderów Biznesu 2010, nr 2.

[27] Examples of services: legislative and political lobbying, political and PR marketing, offering proceeds, lending relational capital, actions bordering on corruption and catering to exclusive needs/desires.

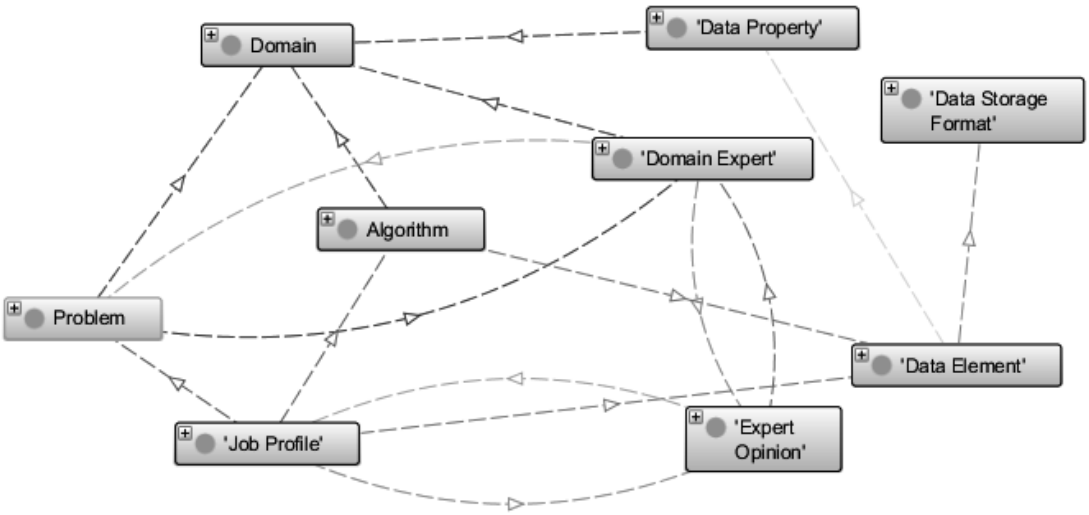
[28] E.g. telecommunication, economic and industrial (white – gray – black), business and banking, fiscal, technological and technical, military, IT (safety, security, databases, etc.), logistical (electricity, fuels, goods, transport hubs etc.), and others.

[29] E.g. WSI, WSW, ABW, SKW, CBA, UOP, CBŚ/CBŚP, BND, CIA, NSA, FBI, AIVD, KHAD, NDS, STASI, etc.

[30] Synonyms for the word agent: salesman, guardian angel, basilisk, broker, dealer, delegate, denunciator, detective, dealer, hawker, informer, distributor, emissary, pharisee, rubber ear trader, impresario, herald, informant, peephole, snitch, collaborationist, collaborator, traveling salesman, curator, confident, mole, legate, fox, broker, manager, trustee, manager, manager, governor, carrier, tail, attorney, chatterbox, trustee, member, agent, proxy, provocateur, representative, sales representative, spokesman, telltale, the seller, traitor, super-agent, superspy, spy, undercover agent, traitor, plug, messenger, envoy, scout, traitor, viper. In Polish, 71 synonyms were divided into 16 groups of meaning. See: http://synonim.net/synonim/agent (2015-06-16).

Researchers operating with cybernetic-IT optics are more likely to use the **agents in grid**,[31] while in the socio-economic terms it will be **network embedding of the agents of knowledge**. The (conceptual) model in the first case will look like the one in picture 1 (see picture 1).

Picture 1: Conceptual model agent in grid



Legend: where the terms (connected with relations) have the following meanings: *Domain* – identified areas of knowledge; *Problem* – hierarchy of problems; *Algorithm* – hierarchy algorithms/methods that can be used to solve problems; *Data Element* – data (its type) which provides input for algorithms; *Data Property* – ownership hierarchy of the input data; *Domain Expert* – experts (people or systems) who bring reviews (recommendations) to the system within their assigned areas; *Job Profile* – task profiles constituting connections between the instances of classes *Problem*, *Algorithm*, *Data Element*, *Expert Opinion*; *Expert Opinion* – expert opinions binding the instances *Domain Expert* and *Grid Entity.*

Source: Wasielewska-Michniewska K., Analiza wielokryterialna wiedzy reprezentowanej ontologicznie. Zastosowanie metod analizy semantycznej do zwiększenia efektywności wykorzystania gridu, Studia Doktoranckie IBS PAN (pdf; 2015-06-16).

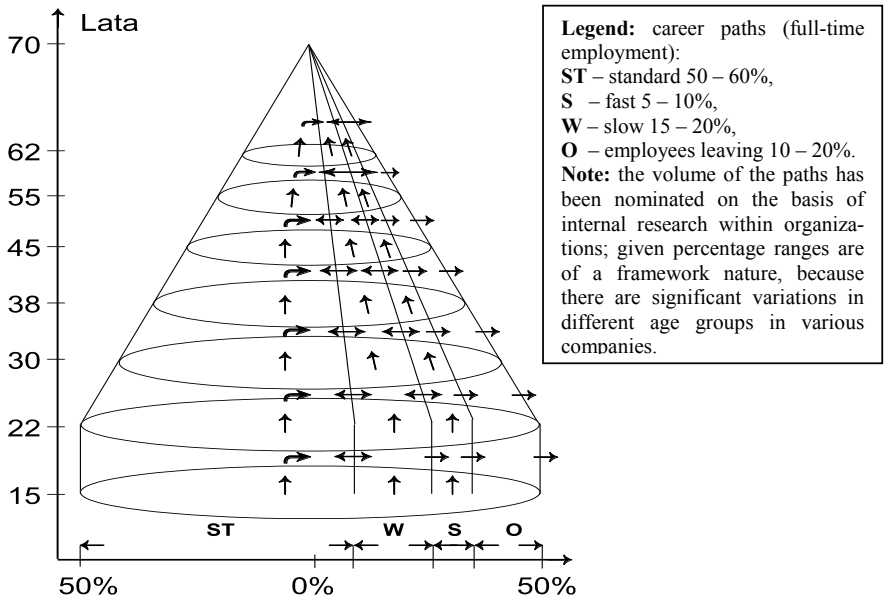
Own model of a manager-attractor (= network-embedded agent of knowledge)

Generating one's own model of a manager-attractor (= network-embedded agent of knowledge) it is worth mentioning the so-called context of the organizational structure. Moreover, it is worth remembering that the company, corporation - are people with relationships (here, it should be indicated e.g. the so-called approach to a person through the prism of an axiological/value system), organizational culture (overwhelming and niche, which exists in a certain team; in a trend, in corporations operating in Poland,

[31] *Agents in grid*: intelligent management of resources shared in a grid (here: a network of interconnected computers) with the use of software agents and semantic data processing. Wasielewska-Michniewska K., *Analiza wielokryterialna wiedzy reprezentowanej ontologicznie. Zastosowanie metod analizy semantycznej do zwiększenia efektywności wykorzystania gridu*, Studia Doktoranckie IBS PAN (pdf; 2015-06-16).

regardless of the origin of the capital, as a rule, there is a dominant 'farm-like' organizational culture),[32] etc. Whether it will be a hierarchical structure, or one aiming towards networking and virtuality (here comes the issue of thickness of each layer; see pictures 2, 3 and 4) – the considered agent of knowledge will work in a team and cooperate, providing and enriching their knowledge with a specific team of people. The organizational level and the phase of career path's trajectory will exert a moderating influence on who and to what extent the agent of knowledge will work with. It can be expressed in the form of a simple graph (or a series of graphs; see picture 5).

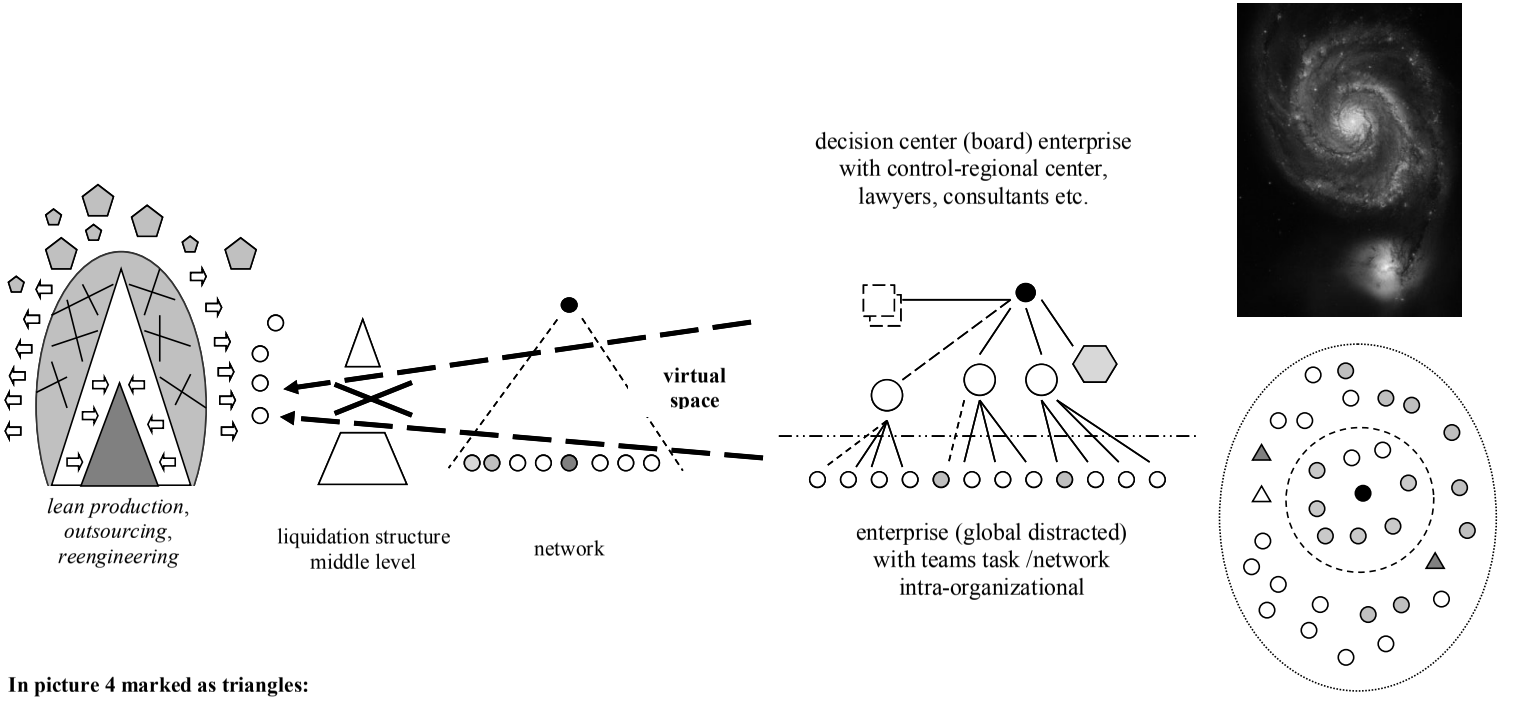
Picture 2: Relations between career paths and employee terminations



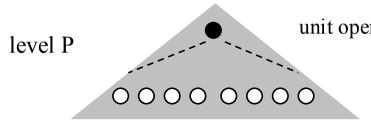
Source: Webber R.A., Zasady zarządzania organizacjami, PWE, Warszawa 1996, s. 528n; Holstein-Beck M., Szkice o pracy, KiW, Warszawa 1987, s. 84 – 90; Jamka B., Kierowanie kadrami, Wyd. SGH, Warszawa 1998, s. 93n; Antczak Z., Funkcja personalna w przedsiębiorstwie w okresie transformacji gospodarczo-społecznej w Polsce, Wyd. AE, Wrocław 2005, s. 59.

[32] See: Czubkowska S., *Praca w Polsce, czyli nowa pańszczyzna. Jak bronić się przed toksycznym szefem?*, http://praca.interia.pl/newspracawpolsceczylinowapanszczyznajakbronicsieprzedt/podglad wydruku,nId,1714817 (2015-04-12); Filipiak J., *Rząd Polski dopuszcza do rabunkowej gospodarki na zasobach ludzkich*, Z Januszem Filipiakiem rozmawiają Jadwiga Sztabińska i Marek Tejchman, „Dziennik Gazeta Prawna" z 2015-02-08; Piechowiak Ł., *Nowa pańszczyzna na polskim rynku pracy*, Bankier.pl z 2015-04-10.

Picture 3: De-construction of the hierarchic-punctual enterprise and its shaping (through processes of networking, virtualisation and globalisation) as a virtual network galaxy (graphic model)



In picture 4 marked as triangles:

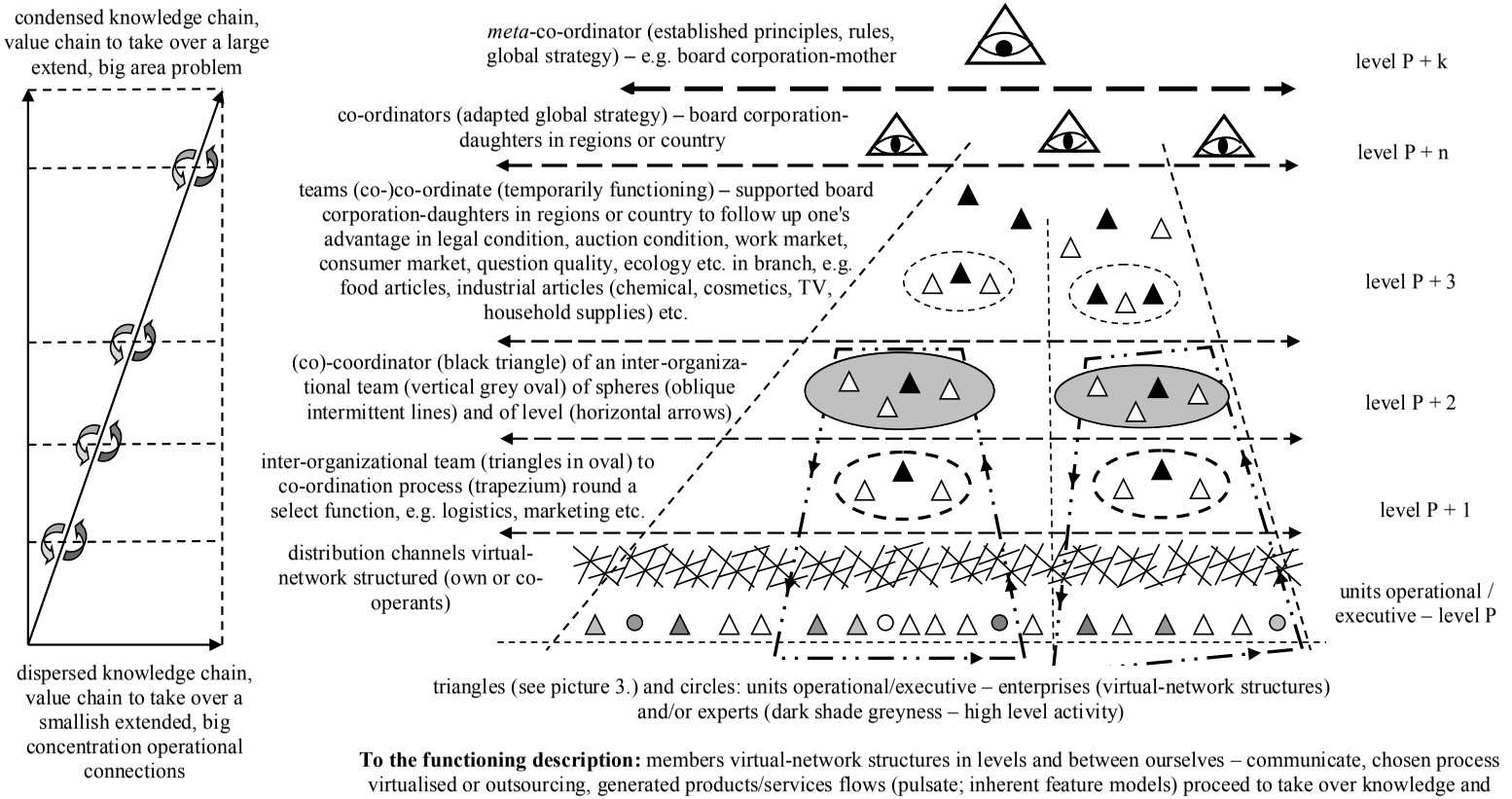


unit operational/executive/enterprise (business member) – are virtual-network structure

to functioning description: members virtual-network structure communicate, chosen process virtualized or outsourcing, generated products/services flows (pulsate; inherent feature models) proceed to take over knowledge and value (trade position in co-operation chain, to take over a large extend)

Source: Antczak Z., Spatial Model of Business as a Virtual Network Galaxy, [in:] Perechuda K. (ed.), Advanced Business Models, Publ. UE, Wrocław 2015, pp. 57 – 70.

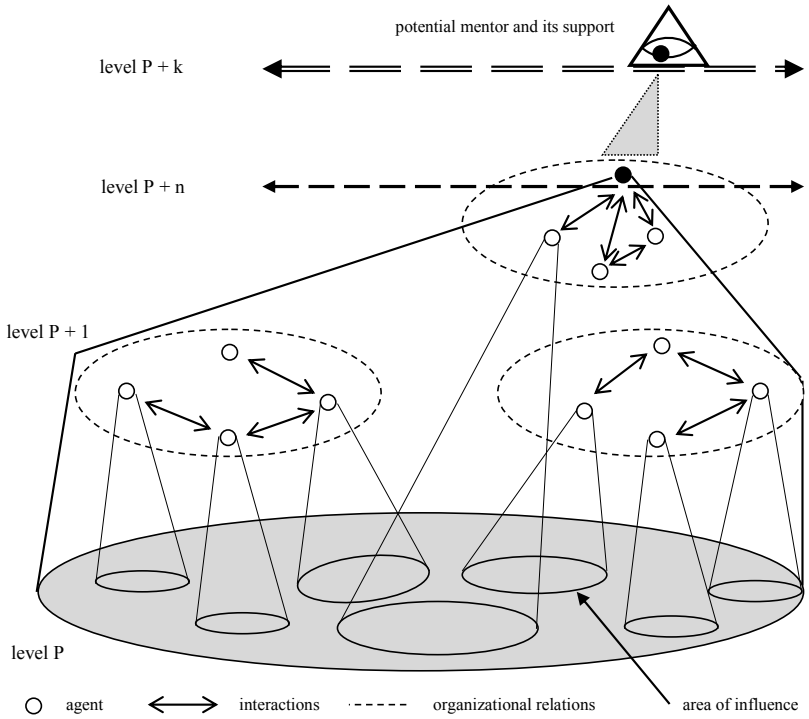
Picture 4: De-construction of the hierarchic-punctual enterprise and its shaping (through processes of networking, virtualisation and globalisation) as a virtual network galaxy (graphic model)



To the functioning description: members virtual-network structures in levels and between ourselves – communicate, chosen process virtualised or outsourcing, generated products/services flows (pulsate; inherent feature models) proceed to take over knowledge and value (trade position in cooperation chain, to take over a large extent)

Source: Antczak Z., Spatial Model of Business as a Virtual Network Galaxy, [in:] Perechuda K. (ed.), Advanced Business Models, Publ. UE, Wrocław 2015, pp. 57 – 70.

Picture 5: The model manager-attractor
(= a network-embedded agent of knowledge, de facto multi-agent system)



Source: my own elaboration.

Conclusion

During the structuring process, the following have been achieved: the identification of the problem; definition of the basic concepts; building a model using simple graphs (using temporal-spatial logic on many levels of the considerations). At the end – as a qualitative summary of these considerations – there is a proposed definition coined by the author (in knowledge management optics) for the considered issue. ***The manager-attractor (= network-embedded agent of knowledge*** in a higher or mature stage of the career path, accumulating corporate alliance relationship capital, explicit knowledge and tacit knowledge – ***according to subjective possibilities, conditions and objectives) will [in cooperation with other entities functioning in the space of flows (supply and demand) of value] seek to maximize the obtained knowledge.***

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Barbara Czerniachowicz
University of Szczecin, Poland

THE ROLE OF THE COMPETENCES OF EMPLOYEES IN AN INTELLIGENT ORGANIZATION

Summary

The aim of this paper is to present selected theoretical aspects of learning and intelligent organizations, and indicate the approach towards the competences of human capital and human capital management.

Key words: *competence, learning organization, intelligent organization, human capital, human capital management.*

* * *

Introduction

Nowadays, human capital is one of the most important resources of an organization and the formation of a community of knowledge workers, including a network of well-understanding partners, is a decisive factor to meet the challenges of a modern society and the demands of the market. Intangible assets are becoming increasingly important in the learning and intelligent organizations, mainly the knowledge of highly skilled employees, characterized by a passion for action, ambition and energy, adhering to the highest standards and rules of the business[1]. Due to the expertise, continuous organizational process of learning and knowledge transfer, employees increase the level of their knowledge and move on to higher stages of the learning curve.

Learning and intelligent organization - basic assumptions

The term learning organization is a metaphor, a model used in management, which is based on the consideration of an organization as an open socio-technical system exchanging knowledge with its

[1] M. Morawski, *Organizacja inteligentna*, in: *Zarządzanie wiedzą w przedsiębiorstwie*, ed. K. Perechuda, PWN, Warszawa 2005, p. 103.

environment that is also seen as a living organism that could not exist without daily adaption to the new and constantly changing environment and without continuous process of learning[2].

The most characteristic features of a learning organization include[3]:

- system of collective learning,
- processing of data and information, generating useful knowledge,
- continuous development of existing and acquiring new skills,
- high degree of innovation,
- having a planar organizational structure,
- having structures and systems to support learning,
- systematically and continuously investing in the development of staff,
- system learning i.e., the learning processes involving entire staff,
- the creation, use and sharing knowledge,
- openness to criticism,
- risk-taking,
- changes seen as permanent phenomenon - supporting experimentation with new methods,
- far-reaching delegation of authority,
- planned and personalized training,
- conscious creation of an action strategy for all employees, so that all employees create the vision of the company,
- promoting free flow of ideas and new concepts,
- management creates conditions to use employee competences fully.

In a learning organization the expectations of employers go beyond the scope of employee qualifications. A modern system of human capital management is based on competences, understood as complex features, such as: knowledge, skills, abilities, performance style, personality, interests and core values that when developed and used in a job will lead to the achievement of results and outcomes consistent with strategic objectives of the organization[4]. In a learning organization, an employee experience is evaluated essentially by the amount of ideas, and not the number of years of employment - in this sense, the ability to apply knowledge in practice becomes an increasingly important skill. A very important aspect – often overlooked by employers - are private interests of their employee, as most tasks tend to be carried out much faster at work when they are also connected to employee's interests and passions. An equally important role - apart from the above-mentioned competences – is also played by emotional and social intelligence. It is not enough to carry out commands; the involvement of intellect, enthusiasm and flexibility is also of crucial importance. Another important element is a conscious pursuit of one's goals in changing conditions by concentrating not only on current results, but also on those to be achieved. Therefore, in learning organizations, at the very beginning of recruitment process, it is crucial to identify and evaluate psychological competence of future employees, and it seems that one of the most valued characteristics is the desire to develop critical thinking[5].

A manager's role in a learning organization is equally important, because they combine all subsystems (knowledge management, quality, creativity, competence, talent) into a coherent whole. These subsystems interact with one another, that is why managers need to look at management system globally by bringing them together. A manager acts as a training coach and inspirer of all changes - at

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[2] R. Tomaszewska-Lipiec, *Rozwój przedsiębiorstwa w kierunku organizacji uczącej się*, „Zarządzanie i Finanse" 2012, R. 10, nr 1, cz. 3, p. 295.

[3] M. Klak, *Zarządzanie wiedzą we współczesnym przedsiębiorstwie*, WSEiP, Kielce 2010, p.168.

[4] M. Juchnowicz, T. Rostkowski, Ł. Sienkiewicz, *Narzędzia i praktyka zarządzania zasobami ludzkimi*, Poltext, Warszawa 2003, p. 46.

[5] M. Juchnowicz, *Pracownik wiedzy*, in: *Elastyczne zarządzanie kapitałem ludzkim w organizacji wiedzy*, ed. M. Juchnowicz, Difin, Warszawa 2007, p. 25.

the same time shaping the system of employee motivation. A manager motivating employees, focuses on encouraging staff to continuously participate in an ongoing process of individual and organizational learning. Working atmosphere should be conducive to critical inquires, introducing innovations and allowing for experimentation, whilst an error should be treated as new experience - hence encouraging both an employee and the whole company to learn and acquire new knowledge. Managers are also responsible for creating proper atmosphere in their teams, outlining organizational code of conduct for their subordinates, they should also have the ability to think systemically as well as to teach others and learn from others. They should be leaders with great knowledge and psycho-social, integration and communication skills, they should also be prepared for a constant process of learning and be open to other people and prepared for sudden changes[6].

An intelligent organization is believed to be the one that is both learning and self-perfecting. Moreover, some authors are also of the opinion that an intelligent organization is formed by the participation of all entities working to achieve proper knowledge at all levels, both in groups and individually. In such an organization employees have complete freedom of action within their competences, with minimal control from their superiors or co-workers. An important feature of an intelligent organization is the confidence in competences of its employees, relating to adopting new solutions and innovations as well as demonstrating creative approach to problem solving and willingness to cooperate[7].

In the subject literature can be found an approach presenting an intelligent organization as another link in the development of a learning organization. According to this approach, intelligence is something more than a learning process, because by using the means of thinking it promotes the ability to adapt to different situations, therefore, in this sense, intelligence will be the crowning work of the learning process, human genotype and his environment[8].

The common grounds and differences between learning and intelligent organizations

A learning organization, such as an intelligent organization, functioning in an environment is characterized by sensitivity to changing market conditions, especially the needs of its customers. However, the advantage of an intelligent organization manifests itself in the context of its activities widely understood as cooperation with external partners, because it can include not only direct customers but also subcontractors, suppliers, competitors and the environment[9].

A learning organization through the implementation of organizational learning gains the ability to self-realization of intelligent behavior. Such an ability to learn is acquired in an intelligent organization, therefore a process of organizational learning is much more professional. By optimizing learning processes within an intelligent organization new concepts are introduced much faster than in the case of a learning organization, which results in a more efficient and successful operation.

In an intelligent organization, as opposed to a learning organization, learning takes place not only at the individual level but also between employee teams. A learning process occurs at a higher level, intensifying the exchange of knowledge and much of its impact, because as mentioned earlier, it does not occur at the individual level but at the level of teams making up the organization. Highly probable becomes also

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[6] B. Czerniachowicz, *Organizacja ucząca się a organizacja inteligentna*, in: *Kapitał ludzki w gospodarce*, ed. D. Kopycińskiej, Polskie Towarzystwo Ekonomiczne, Szczecin 2003, p.42.

[7] W.M. Grudzewski, I.K. Hejduk, *Kreowanie w przedsiębiorstwie organizacji inteligentnej*, in: *Przedsiębiorstwo przyszłości*, ed. W.M. Grudzewski, I.K. Hejduk, Difin, Warszawa 2000, pp. 75-124.

[8] B. Mikuła, B. Ziębicki, *Organizacja inteligentna a organizacja ucząca się,* „Przegląd Organizacji" 2000, nr 5, p. 11.

[9] B. Czerniachowicz, *Organizacja ucząca się*…, op. cit., p.46.

an opportunity to engage in the learning processes individuals from outside of the organization, such as suppliers, competitors, customers who directly or indirectly affect the organization[10].

Another difference between the two concepts of organization is their organizational culture. In the case of a learning organization, an overriding objective of organizational culture is to build a uniform identity among their employees, so that it can integrate them with the organization's goals. However, in the case of culture of an intelligent organization, its form takes on a much more flexible nature, even here there is a conviction that differences of opinion and ideas can enrich the experience of employees, increase their knowledge and stimulate experimentation. The risk of errors in this case is aligned by the ability to develop and acquire new knowledge.

Managerial approach of both concepts also varies significantly. The management of a learning organization primarily aims at the development of its personnel by constant trainings. An intelligent organization does not have the traditional managerial positions. Leader appears rather in the role of a team coach or an inspirer of change, encouraging innovation and experimentation. Here operates a system of free enterprise within the organization, and learning is already deep-rooted and takes place among employee teams. The intelligence of this organization is manifested by the focus on teamwork, based on the knowledge of all employees, as a result increasing knowledge potential of an organization through the synergy effect[11].

Employees as a Potential of Intelligent Organizations

An important element in the learning process in an intelligent organization is its organizational structure. Within this framework employees are bound to achieve the highest level of knowledge relating to management, improving competitiveness of the organization, creating and implementing innovations, carrying out economic projects as well as increasing the value of an entity. Intelligent organizations should provide answers to the problem of defining its real influence on the structure, strategy, culture and operating activity[12].

Employees who have gained the knowledge necessary for doing their job, often slow down the dynamics of their development; that is why managers in the intelligent organization should prevent this process or slow it down. Well-developed knowledge worker in the intelligent organization will provide a source of information for others, mainly newly recruited staff.

The rate of learning is dependent on many factors, but mainly it depends on distinctive characteristics of a particular employee. One learns fastest in the initial stage and over time the curve of learning is stabilized[13]. Therefore, in this case as well, the role of managers should be stressed again so that they direct their subordinates through certain actions to maximize possible knowledge gains in time.

The importance of knowledge workers is confirmed by the fact that having broad and comprehensive knowledge increases self-esteem and self-confidence and helps to increase tolerance of uncertainty, which characterizes educated people. Educated workers are often characterized by openness to problems and contacts with other people and a relatively low resistance to taking risky action. On the other hand, however, low tolerance of uncertainty is a characteristic feature of employees with poor professional preparation. Knowledge is conducive to further flexibility in thinking, innovation, increasing their

[10] B. Mikuła, *Elementy nowoczesnego zarządzania. W kierunku organizacji inteligentnych*, Antykwa, Kraków 2001.

[11] B. Czerniachowicz, *Koncepcja organizacji uczącej się i inteligentnej a uwarunkowania rozwoju kapitału ludzkiego w przedsiębiorstwach województwa zachodniopomorskiego*, in: *Zarządzanie przedsiębiorstwem*, ed. E. Urbańczyk, Studia i Prace Wydziału Nauk Ekonomicznych i Zarządzania nr 7, Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, Szczecin 2008, pp. 249-262.

[12] M. Klak, *Zarządzanie we współczesnym przedsiębiorstwie*, WWSEiP, Kielce 2010, p.204.

[13] D. Waters, *Zarządzanie operacyjne. Towary i usługi*, PWN, Warszawa 2001, p. 292.

professional ambitions as well as objectivity because it protects against the blind belief in the permanence and the validity of values and norms[14].

Analyzing the issues related to the staff of developing and intelligent organizations, one should also look at their attitudes from the perspective of emotional intelligence. It is impossible to speak of a commitment to work without taking into account self-awareness and the ability to motivate oneself, without the respect and trust towards other people, without taking into account the skills of managing their own emotions, or without knowing one's own emotions. It is also hard to talk about effective team learning if you do not have emotional self-awareness, which is the basis of skills to communicate with others.

Workers of an intelligent organization are also characterized by the above-average level of internal motivation affecting other people in a positive and energetic way. Such individuals go beyond the formal structures; they act in the communities of practitioners, due to their passion they solve emerging problems jointly, learning from one other and broadening their knowledge and gaining experience.

A very important element of competence of people in intelligent organizations are their talents, such as the above-average aptitude for creative actions. Hiring people with organizational, technical, cognitive problem solving, mathematical or decision making talents may be a solid basis to gain a competitive edge and is a necessary condition for effective implementation of learning processes within the organization. The role of a manager is to discover these talents and how best to use them to achieve organizational objectives.

The approach of competence in Professional Development of Intelligent Organization

Competence development entails the changes in knowledge, skills and attitudes that are reflected in the level of professional tasks. The higher the level of competence acquisition, the greater the efficiency in the area of activities that are associated with it[15]. Each member of a learning or an intelligent organization, involved in the procedure of competence development, passes through the stages of the so-called competence ladder. Before acquiring a given competence, a worker is characterized by an unconscious incompetence, which means performing tasks assigned to a given situation in a routine and thoughtless manner. Moving from the first level to the second one is connected with the realization of the incompetence and being able to become open to acquire or improve knowledge. The development activities lead to the next level of the ladder where knowledge is gained together with theoretical and practical aspects of its use, but doing the work requires constant focus. Only the stage of an unconscious competence means the ability to perform the work automatically, but always in a manner appropriate to the situation context. In the case of very complex tasks that require a response to inconsistent information, the employee is able to demonstrate reflection. In such a situation, despite the acquired competence, a constant mental control is necessary[16].

Using a system of checking the level of competence acquisition of employees makes it easier to build career paths. Competence approach makes it possible to accurately determine the expectations towards competences connected with a given job and to compare these expectations with an actual level of an employee's competence, thus leading to precise planning of development activities. Planning development activities based on a competency model is associated with an indication of the competences needed for

[14] C. Sikorski, *Profesjonalizm. Filozofia zarządzania nowoczesnym przedsiębiorstwem*, PWN, Warszawa 1995, pp.55-57.

[15] G. Filipowicz, *Zarządzanie kompetencjami zawodowymi*, PWE, Warszawa 2004, p. 22.

[16] A. Polanowska, *Rozwój menedżerów oparty na kompetencjach – korzyści i wyzwania*, „Problemy Zarządzania" 2008, nr 4, pp. 136-137; J. Wieczorek, *Efektywne zarządzanie kompetencjami. Tworzenie przewagi konkurencyjnej firmy*, Ośrodek Doradztwa i Doskonalenia Kadr, Gdańsk 2008, pp. 95-96.

a currently occupied position. The next step is to determine competences leading workers to achieving success and the ones related to the next desired levels of their career.[17]

In the case of the lack of certain competences or inadequate level of their fulfillment it is possible to plan an individual professional training method for a particular worker. Whilst in the case of the so-called "over-competence", when an employee has one competence developed to a greater extent than assumed optimal level for a particular position, the competence system will also facilitate planning development path. It is enough to adapt this competence to specific tasks for other positions. If employees, in other areas of competence, have no significant deficiencies, they may be suitable candidates for other positions in the organization of internal recruitment, or they can be coaches for less experienced employees. Some organizations apply the developed or additional competences of their employees to create job descriptions when creating a new organizational structure or in the course of its updating[18].

Conclusion

An important element of a competence management system of an intelligent organization is professional development of staff because, according to the paradigm of modern management, competences map out the future of the company[19]. In an enterprise oriented to its employee competences development, based on the identified core competences, a concept of strategic investment in human capital is implemented. In this manner, specified directions of development and acquiring new competences are consistent with long-term goals, expressed in the form of a strategy.

The meaning of competences in an intelligent organization manifests itself in three ways i.e. [20], as the language into which the top-managers translate current and future business plans, as a way of analyzing the state of human capital and as the basis for all the HR tools used by a particular entity it gives a full view on human potential. For human capital management processes this means higher effectiveness because in this manner it is easier to plan adequate employment and to select candidates with the competence profile adequate to the needs of the organization. Managers have at their disposal current data on the degree of matching workers' skills to the needs of their intelligent organization, which in turn facilitates planning of market moves. Finally, it is possible to plan and organize human capital effectively, which consequently favours quality improvement.

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[19] A. Polanowska, *Rozwój menedżerów oparty na kompetencjach – korzyści i wyzwania*, „Problemy Zarządzania" nr 4/2008, Wydział Zarządzania UW, Warszawa 2008, pp. 129-130.

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Magdalena Kraczla
The University of Dąbrowa Górnicza, Poland

APPLICATION OF COACHING IN A LEARNING ORGANISATION

Summary

Learning organisation is a new type of organisation, referred to as organisation of the future, whose market successes are based to a greater extent on intellectual resources rather than economic capital. Thanks to its participation in a permanent development process, learning organisation is growing its competitive power and market resourcefulness. Such an approach requires redefining the role of the organisation itself as well as its participants. On the market there are numerous methods available of how to develop an individual, team or organisation and one of them is coaching, probably the latest development method. Coaching owes its popularity to the specificity of the underlying methodology which ensures an optimal development pace and surprising, if not breakthrough, effects in activating personal potential. Coaching allows for a multifaceted understanding of situational circumstances of ensuing events as a point of reference for one's own capabilities and limitations in order to target one's own activities at practical efficiency. From the organisation's perspective, coaching is realised at many levels of the organisation and becomes the foundation for developing a learning organisation.

Key words: *coaching, development, learning organisation, organisation development, organisation success*

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Introduction

Concept of the learning organisation was shaped only as recently as the 1990s. It constitutes a response to the economy entering a new development stage of high competitiveness and quick changes. This situation forces organisations to apply a "strategic policy allowing for adjustment of their potential and structures to the changing circumstances and challenges of the future"[1]. Faced with the requirements of the contemporary world, success of the organisation can be possible solely through continuously better use of work resources. Indisputable has become the assumption that raising the organisation's efficiency involves focusing on the people, their potential, motivation, support for changes and desire to search for innovative solutions in the process of constant improvement of the company's relationship with the market surroundings. Learning organisation strives to increase its flexibility and develop mechanisms of permanent adaptation to the environment changes by many-sided and long-standing process of

[1] J. Penc, *Humanistyczne wartości zarządzaniaw poszukiwaniu sensu menedżerskich działań*, Difin SA, Warszawa 2010a, p.19.

learning and development of all members of the organisation. Therefore, contemporary organisations look for solutions and methods enabling them to create internal conditions for development and hence continuation of their business operation.

Coaching, as a relatively new tool of facilitating development, due to its characteristics, brings tangible effects of increased efficiency, improved level of one's own satisfaction and personal influence, and thus shapes a modern image and future perspectives of the organisation.

The aim of the article is to present the coaching method as one of the most effective tools of refining competences and implementing them while performing everyday professional activities, which therefore contributes to catalysis of processes which are nowadays highly beneficial from the organisation's point of view.

Learning organisation

In the theory of management, *organisation* constitutes a "distinguished formal part of social and economic reality, which consists of material elements and human teams interlinked with one another, its activities coordinated in time and space and aiming at achieving useful goals"[2]. A typical and widespread kind of organisation is a business enterprise organisation. Business enterprise, forming an economic system, comprises a set of material and non-material constituents deployed to realise the set targets which are aimed at achieving profit. The expected economic result is both a goal and, at the same time, a criterion of efficiency of the applied elements making up the organisation's system. Layout of the organisation's elements and the interconnections between them determine its operational effectiveness defined as "doing things in an appropriate way i.e. in a efficient, reliable and predictable way"[3].

What is worth emphasising is the fact that profit, as an economic value, should not remain the only measure of assessing the organisation. Above all, profit ought to be an indicator of good functioning of the organisation and provide stability of existence, competitiveness, and capability of creating prosperity and new values[4].

Modern organisations are forced to operate in a changeable, dynamic environment marked with complexity and uncertainty of events. New trends are visible in all operation areas of the organisation, and their occurrence is strictly connected with the competitive and unpredictable surroundings[5]. The pace of changes happening simultaneously on numerous grounds is becoming a huge challenge for the organisation and creates a strong necessity of adaption, identification of new opportunities and taking action in rapidly changing conditions. It results in a growing complexity and diversity of organisations, which is an attempt to achieve stable existence in response to the unstable circumstances[6]. Professional literature underlines diversity as the biggest business challenge for the present-day organisations. It refers to both the external environment and numerous aspects of day-to-day activities of the organisation. To make the best use of the said diversity, efficiency has to maximised, which in turn requires developing and maintaining modern work culture. In order to do so, the issues of professional development and organisation development have to be addressed as it will allow to benefit from omnipresent diversity and its integration[7].

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[2] M. Mroziewski, *Style kierowania i zarządzania*, Difin, Warszawa 2005, p.13.

[3] J. Penc, *Humanistyczne wartości zarządzaniaw poszukiwaniu sensu menedżerskich działań*, Difin SA, Warszawa 2010a, p.7.

[4] J. Penc J., *Menedżerowie i organizacje jutra*, WSPol, Szczytno 2010b.

[5] M. Kraczla, *Stres w pracy menedżera*, CeDeWu Sp. z o.o., Warszawa 2015.

[6] G.C. Avery, *Przywództwo w organizacji*, PWE, Warszawa 2009.

[7] J.H. Katz, F.A. Miller, *Coaching leaders through culture change*. Consulting Psychology Journal: Practice and Research, Vol 48(2), Spr 1996, Special Issue: Executive Coaching. pp. 104-114.

It is worth noting that the only organisations which stand the chance of long-lasting activity are those which will succeed in achieving a high level of flexibility adequate for the speed of changes in the external environment[8]. Such circumstances mean that the contemporary organisation must be a "cautious organisation" which makes the right choices, anticipates likely changes, continuously improves its relations with the outside and looks for better and more appropriate solutions[9]. Effective organisations must encourage innovation and create a real possibility of designing new work conditions enhancing modern behaviour of the organisation's employees[10]. Such dynamics pushes organisations to start up processes of constant learning with the aim of building ***learning organisations***[11]. Context for this type of organisation is determined by a specific combination of social, political and economic factors, which leads to new phenomena and challenges never known before. Contemporary society of the united Europe is referred to as a knowledge society which relies on intellectual capital, developed technologies, global communication and electronic business[12].

Learning organisation is "an organisation which enables, facilitates and encourages all its members to learn, consciously transforms both itself and the surroundings where it functions, constantly improves efficiency of its activities, raises its innovation and growth capacity and the level of integration with its environment"[13]. In a learning organisation gained knowledge allows to create new cognitive perspectives for organisational roles and success measures[14]. Thus, learning organisation is continually extending its possibilities to direct its own future. The only organisations which can survive the new stage of organisation development are those which will prove able to spark off and utilize employee engagement, introduce new ways of thinking and provide conditions for permanent development of professional aspirations[15].

It is worth noting that delivering high economic efficiency is not the only goal of a learning organisation as it also needs to pay attention to social responsibility and create together with the external environment an integral part of the society[16]. Emphasising the social character of the contemporary organisations is connected with awareness of the determinants of the organisational effectiveness which is not only about short-term success but also achievement of success in future and long-term development of the organisation. As indicated by Blanchard, an effective organisation is the one which "achieves continually excellent results over a long period of time parallel to maintaining the highest levels of work satisfaction and engagement in work for the success among its employees"[17].

Thanks to learning, organisation obtains a number of positive skills which prove useful in very specific activities which help improve processes and create competitive services or products[18]. It is worth pointing out that knowledge and gaining knowledge in a learning organisation is a process which is not at all restricted to the managerial personnel only. Personal learning and raising skills applies to every employee and, from the whole organisation's point of view, it should facilitate transformation of

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[8] M. Mroziewski, *Style kierowania i zarządzania*, Difin, Warszawa 2005.

[9] J. Penc, *Menedżer w działaniu. Skuteczne działanie i doskonalenie,* Wydawnictwo C.H.Beck., Warszawa 2003.

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[13] J. Penc, *Menedżer w działaniu. Skuteczne działanie i doskonalenie,* Wydawnictwo C.H.Beck., Warszawa 2003, p.5.

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[17] K. Blanchard, *Przywództwo wyższego stopnia*, Wydawnictwo Naukowe PWN, Warszawa 2013, p.8.

[18] G. Probst, B. Knaese B., Styl zarządzania w firmach opartych na wiedzy. Zarządzanie na Świecie, 1998, nr 7, p.28-30.

competences and lead to a resulting competitive advantage for the organisation[19]. "Building up a capital of knowledge and transfer of knowledge within a whole organisation are crucial aspects in functioning of an effective organisation as they contribute to increasing its potential"[20].

Taking into account the size of the real difficulties in organisational development, it is worth highlighting the fact that success of the organisation is increasingly dependent on quality of the human resources: employees' knowledge, qualifications, motivation, their will and skills of striving for better work, changes and progress[21].

A very characteristic concept for the learning organisation is human capital. The underlying assumption that people constitute the most important resource of every organisation allows to treat the employed people as *human capital of a business organisation*. This capital is the knowledge, skills and abilities of particular individuals which have a specific economic value. Therefore, the goal of human resources management is to determine course of action which would enable to "translate needs of the organisation and business enterprise into a coherent and practical policy and also programmes and procedures coherent with the business strategy"[22].

Bearing in mind the above tendencies and changes, it is necessary to modify attitudes of employees or shape new attitudes desirable for transformation. Success of this process depends to a large extent on influence and impact of the managerial team who are purposely referred to as the basic element of the human capital of the organisation. Manager, as a person in charge of their subordinates and other resources of the organisation, remains responsible for stimulating and convincing others to efforts, changes, development and building a new attitude to performed activities[23].

In the contemporary business reality, company ought to be perceived as an organisation based on knowledge as it will allow to assign a sufficient role to psychosocial factors and build a development perspective hence creating a modern image and enable the organisation to grow its competitive advantage.

Coaching - modern method of development

Coaching as a method of development and growing competences stems from humanistic psychology and since the 1970s has been present in business as a popular development alternative to the classical development methods. Since then is has been undergoing rapid development both in USA and Europe[24].

There are many definitions of coaching and none of them is a leading one or coherently developed by many authors or coaching schools[25]. Capacity of the term *coaching* is so huge that it is often applied to everything to do with support in a broadly understood professional development[26]. Although the known definitions of *coaching* spread their emphasis slightly differently, they always refer to the process of

[19] J. Penc J., *Menedżerowie i organizacje jutra*, WSPol, Szczytno 2010b.

[20] K. Blanchard, *Przywództwo wyższego stopnia*, Wydawnictwo Naukowe PWN, Warszawa 2013, p.9-10.

[21] J. Penc, *Menedżerowie i organizacje jutra*, WSPol, Szczytno 2010b.

[22] D. Lewicka, *Zarządzanie kapitałem ludzkim w polskich przedsiębiorstwach*, Wydawnictwo Naukowe PWN SA., Warszawa 2010, p.27

[23] M. Kraczla, *Nowoczesne kierowanie jako czynnik determinujący konkurencyjność przedsiębiorstw.,* [w]: A. Jabłoński (red.), *Strategiczny wymiar funkcjonowania współczesnych organizacji*, Wydawnictwo Wyższej Szkoły Biznesu w Dąbrowie Górniczej, Dąbrowa Górnicza 2012, pp. 275-294.

[24] J. Whitmore, *Coaching for Performance: Growing People, Performance and Purpose*, Nicholas Brealey Publishing Ltd. 2002.

[25] S. Dembowski, F. Eldridge, I. Hunter, *Coaching kadry kierowniczej*, Wydawnictwo Profesjonalne PWN, Warszawa 2010.

[26] P. Pilipczuk, *Współczesna mitologia coachingu*, Wydawnictwo HELION, Gliwice 2012.

learning and development. Basically, *coaching* is defined as a "process of supporting another person in realising goals which they consider important and helping them achieve their peak capabilities"[27].

As regards functioning of an organisation, "objective of coaching is to develop and support people in increasing their work efficiency, which is directly reflected by efficiency of entire teams and organisations"[28]. Thus, coaching is a method which initiates process of reinforcing knowledge and skills in a particular area of competence with a basic goal of translating coaching reflections into practical actions. As a result, by focusing on individual competence deficiencies, coaching provides personal development benefits which then turn into benefits for the whole organisation due to the increase in individual and collective efficiency[29].

As the coaching method is used to support development of various areas of human activity, it should be noted that there are different forms and types of coaching. However, in each case the ultimate aim of coaching is to support a specific aspect of development in a way which ensures "progress ahead" to reach the stage where a particular person wants or has to be[30]. The framework of coaching incorporates the assumption that, "people are always able to achieve better results than they do at present"[31]. In this case coaching can be treated as a kind of intervention method aiming at developing personal potential by overcoming personal constraints and strengthening effectiveness of actions. A remarkable thing is that coaching influence relates to both constraining aspects, e.g. those which hinder reasoning schemes, and also mechanisms providing personal success strategies which are worth reinforcing and strengthening[32]. Coaching can be therefore perceived as a method of developing competences, which allows to cope with personal growth in a multidimensional manner, the fastest way to optimise one's own activities.

In order to illustrate the form of influencing by means of the coaching method, it should be pointed out that coaching is "a conversation or series of conversations between two people"[33]. It has a transformation character since it makes it easier for those involved to conform with themselves and persistently aim at the goal[34]. The task of the person taking on the role of a coach is to skilfully conduct the conversation in order to create space for the area for development in terms of thinking, acting and learning. Thus, coaching support consists in creating conditions to encourage a person to understand themselves and personal perception of the surrounding reality, identify difficulties and take actions aimed at changes in overcoming difficulties[35]. Coaching conversation can be described as "leading a given person by means of effective questions"[36]. Coaching mechanism can be compared to "learning effective internal processing" resulting in breakthrough discoveries and creative transformation in realisation of life[37].

It should be stressed that coaching differs in terms of its assumptions from other support and assistance methods. Pilipczuk defines the fundamental assumptions of coaching as follows[38]:

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[27] L.D. Czarkowska i B. Wujec N., *Etyka w coachingu. Model siedmiu wartości telicznych i autotelicznych wspierających rozwój świadomości przywódców i menedżerów w procesie coachingu na tle zmian świadomości społecznej*, [w]: L.D. Czarkowska (red.),*Leadership Coaching jako odpowiedź na wyzwania współczesnego świata*, Wydawnictwo Poltext, Warszawa 2013, pp. 68-90, p.69.

[28] S. Law, L. Spencer-Arnell , L. Wilson, *Coaching inteligencji emocjonalnej*. Wolters Kluwer Polska Sp. z o.o., Warszawa 2010, p.51.

[29] H. Law, S. Ireland, Z. Hussain, *Psychologia coachingu*, Wydawnictwo Naukowe PWN, Warszawa 2010.

[30] S. Thorpe, J. Clifford, *Podręcznik coachingu*, Dom Wydawniczy REBIS, Poznań 2007.

[31] J. Canfield, P. Chee, *Coaching dla zwycięzców*, Dom Wydawniczy Rebis, Poznań 2014, p.23.

[32] M. Bennewicz, *Coaching i mentoring w praktyce*, G+J Gruner + Jahr Sp. z o.o. & Co. Spółka Komandytowa, Warszawa 2011.

[33] J. Starr, *Coaching,* Polskie Wydawnictwo Ekonomiczne, Warszawa 2003, p. 10.

[34] M. Atkinson, R.T. Chois, *Coaching krok po kroku*, Wydawnictwo New Dawn, Warszawa 2010.

[35] J. Starr, *Coaching,* Polskie Wydawnictwo Ekonomiczne, Warszawa 2003.

[36] M. Atkinson, R.T. Chois, *Coaching krok po kroku*, Wydawnictwo New Dawn, Warszawa 2010, p.25.

[37] M. Atkinson, R.T. Chois, *Coaching krok po kroku*, Wydawnictwo New Dawn, Warszawa 2010, p.190.

[38] P. Pilipczuk, *Współczesna mitologia coachingu*, Wydawnictwo HELION, Gliwice 2012.

- Participation in coaching is voluntary and without any compulsion at any stage of development.
- Coaching is performed through supporting but not teaching or instructing.
- Coaching encourages to reflection by means of questions which have the power of triggering changes.
- Coaching is focused on achieving development goals in circumstances with explicitly defined ethical and quality standards.

Traditional development methods i.e. training, counselling or consulting rely on passing advice and all kinds of content or information. Coaching, however, strives to "release hidden potential in people", which is aimed at "initiating effective action bringing change"[39]. Therefore, the perspective of coaching provides opportunities for self-improvement, discovering one's own possibilities and developing strategies for future[40]. Thus, coaching should be treated as a kind of power supporting human development and helping to reveal potentials hidden in an individual and then implement desirable changes.

It needs to be underlined that development itself is not an easy process as it requires personal effort and engagement and often entails unpleasant feelings and state of discouragement[41]. As a result, development by means of the coaching method can be applied only to those individuals who are ready for it and who can define development goals and fully engage in the learning process. It goes without saying that development is often connected with suppressing strong habitual reactions and replacing them with new and more effective courses of action. And it all means conducting a personal reflection and working out a plan of action[42].

Many a times people focused on development, despite their internal motivation to change, do not know how to properly undertake the hard effort of development in order to acquire the desired competences. That is why contemporary organisations need support in the laborious process of development and one of their chances in this area is actually the coaching method.

Coaching in organisation development

Source literature mentions six ways or paths of how an organisation can apply coaching in its development. These are as follows[43]:

- external coaching – as a service provided for the organisation by specialised coaching companies,
- internal coaching – process of development of human resources designed and implemented by in-house HR departments with assistance of professionally prepared external coaches,
- managerial coaching – management style assuming combining the manager's role with the role of a coach by using selected coaching techniques and tools for cooperation with subordinates,
- team coaching – method of supporting organisation teams in realisation of goals, e.g. function, project or virtual teams etc.,
- board coaching – coaching involving the highest organisation level, specific due to its reference to strategic business areas of the organisation and long-term time perspective,
- creating coaching culture in an organisation – a system change which shapes a new way of functioning of the organisation.

The areas of coaching indicated above can be applied individually or comprehensively as a whole, aiming at developing coaching culture in the organisation. The latter is the case when involvement in building the business success of the organisation is closely connected with engagement in process of

[39] A. Scoular, *Coaching biznesowy*, GWP, Sopot 2014, p.17.
[40] H. Law, S. Ireland, Z. Hussain, *Psychologia coachingu*, Wydawnictwo Naukowe PWN, Warszawa 2010.
[41] P. Smółka, *Generator charyzmy. Kreowanie osobowości menedżera*, Wydawnictwo HELION, Gliwice 2007.
[42] S. Thorpe, J. Clifford, *Podręcznik coachingu*, Dom Wydaniczy REBIS, Poznań 2007.
[43] L.D. Czarkowska, *Filary coachingu i sześć dróg rozwoju organizacji.*, [w]: L.D. Czarkowska (red.), *Coaching katalizator rozwoju organizacji,* Wydawnictwo Poltext, Warszawa 2011, s. 45-62.

development of its people. Coaching culture can be recognised when coaching dominates in styles of management, cooperation, collaboration within the organisation and a holistic approach in designing development of all the employees[44].

Each employee can participate in development through coaching irrespective of their job position or function in the organisation. However, more often than not coaching is dedicated for the managerial staff.

The reason is that, from the organisation's point of view, coaching is useful at further career stages when professional effectiveness is not limited only to technical competences[45]. Development requirements faced by contemporary organisations refer in particular to managers. And many managers find it remarkably difficult to live up to the development challenges. It entails gaining new knowledge, changing one's mentality and attitude to managing people, and also ability to stimulate development of subordinates[46]. It is the managers who have to enter the new unknown areas and make difficult choices on their own. The managerial role also involves determining original visions and, additionally, presenting them to other organisation members in an attractive and charismatic way. It is the managers who are responsible for transfer of knowledge to all levels of the organisation[47]. Another issue frequently touched during coaching meetings is the manager's faith in themselves, their possibilities and the resulting change of attitudes, thinking schemes or ways of acting. It refers in particular to understanding of the idea of leadership and developing a new format of behaviour towards subordinates[48]. The quoted examples of desirable skills can be achieved by managers by means of the coaching methodology[49].

Coaching of mangers is basically based on analysis of specific events from the manager's professional life. It makes a meaningful difference compared to the traditional training programmes as the coaching method provides much more space for flexibility of solutions as it refers to particular needs of the given person[50]. Due to the fact that coaching relies on real situations directly connected with a performed profession, it can join ambitions of both individuals and the organisation[51].

Managers who have approved of the coaching method as a tool of development claim that their participation in coaching sessions allows them not only to refer to personal professional ambitions but also discover sense of life in general. Organisational practices show that coaching is more and more often used for personal development of a manager but, while generating benefits for the manager, it also provides benefits for the organisation for which the manager uses their potential[52]. Such effects of coaching cannot be overrated as "the key to being a mature manager is being a mature human..."[53].

In order to understand dependencies between development and organisational success, a change of internal processes has to be initiated. Implementation of an effective change is impossible in practice without active support and participation of managers. It requires defining a new model of behaviours and attitudes and setting the right direction of changes for these processes. That is why coaching

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[44] D. Clutterbuck, D. Megginson, *Making coaching work: creating a coaching cultur*, CIPD Publishing, London 2005.

[45] A. Scoular, *Coaching biznesowy*, GWP, Sopot 2014.

[46] J. Penc, *Menedżerowie i organizacje jutra*, WSPol, Szczytno 2010b.

[47] A. Scoular, *Coaching biznesowy*, GWP, Sopot 2014.

[48] K. Ramirez-Cyzio, *Leadership Coaching w podejściu systemowym*, [w]: L.D. Czarkowska (red.), *Leadership Coaching jako odpowiedź na wyzwania współczesnego świata*, Wydawnictwo Poltext, Warszawa 2013, p. 123-140.

[49] A. Scoular, *Coaching biznesowy*, GWP, Sopot 2014.

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[52] S. Dembowski, F. Eldridge, I. Hunter, *Coaching kadry kierowniczej*, Wydawnictwo Profesjonalne PWN, Warszawa 2010.

[53] A. Kozak, *Dojrzałość menedżerska,* Wydawnictwo Difin SA, Warszawa 2011, p. 9.

involving managers is the crowning argument used for internal intervention and initiating engagement of all employees[54].

Creating coaching culture within an organisation aiming at a broad range of influences on the entire organisation and its business performance is a special and innovative challenge for contemporary organisations. It is a long-term process which requires connecting coaching processes with all the areas of development of human potential in the organisation[55].

Majority of the present-day organisations understand the need for constant development. Their challenges are based on the assumption that everything is evolving and they demand mastering a new approach by implementing new working tools ensuring flexibility and effectiveness of actions. In such a context personal development of all organisation members becomes an important element of the organisation's evolution[56]. Coaching, as an effective mechanism of human development can successfully contribute to the expected organisational transformations, facilitating building organisational culture of coaching (support) and leadership excellence[57].

Conclusion

The conducted deliberations aimed at making the Reader more familiar with the idea of coaching which is regarded as a modern way of supporting organisational development. Coaching has become a worldwide tool of transformation and inspiration and gives shape to the latest tendencies in learning.

In the context of both internal transformations and market changes, contemporary organisations need to open to new development perspectives taking into account the currently discussed new organisational issues. Considering the fact that organisational success largely depends on quality of the human resources making up the intellectual capital of the business, the key thing is to undertake investment activities in this area in a way which would make the development progress proceed quickly and in compliance with the challenges of the contemporary world.

Nowadays this chance is created by the coaching methodology. Popularity of coaching stems from its positive contribution in making a full use of personal potential of individuals engaged in coaching. The value of applying coaching in contemporary organisations is reflected in designing new schemes of thinking and acting, which leads to shaping support culture in business organisations. Organisations with outstanding coaching culture are well prepared for omnipresent acceleration and implementation of meaningful changes.

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Janusz Zawiła-Niedźwiecki
Warsaw University of Technology, Poland

CRISIS MANAGEMENT IN SOCIAL LOGISTICS. THE CONCLUSIONS OF THE PROJECT DEVELOPING A NATIONAL RISK ASSESSMENT METHODOLOGY IN CRISIS MANAGEMENT

Summary

The obligation incumbent on each country member of the EU to have a national risk assessment methodology for the protection of critical infrastructure lay at the foundation of the project commissioned by the Polish Government Centre for Security. This inspired the authors of the project to a broader take on the challenge to study the scientific basis of social logistics and crisis management. This paper indicates the key findings of this project.

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Introduction

The National Risk Assessment methodology in crisis management is the result of a project carried out under an agreement with the Polish National Research and Development Centre on competition 3/2012 on the implementation of projects in the field of research and development for national defence and state security. The principle described their expectations as follows: "The developed methodology must: (a) specify the criteria for the transition from a crisis situation to a threat to national security, (b) specify the criteria for acceptability of risk, (c) identify how to evaluate the effects of hazards, (d) include a tool for estimating the probability of risks, (e) take into account the relationship between critical infrastructure systems, i.e. the risks of other critical infrastructure systems, as well as effects transferred from other critical infrastructure systems, (f) develop a list of priorities in response to the threat, (g) be reliable, versatile, and easy to apply. The methodology and risk analysis performed on its basis taking account of national security or of any malfunctions or damage to critical infrastructure must facilitate more efficient development of emergency management plans and other documents

related to the area of security, as well as provide a basis for developing the strategies necessary to limit the risk defined."

In the course of the project, a number of studies and analyses were conducted, as were considerations aimed at both creating a more elaborate theoretical basis for crisis management, as part of social logistics, and identifying the methodological approach to practising crisis management. This article shows the main innovations, both in terms of understanding and in terms of problems to investigate, resulting from this project.

Pragmatic reasons for the project to develop a methodology

The European Union operates the EU Civil Protection Mechanism[1] (hereafter the EUCPM), which has been systematically developed to ensure that in the case of major critical incidents, none of the EU countries will remain without the support of other countries, but also so the response mechanisms will be common or known to all. In Poland within this field the Act on Crisis Management comes into play, which indicates a range of bodies or organizational units of public administration, documents and accepted practices for its implementation.

In 2014 an obligation was imposed on EU member states to develop national risk assessment methodologies in crisis management[2]. In Poland, this project is the realization of this. The field of application of the methodology is set out by an entry in the Act specifying the state's "Critical Infrastructure" systems (hereinafter CI) and indicating the actors considered to be the operators of these systems. As a result of such regulations, there are four categories of stakeholders directly involved in crisis management: services appointed to assist (especially the fire brigade, police, ambulance, but also the municipal police, life boats, mountain rescue etc.), CI operators, public administration bodies (and within them teams and emergency management centres), local communities, and their organizations.

The scope of interdisciplinary scientific problems in crisis management

The Act and EUCPM include all domains of the functioning of local, national, and supranational communities. This is a pragmatic approach, which, in the eyes of a growing number of specialists, needs to be located against the backdrop of current scientific knowledge, as many scientific disciplines respond to these issues, forcing a search for interdisciplinary solutions and creating serious challenges in terms of standardization and research triangulation. This means the unambiguity of crisis management terminology against the backdrop of its interpretations in different scientific disciplines, and analogies and methodological borrowings among disciplines, and finally identifying problems of locating crisis management in the classification of the sciences, i.e. an indication of the leading discipline in this issue[3].

The issue of organized response to states that are derived from the disruption of the normal functioning of individual organizations and various types of organization of society is looked at using different terminology in several scientific disciplines. Looking at them you can see their specificity in the context of crisis management issues and their appropriate, only apparently and even mistakenly equivalent, terminology. In particular, it is worth paying attention to the concepts: economic crisis, crisis management,

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[1] EU Council Decision of 23 October 2001 establishing a Community mechanism to facilitate reinforced cooperation in civil protection assistance interventions.

[2] Skomra W., *Zarządzanie kryzysowe – praktyczny przewodnik po nowelizacji ustawy*. Presscom, Wrocław 2010 (see also www.rcb.gov.pl)

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management of an organization in crisis, operational risk management, and the academic disciplines that use them: finance, economics, science of administration, security science, management science[4].

Studies on security belong to the social sciences, but they are strongly influenced by the teachings of military tradition from which they diverged. The key concept in this discipline is, of course, the term "security", which is a subject category and refers to the various participants in social life. Security has three basic dimensions relating to the subject, the object, and the action (process). Traditionally, security was considered in the context of the risks and the use of related force and restrictions. Currently perception of security varies in the direction of extending the interpretation of security in the three aforementioned dimensions. It indicates a trend of socialization of all public action in accordance with the basic principles of the concept of Good Governance[5], the need to limit the power of the state (de facto officials) in favour of social bodies outside the reach of the state. In addition, as part of an interdisciplinary issue – logistics has been separated out as a sub-issue – social logistics, which includes the question of crisis management[6]. Against the background of such an approach it would be logical that the term "crisis management" was reserved for security science and the science of administration[7] which relate to: the phenomena occurring within the process of administration, organization and functioning of state administrative bodies, and research on the correctness of administrative phenomena. This results in recognizing the need to transfer to public administration elements of management science practised in the activities of economic entities. Crisis management is anchored in administrative law and is one of the manifestations of the new approach to the tasks of public administration, where in particular it should be understood that in the contemporary context crisis management should be a realization of the concept of New Public Management and the concept of Participatory Management[8] aimed at treating the public sector as part of the network of civil society, linked to the other participants in this network using procedures and consultations, and based on participation[9].

Management science deals with issues concerning a single organization. This is valuable for crisis management – understood as the science of security and science of administration – in the sense that the achievements of management science, as practised in business organizations, are applicable by analogy to the control of social processes, including extraordinary ones such as crisis proceedings. This analogy on the side of management science is covered by operational risk management[10]. The main difference is in the scale of organizational influence. In this, the issue of providing security and business continuity are indicators of the efficiency of operational risk management, and thus of crisis management.

Crisis management as an interdisciplinary problem has for a long time no longer been a simple continuation of what was previously civil defence. There is an apparent trend towards a pragmatic attitude of commitment and self-organization of society, which can be affected by a crisis (e.g. a village, commune, a specific geographically separated region, etc.). This attitude is typical of societies in countries with a long tradition of struggle with the forces of nature, e.g. Switzerland, the Netherlands, and the Scandinavian countries. Thus the outlooks of the following are crucial: (a) the local community and its organization; and (b) operators of critical state infrastructure components located within the functioning of this community. This points to the need for a view of crisis management that takes into account the scientific disciplines associated with these two perspectives[11].

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[4] Ibidem.

[5] Zawicki M., *Nowe zarządzanie publiczne*, PWE, Warszawa 2011.

[6] Zawiła-Niedźwiecki J., op.cit.

[7] Kisilowski M., op.cit.

[8] Zawicki M., op.cit.

[9] Zawiła-Niedźwiecki J., op.cit.

[10] Zawiła-Niedźwiecki J., *Operational risk as a problematic triad: risk – resource security – business continuity*, edu-Libri, Kraków 2014.

[11] Zawiła-Niedźwiecki, J., *Dualne naukowo postrzeganie zarządzania kryzysowego,* „Logistyka-Nauka", 2014, nr 6.

As evidenced by Kisilowski[12] in the situation of the multidisciplinary nature of the issues of crisis management, its operationalization requires indication of the scientific discipline that would be leading in formulating a paradigm, and the highlighting of model practices. The choice of leading discipline should be based on methodological triangulation potential as a platform for normalization of views: at least ontological and axiological, and if possible also methodological[13]. As part of the "School of Logistics 2015" (a cyclical conference organized by the University of Technology and Humanities in Radom and the Transport Committee of the Polish Academy of Sciences) the proposal that this discipline be management science was favourably discussed.

The scope of scientific interdisciplinarity in infrastructure systems critical to the state

The Act and EUPCM indicate a total of 12 Critical Infrastructure systems: energy supply; energy and fuel raw materials; production; stockpiling; storage and use of chemical and radioactive substances; transport; communications; telecommunications networks; financial; ensuring business continuity in public administration; food supplies; water supply; health care; rescue services; conservation of national heritage. They differ in infrastructural and organizational character, and of course differing modalities for the community of the area under consideration. They thus require different competencies in maintaining efficiency and availability, organizational management, and organization of access to the services they provide. Their specificity determines their vulnerability and the nature of interference in the organizational and technical dimension (internal within a given system) and to the extent they impact on the community which they serve. These systems remain in a locally specific dependency, which in situations when crises overlap results in a domino effect, which means that disruption to the operation of one of the systems may cause more serious negative effects on the dependent systems. In the case where critical events occur, more features of the effects of certain systems, i.e. time of impact and the matter of reversibility of the effects of interference, come about[14]. This points to the need to take account of scientific disciplines, in particular in the area of technical sciences, associated with the perspectives of individual CI systems.

Social Logistics[15] is a specific sub-discipline of logistics and management, which in turn is an element of crisis management. Twenty years ago, it bore the name of civil defence and belonged was part of military discipline. The change in the current perception is fundamental, in place of the former squeezing of society into a framework of conduct applicable to military forces and a kind of social, but in fact militarized, society, contemporary crisis management is the activity of public authorities and services responsible for aiding and entities operating CI systems. It can also be spontaneous activity in the form of organization of local communities. This is reflected in science, first and foremost pointing to the potential development of the concept of social logistics and crisis management, and is associated with the multidisciplinarity of the issue. It also has pragmatic implications, e.g. the need for a specialist training profile significantly different from that provided by existing courses on *Public Safety* or *National Security*[16]. Because of the sophistication of the technical specificities of most CI systems, the best suited to conduct such training are relationships between universities/faculties: technical, management, and administration.

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[12] Kisilowski M., op.cit.

[13] Zawiła-Niedźwiecki, J., *Dualne naukowo postrzeganie zarządzania kryzysowego,* „Logistyka-Nauka", 2014, nr 6.

[14] Ibidem.

[15] Szołtysek J., *Przesłanki i założenia koncepcji logistyki społecznej,* „Gospodarka Materiałowa i Logistyka", 2014, nr 2.

[16] Kisilowski M., Zawiła-Niedźwiecki J., *Zarządzanie kryzysowe – zagadnienie na styku nauk o bezpieczeństwie oraz nauk o zarządzaniu*, „Organizacja i Kierowanie", 2015, nr 1.

The potential for scientific sublimation found in studies

In the project analyses carried out variant modelling project was conducted, which helped to work out the methodology of risk assessment and prepared the foundation for future attempts to formulate a formalized crisis management theory. For drawing up the CI model, the resource uses approach was used, involving the decomposition of critical infrastructure systems in to CI systems and their defined class of resources which include[17]: the repertoire of features, the criteria for selecting their values, and the principles for indicating the impact of the loss of the resource on the risk for other CI systems. This approach enables us to identify and assess the weaknesses and threats to CI, and identification and analysis of interdependencies between CI systems. In order to formalize it, it is necessary to introduce the key concepts of the hierarchical model of aggregating events in layers and pyramids of operating entities[18]. Research on the nature of the threats and risk assessment in a specific area of activity is the starting point for the construction of any management system for the crises that can occur in a given administrative area. This statement implies the need to establish working definitions. The group of initial concepts includes: resource, event, process, scenario, decision, threat, risk, and crisis situation. Each of these concepts is the starting point for defining and developing a system of concepts thesaurus, deciding on methods for researching dangers and risk assessment and the process of crisis management.

The simplicity of the structure and the effectiveness of action in this case are the key to building a crisis management system for layer-hierarchical (pyramidal) organization, where at the base of the pyramid are the objects or physical phenomena and their related operating entities, and from intermediate layers to the highest are spread the management entities responsible for preventing and eliminating emergency situations by appropriately conducted management processes.

In this direction we consider a follow-up study after completion of the methodology development project.

Analogies between crisis management an operational risk management

There is a clear parallel between crisis management (referring to the community functioning within a certain administrative area with its public authorities responsible for that management) and operational risk management within a single enterprise. The difference between these types of management lies purely in the fact that a single organization (enterprise) is a much more uniform environment than a community that is protecting itself against crises. In contrast, the characterization of risk (in terms of causative, compliance, and effect relationship), its assessment and preventive and remedial courses of action are identical in terms of principles. The rules for managing and creating organizational structures responsible for the management of risks are also similar. In particular, the causal approach enables us to hedge against risk and improve the practice of ongoing operations that takes into account the existence of a risk. Recognising the effects enables us to prepare ways and resources for recovery proceedings in the event of crisis situations[19].

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[17] Ostrowska T., *The resource model threats to critical infrastructure of the state in the process of crisis management*, „Foundations of Management", 2014.

[18] Domański J., Kotarba W., Krupa T., *W pryzmatach zarządzania*, „Marketing i rynek", 2014, nr 5

[19] Zawiła-Niedźwiecki J., *Operational risk as a problematic triad: risk – resource security – business continuity*, edu-Libri, Kraków 2014.

Methodology and its multifaceted attribute of "openness"

Table 1: Steps in the methodology.

Process management	Preparation of analytical team
	Identification of risks
	Risk analysis
	Risk assessment
	Transmission of results between levels of administration
	Reporting and planning

Source: Zawiła-Niedźwiecki J., *Wieloznaczność czy jednoznaczność publicznego zarządzania kryzysowego w ujęciu dyscyplin nauk*, „Marketing i Rynek", 2015, no 5.

The detailed course of action is as follows.

1. Process management:
   - establishing the organizational structure of risk assessment,
   - model organization of the team,
   - work planning methods,
   - assignment of organizational methods to the stages of the methodology,
   - the principle of cyclic repetition of the assessment.
2. Preparation of analytical team:
   - preliminary typing of stakeholders
   - indication of team members for risk assessment,
   - evaluation of the team's potential,
   - program of analytical activities,
   - recording the results and findings.
3. Identification of risks:
   - selection of risk identification methods,
   - analysis of the impact of the event on activity,
   - identification of critical assets,
   - detailed identification of stakeholders,
   - preparing data for risk analysis and assessment,
   - relationships between threats (domino effect).
4. Risk analysis:
   - analysis of causes,
   - analysis of vulnerabilities and mechanism for threats to come about,
   - impact analysis,
   - analysis of the possibility of monitoring,
   - analysis of possibilities to prevent,
   - analysis of capacities to react,
   - analysis of interdependencies of threats.
5. Risk assessment:
   - areas of evaluation,
   - classification of risks/threats,
   - risk assessment.
6. Transmission of results between levels of administration:
   - horizontal aggregation: The "sum" list of threats to aggregated entities, "the domino effect",
   - vertical aggregation – "sifting" of non-crisis threats.

7. Reporting and planning:
   - Reporting in accordance with regulations,
   - "top-down" decomposition in order to verify the analysis and set objectives for security and response policies,
   - guidelines for conservation plans and response plans.

The methodology is "open". Firstly, it shows the methodical context of the analytical approach and the classes and groups of organizational tools for the analysis to achieve the objectives of crisis management. These include the principle of regional foresight[20], the concept of knowledge management[21], and methods of stimulating creativity[22]. Secondly, it uses the concept of knowledge management, i.e. the methodology design dedicated to a given application will accumulate the local experience of its members and meet the postulate for improvement. Thirdly, the methodology should be supplemented in accordance with the triad of crisis management, planning and designing security solutions and designing solutions to repair and replacement in case a risk comes to pass.

Conclusion

The methodology of risk assessment in crisis management has been developed using best practices and the experiences of the project's consortium members. At the same time its concept expresses the authors' conviction that these patterns and this knowledge, even if it is maximum at a given moment, will quickly devalue. It is even more important that the use of the methodology will generally take place within specific local conditions, i.e. in practice it will be adapted to these conditions. In order to ensure the potential for self-improvement, in particular creative management and learning concepts were used in its construction.

The problem of crisis management has great potential for development, both in scientific and pragmatic terms, and both are in close relationship. This involves firstly the ability to use the analogy between operational risk management in a single organization and crisis management. Secondly, to integrate the knowledge of CI systems, and the relevant scientific disciplines, especially in the area of technical sciences.

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Urszula Wąsikiewicz-Rusnak
The University of Dąbrowa Górnicza, Poland

THE ROLE OF TQM CONCEPTS IN THE LOGISTICS MANAGEMENT OF MODERN ENTERPRISE

Summary

In this paper the author presented the essence and evolution of quality management in historical perspective. It also presents a definition and the origin of the concept of Total Quality Management. In the final passages the role of quality management in the development of modern logistics management of an enterprise was set up.

* * *

Introduction

Transformation of political, social and economic character initiated by the end of the twentieth and beginning of the twenty-first century, significantly influenced the situation of the majority of enterprises operating in markets around the world. Lack of stability, growing competition and the changing conditions of turbulent external environment, necessitated the search, on the part of economic organizations, for still new ways that would enable to maintain a significant position on the market, regardless of their scope of activity and size. Rapidly progressive globalization and internationalization of economic activity are inextricably linked with the growth expectations of both the customers themselves as well as increasing competition in the relationship customer - supplier. Certainly they are now and in the future even more will determine the application of various kinds of modern management concepts or modified in the strategies of the organization.

The political transformation, initiated in Poland in the early nineties of the twentieth century contributed significantly to the nature and types of relations between business organizations, which in turn is reflected in the form of logistics systems.

It can therefore be assumed that it is reasonable to link quality management of logistics. Development of the essence and meaning of the concept of quality has led to the formation of the so-called. concept of Total Quality Management (TQM). Total Quality Management, which is sometimes referred to simplify as a total, total quality management, namely the adoption of such an approach to business management, in which each takes into account the ongoing aspects of pro-quality look.

The purpose of this paper is to introduce the concept of TQM role in the management of modern logistics business organizations. The analyses performed were performed mainly on the basis of literature studies of the subject test.

The nature and evolution of quality management

The concept of quality has been dealt with since the beginning of human existence. The first remark of quality dates from 1700 BC, the famous Code of Hammurabi. Later, as the Aztecs in Central America dealt "with the application of methods of introducing quality" in daily life and work. Also, Chinese people especially during the Shang Dynasty developed their own quality system.

With the achievements of ancient civilizations they were used in later centuries.

The formation of large production entities revealed the number of problems encountered with the assessment of quality. In the first manufacturing plants workers producing finished products could not evaluate the quality and satisfaction with them because they were deprived of a direct contact with customers. Therefore, already in 1664 the French economic reformer - Jean Baptiste Colbert called for the need to develop methods for the assessment of quality. In the twenties of the last century a French industrialist Henri Eayol developed the five stages of management, in which appeared the concept of quality.[1]

In the further development of quality management as an important step deemed to year 1910. At that time a US car plant - Ford Motor Company even before the outbreak of the First World War applied the principles of Frederick Taylor, to separate the production function of the quality assurance functions. This fact allowed to take the series production cars.

The turning point in the evolution of our approach to the problem is the fact that the quality of construction by the Western Electric plant in the US telephone system, through which manufacturing department clearly separated from the department of quality management and the management left the company. Characteristic for this period is the introduction of a wider use of statistical methods for quality control.

The first proposal for a comprehensive quality management - TQC, introduced in 1945 A.V. Feigenbaum. This was an effect on the quality of research which he completed in General Electric company located in the USA. In later years the development of this approach was contributed significantly by W.E. .Deming and J.M.Juran.

It is assumed that sciences on management focused on achieving success mainly through increasing the quality of policy making, began to flourish after the end of World War II. At that time, the markets were highly absorbent, a widespread lack of distinctive products, which meant that at least initially consumers buy all the products, especially those that have low prices. As time went by and most of the needs were met, consumers started becoming more interested in the quality of purchased products.

In the period after World War II, the Japanese started to be interested in the quality of its products and services. It was in Japan that the first manual concerning creating quality issues by Kaoru Ishikawa came into being. There were also organized the first so-called. Quality Circles.

In the fifties of the twentieth century it was in Japan that the first organizations dealing with problems of quality came into being. In developing such problems there also joined the media (especially radio), leading, among others, specific courses and training.

With such a significant commitment of almost the entire Japanese society to the problems associated with the quality, Japanese products have gained worldwide reputation for products with high and guaranteed quality. Such an opinion has survived until today.

[1] A.Tabor, A. Zając, M.Rączka (red.), *Quality Management*, IT, University of Technology, Kraków 1999, p. 16.

Japanese engineers also got interested in the late forties of the twentieth century, in using statistical methods in the process of quality control. Undoubtedly a significant contribution to the emergence and development of the concept of Total Quality Management filed a committee set up by the Union of Japanese Scientists and Engineers. The main task of this committee was taking action to effective support of the activities of Japanese businesses. In the committee also US experts collaborated - W.E. Deming and J.M. Juran. These Americans were the creators of many innovative solutions for quality management, which were not then used by the USA.

Owing to the work, experience and cooperation mentioned above Japanese-American organization formed in Japan a completely new concept of creating a competitive advantage by means of a specific quality policy. The principles of this concept gave the first real foundation in the development of TQM.

Japanese industrialists primarily used developed by W.E. Deming principles, namely: customer focus, quality determined by a system and continuous improvement.

Speaking about the problem of management development by means of quality it is essential to mention W.Shewhart test results. This researcher mainly dealt with issues of statistical descriptions of the variability of production, which led to the assumptions of the statistical process control in the future and to statistical quality control. He developed, among other things, control cards, today called Shewhart Cards[2]

Development of the concept of Total Quality Management

It is widely known that the whole of present knowledge about quality management is based on the achievements of many researchers around the world. These include primarily W.Shewhart, then E.W.Deming, J.M.Juran and P.B. Crosbie. In addition, attention in this regard should be paid to the achievements of A. V. Feigenbaum, K.Ishikawaa and J.Akao.

Currently considered approach to the issue of quality management emerged in the seventies and eighties of the twentieth century in the United States. Some researchers also claim that the origins of the current approach to quality problems can be discerned already in the twenties of that century. Since the beginning of the seventies of the twentieth century, the global fuel crisis and advancing competition on the part of the Japanese economy have changed the approach to the issue of quality. Several global organizations, including the American companies experienced a variety of problems both in the production and also the quality of products. At that time occurred significant changes in the development of quality management, as they began to use the experience of other markets, starting with the dissemination of technical control in manufacturing companies.[3]

According to E.Deming causes of the problems of contemporary business units resulted mainly from the poor organization of the management process. These reasons could be found via the use of appropriate statistical methods.

After the success in Japan E.Deming also became famous in the world of American business, where he became an adviser to the then giant industrial corporations, such as for example: General Motors, Ford and XEROX.

E.Deming was the first American specialist who in 1980 on the issues of quality management formulated his speculations in the form of the famous fourteen theses.

E.Deming concept for quality management based on a sequence of repeated management and executive actions is called the Deming Wheel, which is illustrated in Figure 1.

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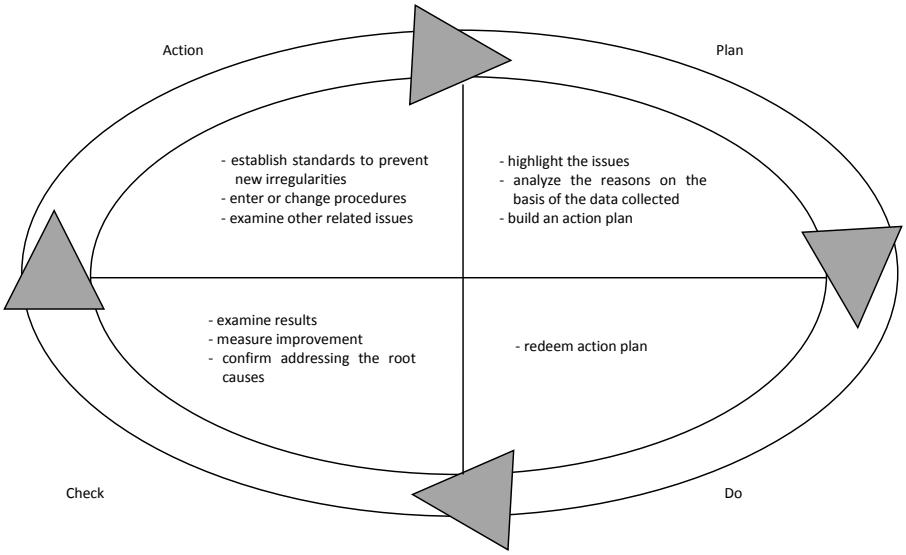
[2] A.Hamrol, W.Mantura, *Quality Management. Theory and Practice*. PWN, Warszawa - Poznań 1999, p. 267.

[3] Ibidem, p. 90-91.

Figure 1: Deming Wheel



Source: author's own research based on: http://www.ibspan.waw.pl/~sikorski/tqm/pic.4.gif date of access: 4th December 2015.

The basis of the concept of E. Deming was the process of continuous improvement. He advocated initiating improvement process of the wider business analysis, including:[4] products, production methods, material requirements, marketing strategy, training and education, with a particular focus on customers and how to reach them, which is probably largely associated with logistics.

Deming Wheel was later extended by K. Ishikawa, which identified further more detailed actions in the areas of planning and implementation. Deming Wheel concept by K.Ishikawa is presented in Figure 2 (elements introduced by him have been defined;).

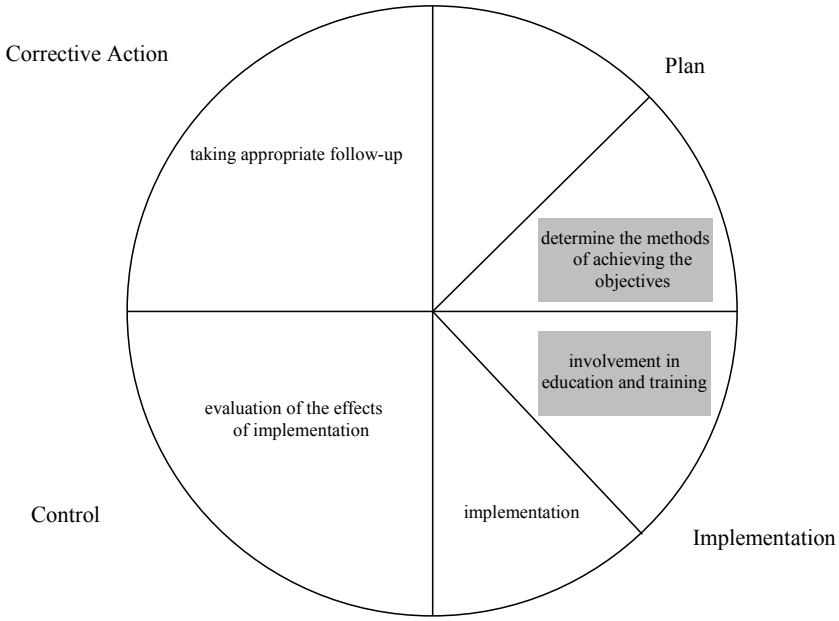
Ishikawa distinguishes the following milestones:

1) the definition of the purpose tasks,
2) defining the methods for achieving these tasks,
3) commitment to education and training,
4) application of implementation procedures,
5) evaluation of the effects of implementation,
6) controlling and taking appropriate follow-up activities

A significant contribution to the development of quality management was also enriched by J.M. Juran. That researcher created the foundations of an organization the so called quality movement in Japan. The main stream of his discussion focused on three main issues, namely on: planning, control and improvement of quality.

[4] H. Drummond, *In the Pursuit of Quality. Total Quality Management,* ABC Publishing House, Warszawa 1998.

Figure 2: Deming Wheel according to the concept of K.Ishikawa



Source: K.Ishikawa, What Is Total Quality Control ?, Prentice Hall, New Jersey 1985; R.Welford, Corporate Environmental Management, Earthscan Publication, London 1996; http://www.ifm.eng.cam.ac.uk/dstools/process/pdca.html date of access 4th December 2015.

In order to improve the quality of execution he suggested the following ten steps:[5]

1. Determine the necessity and opportunities for improvement.
2. Set goals for improvement.
3. Plan achieving the goals (create quality council, make the selection of projects, create teams, choose people to help).
4. Implement training.
5. Carry out projects aimed at solving problems.
6. Document your progress.
7. Express your appreciation.
8. Announce the results.
9. Keep the evaluation.
10. Act vibrantly, plan the annual development programs as part of the formal system and business processes.

In the works of J.M.Juran there were carefully considered possible uses of statistical methods, he saw the problem of quality assurance, all activities were divided into two groups: the activities of a managerial and economic character (general policy, planning, organizing, selection of personnel, stimulating etc.) and activities of a technical nature (design, requirements specification, production processes, tooling, technical control).[6]

[5] J.J.Dahlgaard, K.Kristensen et al., *Fundamentals of Quality Management*, Oxford University Press, 2002, p. 20.
[6] A.Hamrol, W.Mantura, *Quality Management ... op. cit.*, p. 94.

P.B. Crosby based his concept on quality in accordance with the requirements of the work free of defects and the formation of a new culture of the organization. He also suggested 14 steps in the process of improving the quality and matrix of evaluation of quality management process, recognizing the five basic stages of business development, namely:[7] uncertainty, awakening, awareness, wisdom and peak development-confidence.

According to him, the quality is with compliance with the requirements and can be measured using the cost of non-compliance. Assumptions of this concept presented by the four principles calling them orders for executives:[8]

1) quality in its definition should be equivalent to the fulfillment of requirements;
2) prediction and prevention should be the most important principles of quality rather than late control;
3) work standard, pattern of activities must be the principle of zero errors;
4) cost of non-compliance of the requirements should be the measure of assessment of quality phenomenon, and they can not be indicators.

In the early sixties of the twentieth century originated the concept - Total Quality Control (TQC). It concerned a comprehensive quality control by means of following a few principles which are the sum of the experience acquired as a result of the US-Japanese cooperation. In later years, this vision has evolved, leading to the creation of Total Quality Management (TQM) - the concept of total quality management. In the literature on the concept of TQM, there is no unequivocal definition. Many researchers involved in this issue believe that TQM is a vision that the organization can only achieve by the use of long-term planning, developing and implementing the so-called annual quality plans allowing to implement annually updated assumptions. Such an action is closely linked to the definition of the essence of corporate culture. The corporate culture is characterized by an increase in customer satisfaction as a result of continuous improvements, which actively involves all employees.[9]

The development of total quality management in historical perspective can be divided into the following 4 stages:[10] quality inspection, quality control, quality assurance, total quality management.

The concept of Total Quality Management is inextricably linked with the so-called. quality wheels, which enjoyed enormous popularity among the Eastern countries (especially Japan). The use of them consisted in the creation of small groups of employees voluntarily undertaking activities related to quality control carried out in the field of their work.

It is assumed that the Japanese equivalent of TQM has been TQC, which later was transformed into a Company Wide Quality Control (CWQC) on the application of quality control in cross-section across the organization. The essential purpose of application of the new concept of TQM was the visibility of management regarding the very definition of its essence. These actions have also become a logical extension of the concept of total quality control (TQC), whose creator was A.V.Feigenbaum. The concepts listed above correspond to today recognized concept of TQM. Historical aspects of the development of TQM are presented in Table 1.

After World War II the Japanese industrialists guided the development activities on surpassing European and American companies. After achieving success by the Japanese, numerous business organizations around the world have changed their management policies going towards creation and application of strategic management methods with the use of assumptions nowadays understood as the concept of TQM.

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[7] M.Gołębiowski, S.Doroszewicz, A.Zbierzchowska, *Quality Management in the Enterprise*, Scientific Publishing, University of Szczecin, Szczecin 2000, p. 46-47.

[8] J.J.Dahlgaard, K.Kristensen et al. *Fundamentals of Management ... op.* cit., p.21

[9] Ibidem, p.28.

[10] Ibidem, p.17.

Table 1: Stages of development of the concept of TQM in historical perspective.

Stage	Features
QI (1910) - Quality Inspection	Recovering Sorting Corrective Action Identification of sources of non-compliance
QC (1924) - Quality Control	Book of quality Data on business Self-control Testing of products Quality planning The use of statistics Inspection of records
QA (1950) - Quality Assurance	Certificates of the III page System audits Quality planning Book quality Analysis of quality costs Control over processes Analysis of the characters and the effects of damage (FMEA) Non-productive operations
TQM (1980) - Total Quality Management	Focused vision Continuous improvement Internal clients Measures of business Prevention The use of a cross-section of the entire company The abolition of barriers between actions Leadership in managing

Source: J.J.Dahlgaard, K.Kristensen et al., Fundamentals of Management ... op.cit. p. 18.

Quality management and logistics management in an enterprise

Currently, one of the fastest growing trends in management theory is the logistics management that integrates production to distribution and supply pursues its main strategic goal - namely to ensure the required level of customer service. It does not constitute an isolated system of management, but team actions to meet customer's needs best. The most common name of the cell that controls the entirety of logistic processes in the organization of departments (department, division or department) distribution.

In the concept of M.Ciesielski despite the fact that logistics has many instruments to achieve the benefits of supply chain management process, it still must seek new solutions for order handling, transport, inventory control, customer service and improvement of logistic processes.[11]

[11] M.Ciesielski, *Supply Chain Management Tools*, PWE, Warszawa 2009, p.23.

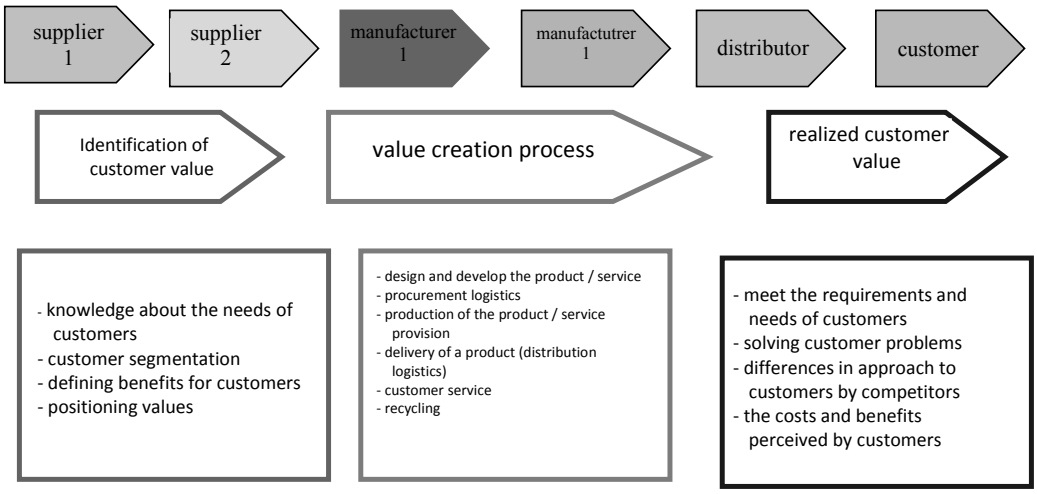
Using customer insight, companies can quickly adapt products and services to meet their needs.[12] According to J.Łunarski in recent years in the field of quality a variety of systems, concepts and techniques to improve both operations and manufacturing logistics have been developed.[13] The most important management concepts include TQM, EFQM, Kaizen, ISO 9001: 2006, Lean Six Sigma.[14]

TQM - the concept of comprehensive quality management is generally not regarded as a system for managing the organization, but more as a philosophical idea or way of life. It forms a kind of cultural unit which is based on the acquisition of a better organization skills of teamwork, rather than on technical aspects which are introduced as a result of issuing specific regulations.

In fact, there are no standards that would determine the exact picture of this concept. In modern enterprises the comprehensive management of the quality usually develops after obtaining the certificate ISO 9001 authorizes the use of the entire international system of quality management standards. ISO 9000 series is often used concept of quality and can be defined as the PN-EN ISO 9000: 2006, describing it as the degree to which a set of inherent characteristics meet the requirements.[15]

The basic concepts of quality include the following terms:[16] organization; responsibility; procedures; methods and means used by quality management in accordance with the quality policy, implemented according to plan quality through the use of quality control to obtain quality assurance efficiently. ISO 9001 exposes the importance of customer requirements for the development of modern economic organizations. It also stresses the importance of full commitment to leadership in the process of creating new values. It promotes the use of process approach and the importance of continuous improvement.

Figure 3: Place of a customer in the value chain system



Source: J.Walas-Trębacz, Customer Participation ... op.cit., p. 36.

[12] J.Walas-Trębacz, *Customer Participation in Setting up the Value Chain Improvement Company*, "Economics and Organization of the Company" 2015 no. 2, p. 33.

[13] J.Łunarski, *Quality Management in Logistics*, Publishing House Rzeszów University of Technology, Rzeszów 2012, p.24.

[14] D.Zimoń, *Logistics and Concepts and Quality Management Systems*, "Logistics" 2013, no. 5.

[15] BS EN ISO 9000: 2006, *Quality Management Systems. Fundamentals and Vocabulary*, PKN, Warszawa 2006, p.25.

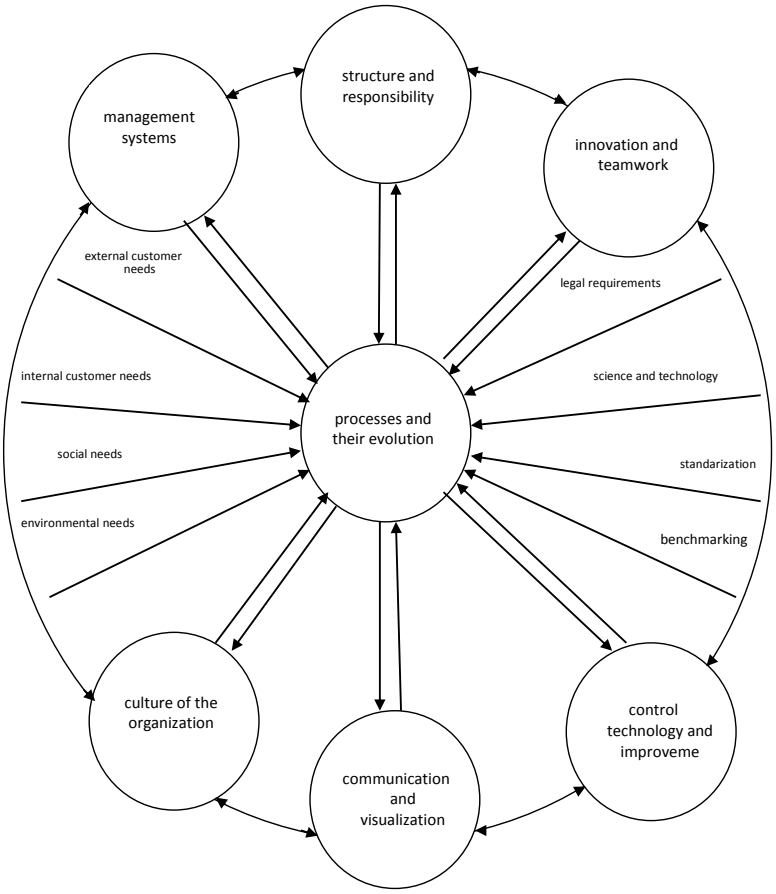
[16] R.Wolniak, B.Skotnicka, *Methods and Tools* ... op. cit., p. 40.

The concept of TQM system is very often combined with procedures for documenting internal business processes, repeated in actions to obtain certification for the ISO 9001. However, given that the systemic approach in the broader sense and its application to the organization of the production process can be observed in the Deming Wheel (Plan, Do, Check, Action). This can be considered for his significant contribution to the development of Total Quality Management. Important dates in TQM system functioning is the concept of vision, mission and strategy. The concept of value ensures consistency and unity of action of members of the whole unit in order to meet the requirements and needs of external clients. Typically, these requirements are lawful and agreed in advance with the recipients finalized. Taking into account the assumptions of the concept of TQM and views E.Deminga arrangements they should be complemented by an accurate calculation of the cost of the proposed project.

The complementary role of ISO 9000 in relation to TQM lies in the fact that their action is to prevent the formation of irregularities and making corrections when problems arise. Whereas TQM requires continuous improvement of quality.

The generalized model of Total Quality Management is presented in Figure 4.

Figure 4: Generalised model of Total Quality Management



Source: J.Łunarski, *Quality Management* ... op.cit., p.76.

Logistics management requires carrying out a precise documentation according to the rules of the system to ISO 9000. With this documentation, one can confirm the activities related to the quality management system, which is directly related to TQM.

Production needs of enterprises require a constant supply from the outside necessary for the manufacture of certain finished materials, raw materials and all components. Hence the need to have appropriate systems of logistics. After producing the final product, other logistics summaries are implemented, namely: transportation, procurement, warehousing, sales, ordering, recording, marketing. The criterion for selecting the best solutions of the organization in this respect is to minimize total logistic costs, which also depend on the activities of other departments in the company. Effective implementation of logistic activities should be supervised by a cell separated throughout the organizational system.

Logistics management in today's business organizations can be helped by using various specialized methods - one of them is the Kanban Card System (Toyota Production System - TPS). The use of this system makes it possible to minimize the stocks while they remain in the production and reduce storage needs. Demand for specific supply notified directly by the final recipient and the number of cards between them is strictly limited. The information contained in these commands are manufactured and transported to the consignee.[17]

The second element is the possibility of applying TPS standardization work, which properly documented allows one to use another tool of improvement, which is an audit.[18] Audits are intended to check whether the actual situation is in accordance with accepted standards. Both audits and standardization are the basis of a continuous improvement process also required when applying the concept of Total Quality Management. They also form the basis for the method of Kaizen partly coinciding with TQM.

Kaizen (the Japanese Continuity and Zen - Improvement) CIP – continuous improvement process. The main purpose of this method is to create an incentive system for employees involved in the process of continuous improvement. According to Kaizen, each successive day of work should bring the need to make corrections (even minor) in their activities. Guidelines for conducting amendment contains a support system for the preservation of their level and standardization.

It should be emphasized that the guidance Kaizen philosophy in a short time leads to positive changes, particularly in the production logistics.[19]

Another logistical support management system often used in practice is - Six Sigma (SS). Its use is based on an analysis of the supply chain, which is exploring the possibility of suppliers, input elements in internal processes (production capacity, qualifications), assessing the level of process and management. This method is analyzed as well as the initial process characterizing the products. Also evaluated are internal and external customers, reported their needs and assessment methods used with products and communication with the manufacturer. Another tool of the Sigma system is structured troubleshooting.[20]

The Lean Production (LP) involves mapping the value stream, or tracking the path that takes the product from the customer to the supplier with graphic symbols. In this case, the whole value stream includes all activities leading to the creation of the final product. These activities include the following: design, manufacturing, information.

It is the ability to visualize using this method quickly highlights the shortcomings or faults occurring and significantly affecting the launch of continuous improvement. In the LP it is important to synchronize supply and flow known as Just in Time (JIT).[21]

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[17] J.Łunarski, *Quality Management* ... op.cit., p.12.

[18] H.Drummond, *The Edge* ... op.cit., p. 79.

[19] D.Zimoń, *Logistics and Concepts and Quality Management Systems*, "Logistics" 2013, no. 5, p. 222.

[20] R.Karaszewski, *Lean Six Sigma "Quality Problems"*, Publishing SIGMA-NOT 2006, no. 8.

[21] Ibidem, p15.

To study the effectiveness of the organization of logistics one can also use balanced scorecard BSC. Using this method allows monitoring four main areas of operation of enterprises, namely:
1) the area of internal processes (technology, innovation, planning system, etc.).
2) the area of finance companies (expenditures, effects, costs of operations);
3) the area of customer (requirements, service, satisfaction);
4) the area of knowledge creation and development (creativity, competence, new solutions, certificates).

The development of such cards subordinated assumptions of the company's strategy enabling the implementation of the strategy for all employees.[22]

The well known method involving the analysis of the causes and consequences of defects in manufacturing processes, construction and operation schedules is - FMEA. Its application in practice points to the possibility of errors in their activities. This method also shows the difficulty or ease of detection of errors and allows to assess their significance for customers. Presentation of the results of the analyzes performed quantitatively in the form of the so-called. number of risks. When the resulting number of risk in the project exceeds the set limit value there is a need to make changes.

Another method conducive to the improvement of quality management and logistics management in contemporary organizations is the use of a cost accounting quality system. It is assumed that the cost of quality can be formed in the range of 18-20% of the cost of sales, and at a reasonable quality management can be reduced up to 4%. With the occurrence of the situation in question it happens that the profits obtained with this decrease will exceed expenses incurred in connection with the implementation of the system.

The method in its assumptions similar to the concept of TQM is the constant application of team work supported by experts that resemble already known quality circles. It is understood that in order to ensure the effectiveness of selected teams one must have the following attributes: skillfully matched composition, good conditions for the functioning of trained leaders and the system of motivating teams and their members to take creative yet effective action.

Other methods known in support of quality management processes in conjunction with logistics management are called the EFQM Excellence Model and the practice of 5S.

Developed by the European Foundation for Quality Management - EFQM Excellence Model, a set of guidelines applicable when assessing the potential and achievements of an organization. The latest version dating from 2009 is based on eight fundamental principles of excellence.[23]

5S practices rely on constant maintaining the achieved before desired state of an enterprise. The abbreviation 5S comes from the Japanese words: selection, taxonomy, ordering, cleaning, cleanliness, self-control and standardization.

Conclusion

In the era of rapid development of modern market economy, the ongoing internationalization and globalization increasing the amount of goods and services in the markets it makes a huge amount of companies to be a very important aspect of their activities, deemed attention to the quality of products and the way they deliver to customers. That quality of products is the result of the work of all employees and is assessed at the time of purchase. The positive image of an organization is also shaped and influenced by other factors such as.: price of the product and its availability, the position of the brand in markets, the opinions on the methods of manufacturing and logistics operations in procedures for the sale of finished products. A very important area is the use of quality management in the field of logistics, because it

[22] J.Łunarski, *Quality Systems, Standardization and Accreditation in the Management of Organizations*, Rzeszów University of Technology Publishing House, Rzeszów, 2007, p. 56.
[23] J. Łunarski, *Quality Systems* ... op.cit., p.84.

contributes to building a good image of the company. Especially in recent years there has been a very dynamic development of logistics and related marketing closely what caused the ultimate goal of many modern economic organizations has become the pursuit of good customer relations. Building the right relationships with customers is a complex process, expensive and, above all, requires the involvement of both stakeholders, located also in the principles forming the whole concept of TQM. This kind of approach has caused changes in the concept of logistics management. First of all, it meant to involve all organizational units and employees in quality assurance, and executives in initiating, supporting and organizing activities to increase the level of quality.[24]

Currently slightly easier seems easier implementing the concept of TQM after obtaining the certificate before the application of quality management system - ISO 9000, mainly on the basis of the continuous emergence of new standards regulating the actions taken by finding occuring problems. The procedures proposed by TQM insist on continual improvement of the level of quality. ISO 9000 series norms put emphasis on taking preventive and remedial actions when a problem occurs. These standards form a primarily documented quality management system. They can easily provide a well-organized base for the introduction of TQM.

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Jolanta Walas-Trębacz
Cracow University of Economics, Poland

INSTRUMENTS USED IN DESIGNING SYSTEMS OF RISK MANAGEMENT IN AN ENTERPRISE[1]

Summary

The issue of choosing the right model of risk management is one of the key issues in strategic management of an enterprise. The adoption of a specific model facilitates the identification of risk factors and determination of their prevalence as well as the strength of their impact on the enterprise.

The purpose of this article is to explain the concept of "risk management", to present the risk management process models by various authors, identifying the basic building blocks for an effective risk management system in an enterprise. In the article, particular emphasis was placed on the presentation of the most important concepts and methods that can be used in the design of the risk management system in the enterprise.

* * *

Introduction

The beginnings of the modern approach to enterprise risk management can be combined with the development of the concept of project risk management (*project riskmanagement)*, that has been developing since the seventies of the last century. In this area, there has occurred intense development of methods for quantitative analysis referring to PERT technique and other more advanced programming techniques allowing for risk modelling. Pioneers in the field of risk management projects were oil companies for example BP Petroleum, which has developed and implemented a program of risk analysis in terms of time and cost - CATRAP - Cost and Time Risk Analysis Program[2].

Proper identification and risk management in companies can be crucial for their safe functioning. Diagnosis sources and risk factors during the relevant period provide opportunities to develop and apply effective risk management strategy. That is why it is so important to select specific management instruments, as it appears from the practice of many companies not only of financial or economic, but also organizational, social or technical character. This is all the more important if external conditions

[1] The publication was financed from the resources allocated to the Management Faculty of Cracow University of Economics, under the grant for the maintenance of the research potential.

[2] J. Światowiec-Szczepańska, *Ryzyko partnerstwa strategicznego przedsiębiorstw. Ujęcie modelowe*, Wydawnictwo Uniwersytet Ekonomiczny w Poznaniu, Poznań 2012, p. 118.

are turbulent, unpredictable nature of business and the company is undergoing continuous restructuring or different innovations are introduced. Risk management is also important from the point of view of the enterprise value management[3].

The concept of risk management

Risk management means planning and implementation of measures to eliminate or minimize the negative effects of risks in different areas of an enterprise, as well as seeking opportunities for development by undertaking projects whose implementation allows to obtain benefits, but is also exposed to the impact of threats[4]. It takes into account the systematic study of risk factors in the company, estimating the level of risk and implementation of a comprehensive policy response to the risk. Effective risk management must stake out on a system approach and integration with all management processes taking place in an enterprise in order to use feedback both with other system components, as well as the environment.

Table 1 shows some definitions of risk management.

Table 1: Defining „Risk Management"

1. J. Teczke (1996)
Risk management includes activities related to planning, organizing, co-ordination and supervision aimed at reducing the causes and consequences of these phenomena, which because of the potential high losses and / or a high probability of occurrence, may pose a significant threat to the functioning of enterprises.
2. G. Nizzard (1998)
Risk management is defined as the process of developing answers to the phenomenon of atypical or unusual combination of events that could occur.
3. S. Nahotko (2001)
Risk management is defined in a broad and narrow definition. In the broad sense it is a system of methods and steps taken to reduce the degree of the impact of risks on the operations of the economic entity and to make optimal decision within this area. In the narrow sense risk management means taking measures aimed at limiting the influence of external, unpredictable factors on organizations.
4. M. Krupa (2002)
Risk management implies optimizing the budget for specific identified risks, taking measures to prevent the risk of no longer effects or reducing and eliminating the reasons for its creation.

Source: author's own study based on: [J. Teczke, *Zarządzanie przedsięwzięciami zwiększonego ryzyka*, Prace Komisji Nauk Organizacji i Zarządzania PAN, Kraków, 1996, No 3, p. 5; G. Nizard, *Metamorfozy przedsiębiorstwa. Zarządzanie w zmiennym otoczeniu organizacji*, Wydawnictwo Naukowe PWN, Warszawa 1998, p. 18; S. Nahotko, *Ryzyko ekonomiczne w działalności gospodarczej,* Oficyna Wydawnicza Ośrodka Postępu Organizacyjnego, Bydgoszcz 2001,pp. 91-170; M. Krupa, *Ryzyko i niepewność w zarządzaniu firmą*, Antykwa, Kraków-Kluczbork 2002, p. 16].

Within risk management particularly important are prior actions , i.e. indication of sources of risk, assessing the interaction between risk factors, the effects of risk, as well as the choice of strategy related to the manipulation of risk and selection of methods and risk control.

[3] A. Kaszuba-Perz, P. Perz, *Rola zarządzania ryzykiem w przedsiębiorstwie w obliczu wzrostu zewnętrznych czynników ryzyka,* Finansowy Kwartalnik Internetowy „e-Finanse", 2010, Vol. 6, No 2, pp. 53-63.

[4] S. Nahotko, *Ryzyko ekonomiczne w działalności gospodarczej,* Oficyna Wydawnicza Ośrodka Postępu Organizacyjnego, Bydgoszcz 2001, p. 91.

Models of enterprise risk management

In the literature one can encounter a number of proposals for solutions in the management model: two-phase risk management model, management model by P. Jedynak, J. Teczke, S. Wyciślak, risk management model by K. Jędralska, model by J. Teczke, model by P. Buła, model by P.Jedynak, model by J. Monkiewicz.

Risk management model is primarily used to formulate effective strategies for limiting the negative impact of interference on the process of manufacturing, trade, service and preventing the occurrence of losses.

In Table 2 presented are the steps of the models of the risk management process mentioned above.

Table 2: Selected models of the risk management process (MRMP) by various authors

Model RMP by D. Green, J. Gibbs. Ch. Chapman	**Model RMP by P. Jedynak, J. Teczke, S. Wyciślak,**	**Model RMP by K. Jędralska**	**Model RMP by J. Monkiewicz**
1. Risk analysis: a) identification of risks b) risk measurement (estimation) c) risk assessment. 2. risk controlling : a) planning b) providing the necessary resources c) observation d) control.	1.Risk identification . 2. Risk analysis. 3. Formulation of variants. 4. Risk assessment, decisions and actions in the area of risk. 5.Control, monitoring and evaluation of actions taken.	1. Learning about risks. 2. Analysis and risk assessment. 3. Mastering risk. 4. Observation and control of projects minimalising risk.	1. Risk analysis: a) identification b) estimating c) determining the hierarchy of risk factors. 2. A proactive approach to risk: a) restriction b) elimination c) division d) risk control. 3. Risk financing: a) identification of risk retention capabilities b) identification of risk transfer capabilities.

Model RMP by P. Buła	**Model RMP by P. Jedynak**	**Model RMP by J. Teczke**
1.Risk identification . 2. Risk assessment. 3. Risk manipulating.	1. Identification of risk. 2. Risk assessment. 3.Risk manipulation. 4. Observation and control.	1. Risk identification . 2. Risk assessment. 3. Compensation and elimination of risk. 4. Monitoring and control of the designated boundaries of risk.

Source: author's own study based on: [D. Green. J. Gibbs. Ch. Chapman, *Management of Project Risk,* HMSO, Londyn 1994, pp. 22-26; P. Jedynak, J. Teczke, S. Wyciślak, *Zarządzanie ryzykiem w przedsiębiorstwach zorientowanych międzynarodowo*, Księgarnia Akademicka, Kraków 2001, p. 32; K. Jedralska, *Zachowania przedsiębiorstw w sytuacjach niepewnych i ryzykownych,* AE w Katowicach, Katowice 1992, p. 145; J. Teczke, *Zarządzanie przedsięwzięciami zwiększonego ryzyka*, Prace Komisji Nauk Organizacji i Zarządzania PAN, Kraków, 1996, No 3, p. 19; P. Bula, *Zarządzanie ryzykiem w jednostkach gospodarczych aspekt uniwersalistyczny* Monografie: Praca DoktorskaAE w Krakowie, Kraków 2003, p.85; P. Jedynak, *Polityku ubezpieczeń w przedsiębiorstwie.* Wydawnictwo UJ, Kraków 1999, p. 34; J. Monkiewicz, *Podstawy ubezpieczeń, tom I*, Poltext, Warszawa 2011, pp. 41-42].

It should be noted that there is no single risk management model, or model of implementation of risk management neither in private sector organizations nor public sector units. Interesting, however, are attempts to standardize risk management system in such a form as ISO 31000: 2009 (Risk management - Principles and guidelines)[5], FARM 2002, and the COSO (*The Committee of Sponsoring Organizations of the Treadway Commission)*[6]. These standards and good practices despite multiple sources and targets share one common feature - risk research and management.

Emerging or globally used practices of risk management do not prescribe specific methods of implementation, while providing guidance how to organize necessary mechanisms and maintaining an appropriate and proven concept. No standard imposes a particular way, it leaves flexibility in implementing the organization's risk management process. It emphasizes that this process depends on the organization, the scope of its activities and is ongoing, embedded into existing business processes.

Models of enterprise risk management comprise at an increasing level less tangible risk factors, yet of great importance e.g. reputation, technology or brand[7]. It is worth emphasizing that risk management should constitute a part of competitive advantage voluntarily built by the company and corporate social responsibility not just a regulatory requirement[8].

Designing the system of enterprise risk management

Owing to the diversity of possible risks to classify and extract based on multiple criteria, as well as different levels of detail consideration of risk one can state about the development of the risk management system. The risk management system can be defined as a structured set of interrelated components allowing to solve existing problems and attain its objectives in the field of enterprise risk management[9]. The risk management system is therefore a system of information and decision-making. Comprehensive risk management consolidates and integrates the functions typical of early warning systems and crisis management. Advanced approach involves the application of enterprise appropriate standards and tools for integrated risk management[10].

Table 3 presents the phases of the process of designing risk management system in an enterprise and the most important problems to be solved in each of them.

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[5] R.L. Kimbrough, P.J. Componation, *The Relationship Between Organizational Culture and Enterprise Risk Management*, „Engineering Management Journal", 2009, vol. 21, No 2, p.19; T. Kaczmarek, *Zarządzanie ryzykiem,* Difin, Warszawa 2010, pp. 15-16.

[6] Formalized systems of integrated risk management (ERM) have been implemented primarily in large corporations such. Wal-Mart, Capital One, Ford Motor Company, Un-ISYS, Caterpillar, Chase Manhattan [RL Kimbrough, PJ Componation, *The Relationship Between Organizational Culture and Enterprise Risk Management*, „Engineering Management Journal", 2009, vol. 21, No 2, p. 18; M. Okuniewski,*Jakąmetodęwybierzemy ... metodęzarzadzaniaryzykiem?*, „Risk Focus", 2009, No 12, p. 7].

[7] A. Slywotzky, *Exploring the Strategic Risk Frontier*, "Strategy & Leadership" 2004, Vol. 32, p. 12.

[8] In practice, one may find two approaches to risk management: *short-term* - takes place in situations that are relevant for the enterprise, eg. it can be: the construction of a portfolio of recommendations to the diversification of risk, making capital investments, building an efficient portfolio of investment projects and system, which is a process of comprehensive and continuous consisting in anticipation of internal and external risk factors and active control.

[9] J. Światowiec-Szczepańska, *Ryzyko partnerstwa strategicznego przedsiębiorstw. Ujęcie modelowe*, Wydawnictwo Uniwersytet Ekonomiczny w Poznaniu, Poznań 2012, p. 123.

[10] The concept of integrated risk management system in the company presented in the paper: [P. Cabała, J. Walas-Trębacz, Z. Onderka, *Projektowanie systemów zarzadzania ryzykiem,* [w:] *Metodologia projektowania systemów organizacyjnych przedsiębiorstwa*, pod red. A. Stabryły, C.H. Beck, Warszawa 2015,p. 607].

Table 3: The phases of the process of designing risk management system

Phase	Taking action
1. Identification of risk including: building an early warning system	1.1. Determining the causes of risk: – what is the kind of risk: is the risk global or operational? – what are the reasons for the occurrence of risk? – have all kinds of risks been identified in the company? 1.2. Identification of entities at risk: – which entities have been affected by risk? 1.3. Determination of possible consequences.
2. Risk Analysis	2.1. Determining the probability of an event: – determine whether and to what extent specific risks threaten the company? – what is the strength of its negative impact? – establish that the risk does not have a significant influence on an undertaking, – what methods should be used: quantitative or qualitative? – which risk management tools should I use? 2.2. Determining the consequences of the event.
3. Formulation of risk management options	3.1. Identification of possible alternatives (variants) of risk management. 3.2. Analysis of the cost and effort needed to implement the different options.
4. Risk assessment	4.1. The statement of willingness and the ability of a particular entity (e.g. company)to risk management: – identification and measurement of the actual level of risk. 4.2. Qualification of selected options to manage the identified risk
5. Decisions and actions in the area of risk (risk control)	5.1. The choice of risk management tools: taking risk, avoidance, transfer, reduction, offsetting, insurance. 5.2. Prioritizing the use of particular tools. 5.3. Implementation of an optimal combination of options and tools.
6. Control, monitoring and evaluation of actions taken	6.1. Checking and evaluating the effects of actions taken - ex post. 6.2. New formation process of risk managing - in case of wrong decision. 6.3. Continued use of methods and tools that ensured success in risk management.

Source: author's own research based on: [T. Kaczmarek, *Zarządzanie ryzykiem,* Difin, Warszawa 2010, p. 131; J. Walas-Trębacz, J. Ziarko, *Podstawy zarządzania kryzysowego, cz. 2. Zarządzanie kryzysowe w przedsiębiorstwie,* KTE – Oficyna Wydawnicza AFM, Kraków 2011, p. 135].

To improve the organization of the risk management system one can use a process approach within which boundaries of risk management process are determined by indicating the beginning and end of the process. Determining the inputs and outputs of the process can then establish the basic steps in the process, and within each stage of the operation. Described in detail the process is then subject to analysis

and design improvements. During the analysis critical areas are identified, i.e those activities that have the greatest impact on reducing the time, cost reduction or improving the quality.

The choice of instruments while designing risk management system

Instruments to support the process of enterprise risk management can be divided into those that support the process of identifying risk and those that can be used to analyze and assess risk. Another group of methods constitute the methods of constructing a reaction at risk. In turn, the risk control methods are associated with identification methods. The tool fulfilling many demands on risk management is a strategic risk card SRC (*enterprise risk scorecard)*, developed on the basis of classical Balanced Scorecard (BSC). At each stage of risk management one can therefore use concepts, methods and techniques that support and improve various functions of this process. Selection of these methods depends on many factors e.g..: the adopted scope and purpose of risk analysis.

Table 4 presents the basic concepts and methods supporting the particular stages of the process of designing enterprise risk management.

The instruments used in risk management process generally can be divided into qualitative and quantitative.

Qualitative analysis of risk includes: approximate assessment of the likelihood of a risk factor; approximate assessment of the significance of threats to the project, resulting in the case of an event or circumstance identified as a risk factor; determine the risk index as a resultant likelihood of a particular risk factor, and the significance of threats to the project in case of realization of a particular risk factor[11]. The results of the qualitative analysis of risk are: comparative assessment (ranking)of projects, decisions on the continuation or termination of the project, planning and taking preventive action; list of risk factors in terms of priority in planning and undertaking preventive actions; list of risk factors for further analysis, including qualitative analysis; trends in risk index, resulting from the analysis results of repeating the quantitative analysis. The observed trends in results of repeatedly carried out qualitative analysis of the data are the risk factors for ranking in terms of priority in planning and undertaking preventive actions[12].

For projects of significant value or, in case of identification of risk factors of significant impact on the ability to achieve the stated objectives of the project, a qualitative risk analysis of the project should be supplemented with *quantitative analysis*. Quantitative analysis aims to determine the probability of achieving a particular purpose and establish reserves of time and cost that may be needed to compensate for the effects of risk. Quantitative risk assessment involves estimating the probability of a given risk, range of possible effects, the expected period, or frequency in the event of cyclical risk. The most important elements defining the likelihood of risks and the potential impact of risk. This allows then the so-called quantitative estimation of the so-called risks rank. The probability analysis can be performed by employing the theory of random variables. Useful may be simulation methods (eg. Monte Carlo) Markov chains method, Bayesian networks and techniques: the tree of events (*Events Tree Analysis*) and fault tree (*FTA - Faults TreeAnalysis)*[13]. The risk management methods used in organizations fall subject to continuous evolution. Risk management is not as mature field of knowledge as accounting or finance. Therefore, each of risk managers has different responsibilities and tasks, primarily due to the fact that they are determined by the specificity of the risk inherent in their organizations[14]. Most of

[11] E. Szczepankiewicz, P. Szczepankiewicz, *Analiza ryzyka w środowisku informatycznym do celów zarządzania ryzykiem operacyjnym. Część 2 – Etap oszacowania ryzyka, „*Monitor Rachunkowości i Finansów", 2006, No 7.

[12] *Risk Management in the Enterprise,* 2007, www.mi.gov.pl (11.10.2010).

[13] P. Sienkiewicz*, Ewaluacja ryzyka w zarządzaniu kryzysowym,* [w:] *Ryzyko w zarządzaniu kryzysowym*, pod red. P. Sienkiewicz, M. Marszałka, P. Górnego, WAM, Toruń 2010, pp. 29-31

[14] CA Williams, LM Smith, P.C. Young, *Zarządzanie ryzykiem a ubezpieczenia*, WN PWN, Warszawa 2002, pp. 26-65

Table 4: The concepts and methods for supporting the process of system design of enterprise risk management

1. Function of Identification and Risk Analysis
Catalogue of risk factors, methods of ranking risk, Pareto analysis, profile analysis, early warning systems, the method of risk equalization, descriptive risk assessment, risk strategic card (RSC), heuristic methods, SWOT analysis, PESTLE analysis, BPEST analysis, checklists, test cases, analysis of failure mode and effects (FMEA), measures of central tendency and dispersion, analysis of hazards and operability (HAZOP), risk matrix (matrix) risks, socio-psychological methods); - methods of strategic level: methods of alternative plans, financial methods, etc. - methods of operation level: operation research methods, statistical methods, simulation methods
2. Function of Risk Assessment
risk assessment system, methods of risk modelling, indexing and spotlight methods, method for testing assumptions, heuristic methods, statistical methods, methods of operations research, methods of strategic analysis, simulation methods, econometric methods, auditing, exposure calculator (exposure), monitoring list, early warning systems
3. Risk Control Function
reduction of activities with a high degree of risk, increased precautions, financing risks (risk retention, insurance, hedging, contractual capabilities of risk transfer)
4. Control Function and Risk Monitoring
financial methods, statistical methods, operational research methods, methods of investment, controlling, early warning systems, risk review, risk audit , strategic risk card (SRC)

Source: author's own study based on: [J. Walas-Trębacz, *Proces zarządzania ryzykiem w firmie* [w:] *Marketing,* pod red. D. Surówki-Marszalek, ZN KSW, Kraków 2005, pp. 9-10, pp. 18-19; P. Best, *Wartość narażona na ryzyko, obliczanie i wdrażanie modelu Var*, Dom Wydawniczy ABC, Kraków 2000, pp. 13-23; S. Nahotko, *Ryzyko ekonomiczne w działalności gospodarczej,* Oficyna Wydawnicza Ośrodka Postępu Organizacyjnego, Bydgoszcz 2001, pp. 91-170; A. Zachorowska, *Ryzyko działalności inwestycyjnej przedsiębiorstw*, PWE, Warszawa 2006, pp. 73-76; J. Walas-Trębacz, J. Ziarko, *Podstawy zarządzania kryzysowego, cz. 2. Zarządzanie kryzysowe w przedsiębiorstwie,* KTE – Oficyna Wydawnicza AFM, Kraków 2011, p. 157; W. Tarczyński, M. Mojsiewicz, *Zarządzanie ryzykiem. Podstawowe zagadnienia*, PWE, Warszawa 2001, pp. 7-35].

the methods of analysis and risk assessment have significant weaknesses, such as the incompleteness of risk categories, lack of sufficient and accurate data, inability to analyze failures with common cause, no consideration of the secondary risk, disregard of the threat caused deliberately, the difficulty with unambiguous interpretation of the results of the analysis[15]. This means that if assessment tool based on mathematical assumptions is used, one should take a very large margin of error or approach results from a large distance[16].

[15] *Analiza systemowa*, pod red. W. Findeisena, PWN, Warszawa 1985.

[16] J. Jamróz, *Dobre praktyki zarządzania ryzykiem*, ODiTK, 2011, p. 9; http://www.jacekjamroz.eu/pdf/Dobre.Praktyki.ZR.wrzesien.2011.pdf (dn. 20.06.2014 r.)

In recent years, the achievements of risk management methodology fell subject to a negative assessment, it mainly concerned the indiscriminate use of advanced risk measurement methods, excessive confidence in the results of risk analysis, poor use of expert review, basing on data and historical information as well as improper communication system within the organizational departments of companies[17]. Sharp criticism of the usefulness of the existing acquis in the area of business management in crisis conditions had resulted in risk management methodology requiring significant modifications that could be called a sort of reengineering of risk management[18].

One may include into the directions of improvement of risk management the following: change in the approach to the process of risk identification, giving a greater role to methods of simple risk measurement, searching for new methods that take into account behavioral aspects of decision-makers, working towards complexity and integration of management process in terms of risk management process to include the missing link, which is to assess the effectiveness of risk area, broader support risk management process with computer programms[19].

Conclusion

In designing a risk management system one uses analysis tools such as statistical, personnel, quality, strategic, marketing, etc. Considerable importance is also paid to the dynamic development of concepts, which partly contain elements of risk management, among others, early warning systems and crisis management.

Broad understanding of the concept of risk and the development of alternative concepts is placing ever increasing need for a holistic approach in designing risk management systems. The response to the need to replace a distributed approach to risk with a more holistic recognition and creating risk profile of the company is to develop the concept of an integrated Enterprise Risk Management - ERM (*Enterprise Risk Management*). It is a concept focused on the sustainable management of portfolio risk for the entire organization[20]. Integrated risk management affects a better use of the skills of management by reducing the number of crises, fuller opportunities to be, reduce uncertainty, increase the capacity of achieving the goals by an organization, and greater confidence in shareholders by means of improved corporate governance processes. Modern approach to integrated enterprise risk management gives priority to the development of tools to improve the processes used in risk management, including in particular the processes of communication and collaborative planning of risk in the company[21].

Concepts of business management, which are increasingly being used not only to manage risk, but to prepare the company to operate in turbulent environments are: business continuity planning (*Business*

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[17] RM Stulz, *6 WaysCompaniesMismanage Risk* „Harvard Business Review", 2009, Vol. 87, No 3, pp. 86-94; K.M. Beans, *Risk Management After Crisis*, „The Journal of Enterprise Management", 2010, July–August, p. 24; S. Kasiewicz, B. Lepczyński, *Monitorowanie ryzyka jako narzędzie zarządzania strategicznego,* Zeszyty Naukowe Uniwersytetu Szczecińskiego, 2011, Nr 640, p. 682

[18] D. Herring, *The New Role of Risk Management: Rebuilding the Model*, Knowledge@Wharton, 2009, June 24 http://knowledge.wharton.upenn.edu/article.cfm?articleid=2268 (dn. 20.06.2014 r.); R.M. Stulz, *6 Ways Companies Mismanage Risk* „Harvard Business Review", 2009, Vol. 87, No 3, pp. 86-94

[19] T. Merna, F. Al-Thani, *Corporate Risk Management*, Second Edition, J. Wiley & Sons, Ltd, Chichester 2008, pp. 141-143

[20] RJ Chapman, *Simple Tools and Techniques fir Enterprises Risk Management*, John Wiley & Sons, LTD., Chichester 2006, p. 186

[21] Expanded business development and related business networks, value chain and overall strategic partnership, increase the risk of action. Therefore, research on risk management should include the level of relations between business entities and this determines the development of methods taking into account the irrational and subjective nature of this type of risk.

Continuity Planning - BCP) business continuity management (*Business Continuity Management* - BCM), the management of uncertainty (*Uncertainty management* - UM), risk management of the supply chain (*Supply Chain Risk Management* - SCRM), etc..

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PART III

INSTRUMENTS OF MANAGEMENT IN CONTEMPORARY ENTERPRISE

Marcin Lis
The University of Dąbrowa Górnicza, Poland

MANAGEMENT OF INNOVATIVE PROJECTS AS PART OF THE MODEL OF A NETWORK COMPANY FUNCTIONING IN THE ERA OF GLOBALISATION

Summary

This paper is an attempt to describe synthetically the process of managing the EU co-financed projects in the area of building strategies for developing employees and training policies, illustrated by an example of organisations providing services for corporate customers.

In the face of rapid development and increasing competition among companies, investing in human capital and its continuous development is one of the most important elements of management in organisations. In the labour market, there is an increasing number of candidates with relevant education and experience, but running the project concerned in an appropriate manner makes it possible to achieve process professionalization.

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Introduction

The objective of the article is to present an effectively functioning model of project management on the example of a training system in a service company from the banking industry, a project of outlining the newest methods of personnel development and detailing new solutions allowing to maintain high self-esteem in respect of qualifications of employees related with an organisation.

Improper structure and management of a training project in the analysed organisation may contribute to a decrease in operational effectiveness.

Modern companies which face very intense competition in the market are forced to react quickly to shifts in the surrounding reality. Frequently, fast adaptation of a company to the current needs of the market conditions the high level of the company's competitiveness. Every company closely watches the market, mostly for opportunities, but also threats. The company's management is not able to take decisions without extensive awareness of the level of knowledge and qualifications of its employees. Employees'

skills and experience make possible for a company to succeed through quick changes enabling them to satisfy new needs of customers. The most effective method of controlling the employees' level of knowledge is a properly prepared training programme and its right management. Companies in which a training strategy is very strictly adhered to and fulfilled, with respect to employees of every grade, do not encounter serious problems with correct management of the company.[1]

The notion and management of employee training projects

Every company having employees needs to deal with preparation of a training project for newly-engaged persons. Organisations, in particular large corporations, with many employees conduct extensive, long-term training processes which are implemented even for first several years of work of a newly-engaged. For small entrepreneurs trainings may be held in a less formalised manner and often without long-term plans worked out in advance. However, every company, both large and small, should be guided by the essence of a training. That is to say, the essence of every training is action aimed at supplementing or broadening knowledge and developing skills and proper attitudes of employees.[2] A new employer joining a company should be adequately prepared to the work he or she is to perform. Frequently, newly-engaged persons have very high qualifications and very comprehensive knowledge, but often they require organising of previously obtained experience. Duties carried out in a new organisation may be very similar to or even the same as these in a previous company, nevertheless, we should have in mind that a new employer may have different objectives, mission or operational strategy. Thus, training should create for new employees an opportunity to learn the way of thinking and functioning of a whole organisation. Frequently, a change in the work place entails a new, completely different view of managing business for new employees.

In the literature on the subject, many authors consider the notions of *training* and *improvement* as synonymous. A different view on the above terms was presented in Figure 1. For some authors, trainings cover with their scope only preparation of employees for working on a relevant position. However, improvement is a process which employees undergo in order to develop already possessed qualifications and competences.

Figure 1: Difference between training and improvement

Source: Own study on the basis of: T. Listwan, *Zarządzanie kadrami,* CH BECK, Warszawa 2006, p. 154.

[1] M. Kossowska, *Ocena i rozwój umiejętności pracowniczych,* AKADE, Kraków 2001, p. 93.
[2] M. Adamska (ed.), *Leksykon zarządzania,* Difin, Warszawa 2004, pp. 575-576.

It may be concluded that the definitions are not mutually exclusive, hence, improvement is a training or even many trainings which are held after induction of newly-engaged persons. Improvement is a programme of trainings during which we can gain new skills and qualifications or develop the already possessed ones that were not competently used before.[3]

Objectives of employee training project and their significance for human resource management

When designing a training system, every company considers various, often different factors. However, the basic objectives of every entrepreneur are as follows:

- obtaining employees for key positions in the company,
- organising technical capabilities of fulfilment of tasks and duties by qualified management staff,
- creating conditions in the organisation allowing employees with relevant predispositions to satisfy needs of fulfilment and recognition,[4]
- improvement of work effectiveness on the level of a job, process and the entire organisation.[5]

All organisations which want to maintain long-lasting share in the market should rely on very active development of their personnel, usually using for this purpose the EU funds. If a company provides its employees with an opportunity of extensive development and improvement of qualifications, employees will more and more strongly identify themselves with a company and will not feel the need to change their job. Therefore, well-managing management staff should prepare a programme of trainings on two levels. The first should focus on individual development of every employee. Everyone is different and everyone has a different system of values and motivations. Consequently, individual interviews should be conducted with every person as they allow to identify the possibility of development of relevant qualifications and skills. The second level involves preparing a development programme for all employees of an organisation. All employees should know the mission, strategy or basic objectives of a company for which they work and with which they identify themselves.[6] By pursuing the path of employees' development on this two levels, a company will ensure it has employees that in many aspects feel strongly attached to the company and will feel that the company cares about their work. In large companies with many employees and departments most of the employees pays attention only to their own duties and is not even aware of the current strategy or mission of their company. An organisation which plans to achieve success in the market should provide every employee on every position a periodic training in the basic details of the company. When asked about a mission or a strategy of a company in which he or she is engaged, every employee should be able to easily respond to this question. Unfortunately, there are many people who do not know the mission of a company in which they are employed.

Process of employee development through training project management

In the time of constantly increasing globalisation, one of the fundamental tasks of every project manager is improvement of work effectiveness of employees by using methods of project management and the EU funds. In order to increase the level of knowledge and develop qualifications necessary for an organisation, preparation of proper training should be a priority for its management staff. Only highly qualified employees may contribute to a significant success of an organisation. Therefore, designing an appropriate employee development programme requires very thorough actions.

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[3] J. A. F. Stoner, R. E. Freeman, D. R. Gilbert, *Kierowanie,* PWE, Warszawa 2001, p. 378.

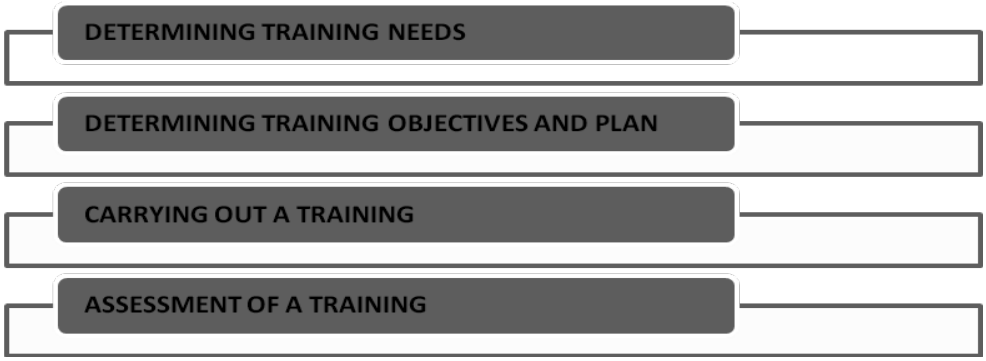
[4] T. Listwan (ed.), *Zarządzanie kadrami,* CH BECK, Warszawa 2006, p. 147.

[5] G. A. Rummler, A. P. Blache, *Podnoszenie efektywności organizacji,* PWE, Warszawa 2000, p. 245.

[6] Ibid., p. 148.

Trainings should not be conducted in a company by change. Every organisation facing the task of creating an employee development programme should thing about the purpose of such programme. Preparation of a detailed analysis of opportunities and threats in the market should facilitate the decision on the direction of employee training. We should conduct a thorough analysis of a market to forecast and plan the direction in which we want to develop our business and what skills will we need in the future. Accordingly, a simplified procedure in the process of implementation of a training or an entire employee improvement system was presented in Figure 2 below. Individual elements of the aforementioned process of building a training programme project were detailed in next subsections.

Figure 2: Stages of preparation of a training



Source: Own study on the basis of: G. A. Rummler, A. P. Brache, *Podnoszenie efektywności organizacji,* PWE, Warszawa 2000, p. 247.

In order to hold an effectual training programme that results in effective actions, it is necessary to plan individual stages of the above process. Every organised training should bring a certain added value for a company, otherwise there is no point in holding the training.

Identification of training needs

The first stage of preparation of a training plan project is identification of needs and their in-depth analysis. Identification of training needs is understood as clearly determining training and development needs for individual employees working in a company and for the whole company. After identification of training needs, the next stage is a thorough analysis of these needs which consists of determining the most effective methods of satisfying these needs. It can be said that an analysis of needs on the beginning of designing the entire training project is the most important element as it may turn out that a training is not needed in a relevant situation. Sometimes it is sufficient to provide instructions to a few employees which will automatically increase work effectiveness.[7] After correct identification and analysis of training needs a company should thoroughly know a problem existing in the company, its causes, scope and scale. On this stage a list of the possible methods of solving the problem should be compiled.[8]

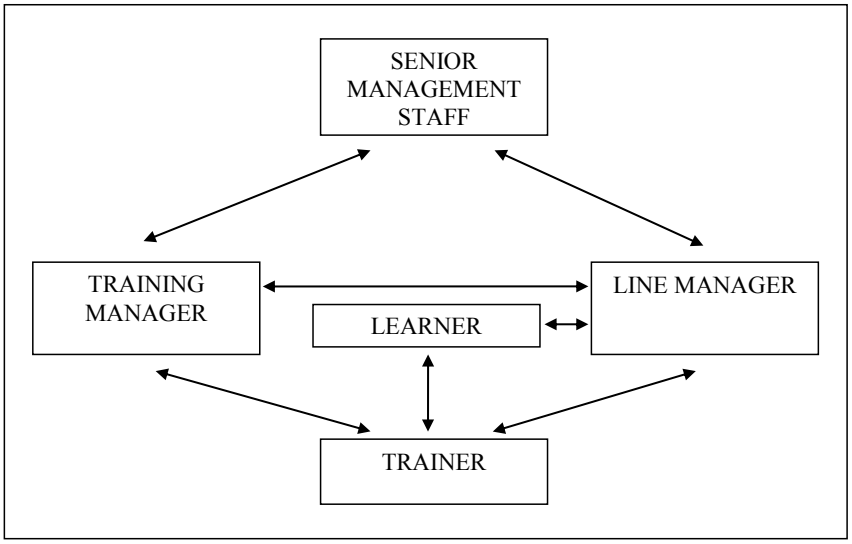
[7] L. Rae, *Planowanie i projektowanie szkoleń,* Dom Wydawniczy ABC, Kraków 2001, p. 14-15.
[8] M. Kossowska: Op. cit., p. 95.

Every conducted training entails certain, often high costs. For this reason, a decision on conducting a training is usually a difficult decision for the management staff. An incorrectly held training will not result in the planned rise of company's effectiveness, and only make it incur high costs.

In every well-managed company typically training needs are correctly identified and then they make the most sense. Nevertheless, there are many companies in the market in which trainings are organised by single persons without analysing beforehand an actual need of a relevant training. Effective preparation of a truly necessary training requires cooperation of several persons. In the literature on the subject, an entire team dealing with holding trainings is called *training quintet.* Examples of persons in charge of conducting a training for each management rank were shown in Figure 3.

A training need could not exist without a learner who is not responsible only for learning. A learner is the very source of the existence of a training need. It is due to a learner and a line manager an idea of the need to improve certain qualifications with a training is produced. Only in the next stage the cooperation between a line manager and a training manager takes place for the purpose of carrying out an in-depth training analysis on a relevant subject. After an in-depth analysis of needs and making sure that a relevant training is necessary for an organisation, a line manager and a training manager carries out interviews with senior management staff for the purpose of obtaining permission for conducting a training and, what is most important, for receiving funds required for holding a necessary training. From this moment, senior management staff exercised top-down supervision of the trainings and expect relevant reports and results from the course of the trainings. After all permissions and funds are obtained, managers, in particular a training manager, are responsible for the selection of adequately qualified trainers who will professionally hold a high level training for employees.

Figure 3: Training quintet



Source: Own study on the basis of: L. Rae, *Planowanie i projektowanie szkoleń,* Dom Wydawniczy ABC, Kraków 2001, p. 19.

The final role in the above system of the composition of the training quintet is performed by a training manager who becomes a direct intermediary between trainers and senior management staff. The training manager is a person responsible for presenting relevant results to superiors.

Formulating objectives and plans of a training

An organisation having precisely defined training needs should specify in detail objectives and tasks of a planned training. Defining objectives of a training will allow to prepare a suitable training plan and will streamline working out an assessment system for the training. An objective of a training is, most of all, to show employees participating in it what they may expect after completing the training and to what degree undergoing the training will make it easier for them to fulfil future professional duties. Preparation of detailed objectives should also facilitate taking the decision on what training methods to use. The choice of a suitable method of conducting a training and appropriate trainers may be essential for achieving positive results of the training.

The basic rule for formulating objectives should be the top-down approach. The more precisely objectives are defined, the more accurately we can choose and prepare a training that is technically suitable and relevant. Apart from the above method, companies commonly use the well-known SMART method to define objectives of a project in the process of formulating training objectives. Elements of the SMART method were shown in the below table.

Table 1: Use of the SMART method in preparation of training objectives

S	**Specific**	Very precisely specified, preferably in line with the top-down approach
M	**Measurable**	An objective should allow to quantitatively measure results of accomplishing it
A	**Agreed**	It should be approved and accepted by all participants of a training
R	**Realistic**	An objective should be within certain limits of capabilities of a company and should have imposed certain time-frame and financial framework for attaining it
T	**Time-bound**	Objectives should be specified in time. To make sense, every objective should have set date of its fulfilment.

Source: Own study on the basis of: M. Kossowska, *Ocena i rozwój umiejętności pracowniczych,* AKADE, Kraków 2001, p. 96.

After working out a final and precise list of training objectives that are to be accomplished through a training, we should plan an organisational training. A training manager should be responsible for drawing up a training plan. A well-prepared training plan should consist of:

- a list of people who will participate in a training,
- an exact date of the training,
- a place of the training,
- an amount of funds which can be allocated for the training,
- designation of a suitable trainer for the training,
- a detailed training programme, including a timetable.[9]

[9] M. Adamska: Op. cit., p. 576.

If a training cycle is planned for a longer period, the plan should additionally contain a specific time-frame of trainings. Usually, a training system is planned for the period of one year.

Setting up a training project

Following thorough identification and analysis of needs and carefully formulating objectives and training plan, the planned training is to be conducted. The training is led by a previously selected trainer, on the basis of the previously determined methods and according to an established programme.

A highly qualified trainer is able to skilfully use certain training techniques, matching them to relevant predispositions of a training group. The basic training techniques include: lecture, discussion, simulation games, roleplaying, case studies or training films. Apart from developing appropriate knowledge and skills, a training should integrate and entertain its participants. A trainer's task is to run a training in such a way that none of the participants is bored and that they benefit from the training as much as possible. Furthermore, the function of a trainer is building relationships with participants which will allow the trainer to gather as much information as possible about a company and its environment in order to provide the company with information on its strong and weak points.[10]

Assessment of a training project

Every training held in an organisation should be concluded with an appropriate assessment. An assessment of a training enables checking to a what degree a training programme allowed to achieve objectives formulated on the basis of results of the analysis of training needs.

The first assessment of a training should be carried out by its participants with a survey questionnaire or during an interview with a line manager. Trained persons should be also assessed by a trainer conducting a relevant training session. An objective assessment carried out by someone from outside the company, gives employees feedback about what to work on in order to improve his or her qualifications. Everyone makes basic errors, often being unaware of this fact. After some time from conclusion of a training, an assessment of effects of a training should be undertaken by a line manager of the training participants.[11]

A correct assessment of a training should be made in several dimensions. Results of the assessment should provide an answer to the following questions:

- Dimension I: Are the participants satisfied with the training?
- Dimension II: Was relevant knowledge shared during the training?
- Dimension III: Is the shared knowledge used in work?
- Dimension IV: Did the application of obtained knowledge contribute to increasing effectiveness of the organisation?[12]

An answer to the above questions allows a company to verify whether a training is valid. If a training did not bring the planned results, a correct assessment may enable avoiding or eliminating unnecessary trainings in the future.

Many trainings are held through external training companies. In view of the process of constant learning and improvement of qualifications of trainers and persons involved in setting up a training, the cooperation of trainers with organisers before and after a training is crucial. The moment of recapitulating and drawing conclusions from joint actions is of major importance. Such final recapitulation after a

[10] M. Kossowska: Op. cit., p. 99.
[11] M. Adamska: Op. cit., p. 576.
[12] G. A. Rummler, A. P. Blache: Op. cit., p. 254.

training is called an *ex post* review in the literature. It is a meeting held after a training project has been already closed – carried out and assessed.[13]

More and more frequently, the so-called *follow up* workshops are organised after a completed training. The purpose of the workshops is to refresh and consolidate information acquired during a training. People who underwent a training have time to confront the acquired knowledge and skills with practice. If barriers are faced in attempts to apply new skills, then the purpose of *follow up* workshops is to help in overcoming these barriers.[14]

Methods of improvement of employee qualifications

In the contemporary times every company strives to achieve competitive advantage in the market and to constantly improve quality of its products or services. In order to improve quality, every employee should know what he or she is to do to perform his or her work best at the first attempt. The process of improving employee qualifications typically takes place in three stages: education, skill development and trainings. The first stage usually occurs before employment. In the present times, employees look for people with proper education. In this way the former ensure they employ persons who at least to some degree have knowledge about the basic issues. Another stage of development in an organisation is broadening skills. In the beginning, a new employee gets basic access to systems and normally discharges the simplest duties. With time, additional duties and extended access to systems are given to the employee which allows him or her to learn new processes in a company and sharpen his or her skills. Often creativity and previous experience of new employees enables development and improvement of processes in an organisation. Employees who know very well the scope of their duties and have full knowledge required for work on their position take part in trainings organised by employees for the purpose of improving their qualifications and knowledge.[15] Frequently, employees undergo various trainings on own expense and outside their working time to achieve a better position in their company.

Every person employed in a company needs some time to adapt as well as to learn conditions and organisational system of a new job. Thus, the purpose of induction is providing a newly-engaged person with information concerning: nature and organisation of a company, a type of work and its nature as well as fire and the occupational health and safety conditions and regulations. These actions are aimed at making it easier for a newly-engaged employee to mentally, professionally and organisationally acclimatise.[16] An important part of induction is the OHS training which is required pursuant to the Labour Code and without such training a person should not be employed. The scope of the OHS training is adjusted to the type of performed work.[17] Regardless OF how an induction is carried out and what is its scope, but when it is finished every new employee has to know the so-called organisational matters and the OHS regulations.[18] A manager is obliged to integrate a newly-engaged person into an organisation as smoothly as possible and without causing any concerns.[19]

Nowadays, trainers use many methods and techniques of conducting trainings. Techniques used by them may be in the simplest way divided into three groups, among others:

- based on words (e.g. lecture, talk, discussion),

[13] M. Kossowska, I. Sołtysińska, *Szkolenia pracowników a rozwój organizacji,* Oficyna Ekonomiczna, Kraków2002, p. 214.

[14] J. Tyborowska, *Zarządzanie personelem. Niezbędnik dla działów kadr,* C.H. Beck, Warszawa 2006,p.86

[15] D. Lock (ed.), *Podręcznik zarządzania jakością,* PWN, Warszawa 2002, p. 658-659.

[16] E. Dobrodziej, *Szkolenie i doskonalenie zawodowe w zakładzie pracy,* Oficyna Wydawnicza OPO, Bydgoszcz 1994, p. 41-42.

[17] http://www.vat.pl/szkolenie_bhp_umowa_o_prace_pracownicy_i_zus_7252.php [dostęp: 14-06-2014]

[18] E. Dobrodziej: Op.cit., p. 42-43.

[19] S. P. Robbins, D.A. DeCenzo, *Podstawy zarządzania,* PWE, Warszawa 2002, p. 278.

- based on observation (e.g. presentation),
- based on action (e.g. simulations, games, roleplaying, case studies, problem solving).[20]

Lecture as a method is often combined with other training forms. It is a certain form of introduction into new subject or a form of summary or consolidation of information gained during an entire training.[21]

A lecture may be deemed a tool enabling sharing knowledge in a very concentrated and systematic way. However, this form has many disadvantages. One of the fundamental ones is the difficulty with memorising.[22] A pace of a lecture is chosen by a lecturer, hence, it may be unsuitable for some participants. A lecture is usually one-way communication, thus, a lecturer can never be certain whether the taught content is sufficiently clear for the participants. One of the significant limitations of lectures is the fact that that participants' level of concentration falls during a lecture. The longer a lecture is, the less its participants memorise. Information is memorised for a very short time.[23] Every correctly conducted discussion should be ended with summing up and drawing conclusions.[24]

A brainstorm may be regarded as a kind of discussion. A brainstorm is a method of arriving at interesting unconventional, creative and new solutions. If a brainstorm is to maintain its structure, and not become a discussion, it should adhere to a few rules, among others: all participants should cooperate and motivate each other.[25]

A case study is a method that on the basis of a complex example described in detail allows to reach conclusions concerning various subjects. Usually, presented problems have more than one solution. In the beginning of a case study participants receive a description of a problem, next, they are given time for familiarising with materials and think the problem over, then, they analyse their thoughts, come to conclusions and formulate certain rules.[26]

An extended form of a case study is the so-called simulation, which consists of taking the role of a company or a group of competitive companies by participants. In the beginning they also are provided with all necessary information, but the participants also receive additional information in the form of, e.g. a database or data from spreadsheets. Next, they have to analyse obtained data and draw valid conclusions.[27]

The method of role-playing is typically used for developing skills, e.g. of accepting complaints, establishing contact with a new customer, carrying on a conversation with the so-called "difficult customer" or negotiations. A situation presented by participants is analysed and every person received feedback from a trainer about the person's behaviour. There are many trainings during which played roles are recorded to analyse gestures and behaviour of participants in more detail.[28]

All methods discussed so far are used during courses and trainings held outside an organisation. In our time, more advanced methods are used, that can be implemented within a company. They include, among others: mentoring, coaching, e-learning.

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[20] M. Kossowska, I. Sołtysińska: Op.cit., p. 79-80.
[21] M. Łaguna, *Szkolenia,* Gdańskie Wydawnictwo Psychologiczne, Gdańsk 2004, p. 145.
[22] T. Listwan: Op.cit., p. 158.
[23] M. Łaguna: Op.cit., p. 146.
[24] L. Rae: Op.cit., p. 122.
[25] M. Kossowska, I. Sołtysińska: Op.cit., p. 82.
[26] M. Kossowska, I. Sołtysińska: Op.cit., p. 83.
[27] L. Rae: Op. cit., p. 123.
[28] M. Łaguna: Op.cit., p. 170.

Mentoring is a kind of a method of learning by an individual teacher who should be a role model, partner at solving difficult matters and an authority showing proper values.[29] Thus, mentoring itself is not a direct training.[30]

Assuming that mentoring is not a direct training does not change the fact that it is a process. The mentoring process comprises four basic stages.

The principal responsibilities of a mentor should include helping a student in dealing with mistakes and failures for the purpose of increasing student's self-confidence. Every mentoring process should be finished with assessment of results. A mentor should assist a student in preparing to formal assessment of the latter's work.[31] Mentoring is aimed at preventing knowledge from leaving a company with people who leave it or retire.[32]

Coaching is another modern form of work with employees which goal is to improve their qualifications and ensure their development. There are many definitions of coaching, yet at its simplest coaching is a conversation or a series of conversations of one person with the other. It is a conversation between a trainer and a student. In such a definition a trainer is a person who supports a student in the learning or self-development process.[33] After a coaching conversation people should see new possibilities and overcome certain barriers. It allows them to see themselves in a new light; they are empowered and inspired for further action.[34]

Every well-prepared trainer plans a proper course of the conversation to achieve as good effect as possible after it is conducted; the key stages consist of:

1. Situation – determining a situation in which support with use of coaching is needed.
2. Reason for coaching – determining precise reasons causing undesired phenomena, behaviour or unsatisfactory results.
3. Diagnosis – this stage covers a conversation of a coach with an employee. During this stage the difference between the present state and the desired state, to which a coaching session is to lead, is outlined. In the course of a detailed diagnosis reasons for which coaching took place are explained, and conduct or actions bringing problems are analysed. During this stage an employee should confirm approval of the diagnosis.
4. Action planning – on this stage actions necessary for improvement of work effectiveness and quality are specified. The plan should be devised in a way that enables achieving improvement and should be obligatorily approved by an employee. Every action plan should have specified period for its fulfilment.[35] A coach does not have to be an expert, but has to have at least some knowledge of the subject on which he or she will provide coaching.[36] Nowadays, coaches may be met not only in organisations, but also in sport, music, writing or finances.[37]

For the last over a dozen years the interest in use of new technologies in the teaching process is growing. Multimedia systems and the Internet are more and more frequently used on trainings. Delivering knowledge via various types of electronic media, e.g. the Internet, intranet, extranet or satellite

[29] K. Chmielnik, *Szkolenie pracowników,* UNIVERS, Zielona Góra 2000, p. 137.

[30] A. Żółcińska (ed.), *Coaching i mentoring. Jak rozwijać największe talenty i osiągać lepsze wyniki,* Wydawnictwo MT Biznes, Łódź 2006, p. 120.

[31] E. Parsloe, M. Wray, , *Trener i mentor-udział coachingu i mentoringu w doskonaleniu procesu uczenia się,* Oficyna Ekonomiczna, Kraków 2002, p. 82-85.

[32] A. Żółcińska: Op.cit., p. 128-129.

[33] J. Starr, *Coaching,* PWE, Warszawa 2005, p. 189.

[34] R. Hargrove, *Mistrzowski coaching,* Oficyna Ekonomiczna, Kraków 2006, p. 68.

[35] J. Tyborowska: Op.cit, p. 91.

[36] S. Thorpe, J. Clifford, *Podręcznik coachingu,* Dom Wydawniczy REBIS, Poznań 2007, p. 43-44.

[37] J. Starr, *Coaching dla menedżerów. Słuchaj, motywuj i zwiększ potencjał zespołu,* Samo Sedno, Warszawa 2008, p. 9.

transmission is called e-learning. Through the use of electronic media it is becoming easier to combine image, sound and verbal message which makes learning interesting and appealing.[38]

E-learning includes many different teaching methods, yet one common feature is use of IT techniques. New technologies allow learners to free themselves of fixed dates of classes applicable in schools and or training centres, and at the same time stimulate to act on own initiative in searching for knowledge, self-discipline and time-management. In case of this form of education, learners work without a direct contact with a teacher, consequently, they need to be particularly motivated and committed to learning. [39]

Similarly to every teaching method, e-learning has many advantages and disadvantages. The most important advantages of e-learning are as follows:

- large freedom in the choice of place, time and pace of learning,
- learning in friendly conditions, e.g. at home,
- specially prepared high level didactic materials which develop interests and motivation for learning,
- individualised learning system,
- time- and cost-saving.

Disadvantages of the multimedia methods of education are shown below:

- reduction of trainer's role during a training,
- reduction of direct contact with learners,
- high costs which paid for setting up a proper system,
- difficulty in overcoming technical barrier – defects in the Internet, limited access to the Internet.[40]

Management of a project of development of the level of knowledge and qualifications of service company employees

In the below chapter an organisational structure and a proposal of application of certain solutions for streamlining the functioning of a training and education system for the employees of the Corporate Customer Service Centre in one of the Polish banks were presented.

Structure and scope of duties of the Corporate Customer Service Centre

The discussed Corporate Customer Service Centre of one of the Polish banks deals with after-sales service of corporate customers and customers conducting business activity. The main tasks of the Centre are as follows:

- opening/closing corporate accounts, subaccounts and auxiliary accounts,
- introducing modifications to accounts or files, e.g. a change of registered office, change of address for correspondence, change of telephone number, change of personal details of partners, changes concerning legal statuses of companies and other,
- opening deposits, negotiations with respect to deposit interest rate, withdrawal of deposits,
- granting authorisations to access accounts, payment card service – ordering cards, changes of limits of cash withdrawals and non-cash transactions, cancelling cards,
- notifying of funds of higher amounts of withdrawals in Branches and Customer Service Points, executing direct debits and standing orders,
- issuing certificates and opinions on accounts and deposit products, online banking service of corporate accounts – granting access to corporate accounts and introducing and modifications related with it, accepting and considering complaints,

[38] M. Łaguna: Op.cit., p.184-185.

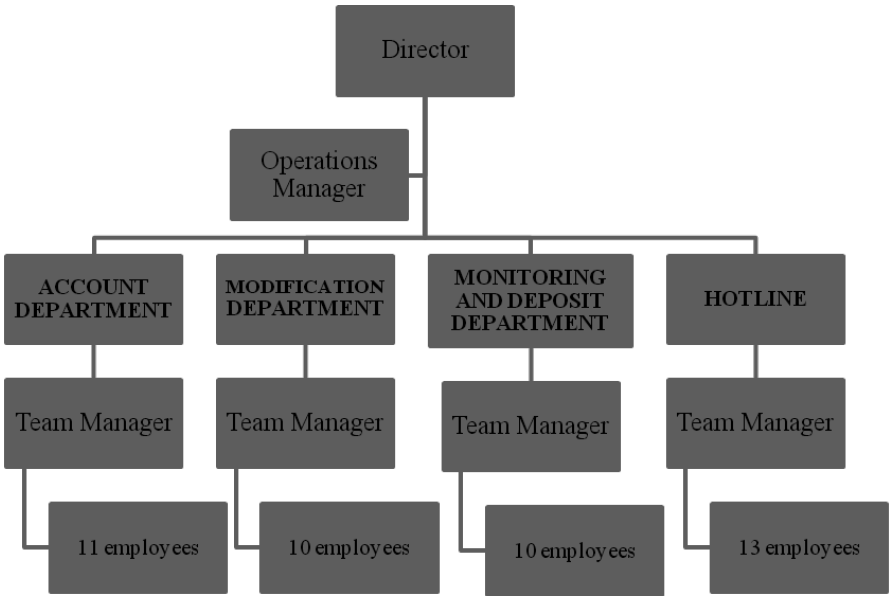
[39] A. Clarke, *E-learning nauka na odległość,* Wydawnictwo Komunikacji i Łączności, Warszawa 2007, p. 11-12.

[40] J. Olearnik (ed.), *Nowoczesne kształcenie z wykorzystaniem technik multimedialnych - możliwości i przykłady,* Wyższa Szkoła Handlowa, Wrocław 2011, p. 21-22.

- monitoring of any prohibited account balances and sending reminders or calls for payment, mass payment service for corporate accounts, full service of budget units to which a bank provides service.

A detailed division of positions is shown in Figure 4. Managers of departments try to cooperate with each other, yet due to a very wide scope of duties of the entire Centre, there are frequently many conflicts resulting from having too few employees and growing amount of work. It may seem that 50 employees is a considerable number, but not always all of them are at work as every employee is entitled to annual leave or may go on sick leave.

Figure 4: Organisational structure of the Corporate Customer Service Centre



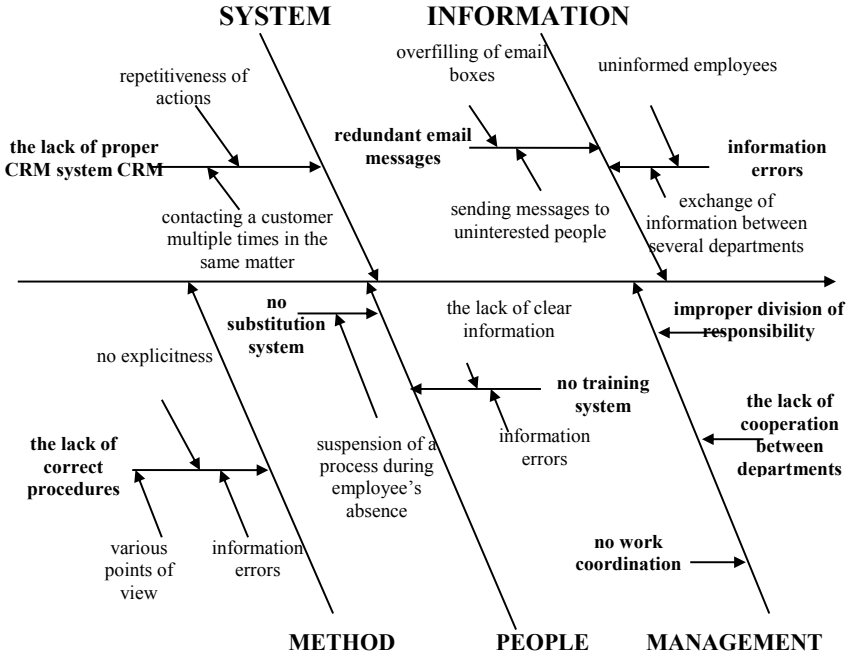
Source: Own study

The Corporate Customer Service Centre does not deal with credit products. However, it is worth underlining that when certain combined sales campaigns are conducted, e.g. automotive credit/leasing with an account, the Centre takes over opening accounts and their service as part of such campaign. When accounts are opened for customers, it is necessary to prepare relevant documents, grant access to online banking and often issue payment cards.

Analysis of errors and disruptions in the Corporate Customer Service Centre

In the contemporary times many companies and corporations conduct activity. Of course, not all of them function perfectly. In every company there are processes working very well and other which require modifications.

Figure 5: Causes of errors and disruptions in the functioning of the Corporate Customer Service Centre on the example of Ishikawa's cause and effect diagram



Source: Own study

A cause and effect diagram of errors and disruptions which often create difficulties in day-to-day operation of the Corporate Customer Service Centre was presented in Figure 5. The irregularities shown in the diagram are examples of several fundamental errors. It is not possible to include all causes and effects of errors in the analysed organisation.

On the basis of this diagram it can be concluded that the organisation has an inadequate employee training system. The diagram contains many causes in the form of information errors, repeating actions, various points of view on messages directed to employees. The multitude of duties and tasks of team managers pushes the need to hold trainings and educate employees into the background which satisfying would certainly solve many fundamental problems of the whole Centre, thus, streamline work of all employees.

The analysis of errors shown on Ishikawa's diagram contains data only from the Corporate Service Centre. It needs to be emphasised that it does not apply in any way to departments providing service to individuals. The individual service segment has a separate system of trainings and development of its employees. The corporate department is a completely distinct organisational unit.

Establishing a new function – employee development and training manager

An in-depth analysis of the cause and effect diagram of errors and disruptions in the actions of the Corporate Customer Service Centre discussed in this chapter allows to draw an overall conclusion that the largest problem of this part of the organisation were information errors between actions and employees resulting from an incorrect employee education and training system from the moment

of employment to independent work. The constantly growing number of carried out tasks make employees often change their scope of duties. For time reasons, team managers are unable to organise additional trainings.

The most effective solution and the one that may be implemented fastest is establishing the position of development and training manager. A person employed on this position should be responsible for supporting development and improvement of qualifications of employees. Team managers could easily take care of operational actions of their teams, while development and training manager would be responsible for all trainings and supplementary trainings of employees in the area of company products and any new duties of individual employees. The proposed organisational structure of the Corporate Service Centre, including development and training manager, was shown in Figure 8. Dedicated tasks: mentoring for newly-engaged employees, training for employees of the Corporate Customer Service Centre, trainings for employees of Branches and Customer Service Points in the field of corporate service, establishing and coordinating e-learning system for the purpose of multimedia product trainings for employees of all units, employee training with respect to new duties which they should have as part of new tasks, introducing and updating materials helpful in corporate customer service, intended in particular for employees having direct contact with customers, auxiliary support as part of all additional actions performed by the Corporate Service Centre.

Implementation of an e-learning system

The Corporate Customer Service Centre is a department in which constantly many projects are carried out. Consequently, there is little time for checking for errors and attempting to rectify them. There is no person responsible for updating employees' knowledge. Managers know the level of employees' knowledge from their observation, but they have no information confirming, e.g. employees' knowledge of products.

In the event of the lack of time for organising the traditional forms of training, an e-learning system should be implemented in the Centre which would enable holding periodic employee trainings in products and systems. Every employee should have access to a prepared presentation about individual subjects, and after the employee learns the material he or she would be obliged to take a test on a relevant subject. It could be a fantastic instrument for conducting trainings in many aspects, e.g.:

- gradual trainings for new employees,
- periodic trainings for employees of the Corporate Service Centre, Branches and Customer Service Points,
- trainings in new products launched in the bank.

Conducting trainings with the e-learning platform would enable a reduction of costs by limiting traditional trainings and, what is most important, it would save time. Employees would not have to leave their work stations in order to take part in trainings. A manager would choose time for every employee for undergoing a training via a multimedia platform.

Implementation of training materials for general use

Another considerable problem of the Corporate Customer Service Centre involved the fact that employees of bank branches are focused on retail customers. Few employees of these units are knowledgeable about corporate products. The most reasonable solution is such case is training employees of the branches via the e-learning platform in corporate products and working out very detailed manuals by the Corporate Customer Service Centre. Manuals, that is accurate instruction manuals of the most important corporate products. These manuals should contain successive screenshots of the basic processes.

Programme of periodic discussion meetings

If the position of development and training manager is created and an e-learning platform is set up, meetings with employees should be held in which team managers and training manager should participate. Brainstorm should take place on such group meetings in respect of new ideas for improvement of information flow. Employees who in their day-to-day work process hundreds of applications know best what should be improved, what causes most errors. On this basis training manager together with team managers should update relevant processes, manuals and messages to employees.

Future project plans of the entire department should be discussed during the meetings, where all employees would be advised of any changes. Employees could also report any observations or ideas, which would reduce conflicts in departments and would allow to more precisely and accurately plan future projects.

Universalization of positions

For the purpose of facilitating work of team managers, most positions should be universalized. Employees should know most processes in their teams and in case one of them is absent, the rest should be able to fulfil duties of this person. The centre should establish an extensive substitution system and systematically universalized positions.

Development and training manager should be involved in implementation of universalization of positions and should coordinate broadening knowledge of all employees of departments with the support of their managers.

Conclusion

In the present times, retaining strategic customers is possible only by establishing lasting relationships with customers, project management and with support of internal funds. It is not possible to establish relationships with customers if we are not specialists in our industry. Even if in our company we deal only with a small part of a process, we should know the process inside out. Apart from this, we should know what is the role of a process, which element we are, for the operation of the whole company. A part of one of the Polish banks, the Corporate Customer Service Centre, described in this work enabled reaching conclusions that the position of development and training manager is a vital function for every company in regard to preparation of a training project. A manager in charge of trainings and development should have an overview of all processes in a department and in close cooperation with team managers he or she should build an effective and employee-friendly training system.

The cause and effect analysis allowed to confirm the thesis of the lack of a proper training system. In the Corporate Customer Service Centre there are many disruptions resulting from the employees' lack of knowledge. Often the source of the lack of knowledge or incorrect information of employees is sharing knowledge by many people, and not by managers designated specifically for this purpose. In most cases information received by employees is already to a some degree distorted. It is another proof for the fact that the position of development and training manager would contribute to improvement of functioning and increasing effectiveness of the entire outlined organisation.

Furthermore, for organisations it is worth considering carefully the use of capabilities of new technologies and setting up an e-learning platform which can be an instrument enabling quickly training employees in a relevant subject and check the level of their knowledge. In a long-term, such system may substantially reduce costs of trainings conducted for an organisation.

Every company and every person individually should strive for their development. Considerable technological advances have been made, thus, everyone actively participating in the labour market should be aware that he or she needs to learn throughout his or her life.

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Kamil Czajka
AGH University of Science and Technology, Poland

Marek Dudek
AGH University of Science and Technology, Poland

EVALUATION OF THE STRUCTURAL VARIANTS IN NETWORK MANUFACTURING SYSTEM

Summary

Network manufacturing system is the most adequate form of manufacturing system to production enterprises organized on the basis of sector coopetition, where the realization of an integrated manufacturing process required the integration of distributed resources, located in different systems. This paper presents the evaluation criteria of structural variants in the process of organizing a network manufacturing system under conditions of distributed resources. The application of time-driven activity based costing for economic evaluation of structural variants in order to select the structure of the manufacturing system most favorable to the existing market conditions and production was presented.

* * *

Introduction

Nowadays trends in the organization of manufacturing enterprises in the conditions of serial production focus on mutual cooperation. The most common form of cooperation manufacturing systems is the realization of secreted fragments of manufacturing processes outside, based on the principles of the outsourcing. However, currently, due to the need to increase the flexibility of manufacturing of this form of cooperation appears to be insufficient. Outsourcing the fragments of manufacturing processes nowadays is not a cost-effective organizational solution considering the fact of the necessity of changes in the ongoing processes. Ensuring the long-term survival in a changeable environment required functioning under the increasing pressure because of customers' increasing requirements for shorter release time of orders and higher diversification of ordered product range. The main element of an enterprise's competitiveness on the market becomes focusing on individualised needs of customers. It reflects current conditions of manufacturing, which focus on simultaneous diversification and specialisation of activities. At the same time it is a result of business organization based on the sector coopetition. The essence of organizing manufacturing companies based on sector coopetition is simultaneous competition

while mutual cooperation is present, which is visible through aiming at releasing both individual and common goals of cooperating enterprises, leading to such level of manufacturing system organisation that allows diversification as a result of engaging distributed manufacturing resources to release production processes, which occurs when the release of production order requires engaging resources from other (than own) systems.[1] Organizing the production enterprise on the basis of coopetition sector leads to ensure the diversification of activities, which is reflected the possibility to deliver to the market a wide and individualized product range and the specialization of activities, which is reflected the possibility of concentration on core competencies of the company. Specialisation must be based on low production cost, competitive quality and ability to flexibly adjust to changing conditions of the environment at the same time. It is also essential to provide the expected reaction speed of the manufacturing system to changes. The most adequate for this conditions form of manufacturing system is NMS – Network Manufacturing System, because sheer network form of organising the mufacturing system allows distributed resources to be incorporated into the system, which occur in case when manufacturing resources are located in different systems[2].

NMS under conditions of distributed resources

Network Manufacturing System is a collection of independent units (systems elements) separated from within existing or newly designed systems, defined as manufacturing modules. Manufacturing modules can be a single workstation, a group of workstations or the entire system with specified form of structure. Manufacturing modules in Network Manufacturing System are connected through co-operational network, that is treated as binder of particular elements of the framework, that perform subsequent stages of integrated manufacturing process[3]. Co-operational connections can be internal connections when the newly created network is based on cooperation of manufacturing modules separated from within one system and/or external connections when the arising network is based on the cooperation of manufacturing modules separated from different systems. Both connections can occur simultaneously. Network configuration must link components (modules) originating from different frameworks and parameters (operations, manufacturing techniques, manufacturing capacity). The cooperation defines in which point of the connection network a given fragment of the production process should be released and in what time and what range[4]. In this context, a manufacturing system should be treated as an set of independent manufacturing modules that can function as autonomous units and be simultaneously elements of different systems. The existence of a particular element in the system should be conditioned by reporting demand for its key competences understood as competitive resources and abilities concentrated within the element, generating the added value for both external and internal customers – other elements of the system. Cooperation connections between particular modules result from processes necessary for the release at a certain time. Defining the system of co-operational connections between its elements leads to establishment of a defined co-operational connections system of manufacturing modules which make their key competences and resources available for others. The

[1] M. Dudek, *Organizacja rozproszonych zasobów produkcyjnych w sieci*. /In:/ *Dylematy współczesnych przedsiębiorstw w procesie restrukturyzacji. Dywersyfikacja – integracja – rozwój*, eds. R. Borowiecki, A. Jaki, Fundacja Uniwersytetu Ekonomicznego w Krakowie, Kraków 2011, pp. 391 – 403.

[2] K. Czajka, *Essentials of organising network manufacturing system in the environment of distributed resources* /In:/ *Managing organizations in changing environment* : *models – concepts – mechanisms*, eds. A. Jaki, T. Rojek, Foundation of the Cracow University of Economics, Cracow 2014, pp. 181-190.

[3] Z. Mazur, *Zarządzanie procesami w systemach wytwarzania*. Uczelniane Wydawnictwa Naukowo-Dydaktyczne AGH, Kraków 2007.

[4] Z. Mazur, *op. cit.*, s. 15

co-operational system should be treated as a temporary system configuration rather than an initial project state, limiting further evolution of the system.

Distributed resources occur in case when release of integrated manufacturing system requires engaging resources from different systems.[5] Network manufacturing system under conditions of distributed resources is based on the concept of network enterprise. Cooperation within a network enterprise appears in using various forms of outsourcing for released processes and/or their fragments, or making its own resources available for other enterprises, basing on belief that services provided by particular departments of the enterprise can be treated analogically to services provided by external customers[6], and the existence of a particular element is conditioned by demand for its functioning notified by customers, and a decisive factor for its maintaining within the structure of the enterprise can be cost balance. Network manufacturing system under condition of distributed resources is thus a system whose structure based on both internal and external coopertion connections between separated from the different systems manufacturing modules. Whereas the existence of a module in the structure of the system should be assessed on the basis the modern evaluation criteria of process optimization, like cost, quality, time and its inact on the value-added gnerated for the customers.

Network manufacturing system under conditons of distributed resources is based on an unordered set of distributed resources, which represent naufacturing modules separated from different systems. Each module functions simultaneously in the system, which has been extracted or provides services to other form of co-operational connections. Each module represents a set of the key competences (technology, experience, innovation, quality, timing and cost of execution), which can be involved to carry out the operation or the part of the integrated manufacturing process in the performance of a specific production order or set of orders. When the center of orders functioning within the network manufacturing system, accepts the contract (production order) to carry out, the choice of manufactuirng modules is made. Selected modules must ensure the completion of a production order with specifications of the finished product. It is thus possible separation distributed resources and the creation of their subset of modules that may potentially create a form of co-operational connections set up to perform a particular production order. Then, possible variants of form of co-operational connections are specified within a subset of the modules. From the resulting variants will be selected this form of co-operational connections, that provides timely delivery of orders, ensuring maximize added value for the customer and ensuring minimization manufaturing costs. This variant should also provide the most desirable production flow in time and space implemented as part of an integrated manufacturing process. Start of the the production order occurs when the resources are organized and assigned them to perform production tasks in accordance with established production flow parameters.

Process of organization NMS under conditions of distributed resources

Organization of network manufacturing system under conditions of distributed resources leads to development of various systems of form of co-operational connections, and the product offered as a result of distributed systems' cooperation is the resultant of different types of connections and relations, developed as a result of organisation process. The process of organizing a system leads to the determination of the whole relations between its elements. Organization as a as a feature of a system means "property of the system relying on co-dependence of its elements" [...] Co-dependence between elements of the

[5] M. Dudek, *Organizacja rozproszonych zasobów produkcyjnych w sieci.* /In:/ *Dylematy współczesnych przedsiębiorstw w procesie restrukturyzacji. Dywersyfikacja – integracja – rozwój*, eds. R. Borowiecki, A. Jaki, Fundacja Uniwersytetu Ekonomicznego w Krakowie, Kraków 2011, pp. 391 – 403.

[6] Z. Malara, *Struktury sieciowe sposobem na uelastycznienie systemu zarządzania przedsiębiorstwem w okresie globalnego kryzysu.* /In:/ *Wyzwania restrukturyzacyjne w obliczu globalnego kryzysu gospodarczego*, eds. R. Borowiecki, A. Jaki, Fundacja Uniwersytetu Ekonomicznego w Krakowie, Kraków 2009, pp. 147.

system is characterized by the level of its arrangement. If there are no connections occurring between the elements, that is the elements are independent on one another, we deal not with a system, but with an unordered set. An unordered set may be organised through increasing the level of its ordering"[7] The essence of the process of organizing the network manufacturing system in terms distributed resources is the creation of a specific form of co-operational connections set up to perform a particular production order. This connection is also a temporary structure of the system, which is formed by the organization process. The necessity to implement of integrated manufacturing process in system initiates the process to establish a relations between particular resources that are to be involved in carrying out of this process. Identification of interdependencies between the resources causes their arrangement in the form of co-operational connection. The process of organizing manufacturing system leads to defining totality of relations occurring between its elements – defining the structure of the system. The process of organizing network manufacturing system under conditions of distributed resources is a multi-stage process, includes the following stages [8] [9] :

1. searching for distributed resources – this stage is preceded by a formal organization process of the system, which focuses on determining relations between individual elements of the system. The aim of this stage is to create a resource base, that will form unordered set of potentially usable manufacturing modules, and which express their willingness to cooperate on the principles of voluntary participation,
2. selection of distributed resources – this stage is associated with the formation of a subsets of resources that can be employed to carry out specific production orders. Due to the limited opportunities used in a specific moment in time and create opportunities to build the best form of co-operational connections in the given market conditions, it is necessary to find a some subsets of distributed resources,
3. negotiations and ordering of the resources – this stage is connected with defining possible form of co-operational connections for the release of defined production orders, understood as possible structural variants and the choice of the most favourable form of co-operational connections and organizing the system structure,
4. division of production tasks – this stage step is connected with dividing production tasks related to the release of defined production order into particular resources within organised structure.

Criteria for evaluation structural variants in NMS

Structural variants of network production system constitute the cooperation arrangement of distributed resources which are represented by manufacturing modules and auxiliary resources. This arrangement is also a variant of the system's temporary structure, which has been established for the implementation of a particular set of production orders under the customer order. Each distributed resource distracted provides a particular set of services related to the execution of the integrated manufacturing process. Each structural variants arise in the negotiation and arrange resources stage within organization process of network manufacturing system. Selection of the most favorable in the given market and production conditions structural variant should provide both: the ability to achieve the most desirable manufacturing flow parameters in the integrated manufacturing process and maximization of value added for the customer and minimization of manufacturing costs.

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[7] Z. Martyniak, *Elementy metodologii organizowania*, PWN, Warszawa 1976, s. 7-8

[8] M. Dudek, P. Pawlewski, *Implementation of network oriented manufacturing frameworks*. /In:/ *Agent and multi-agent systems: Technologies and applications*, eds. P. Jędrzejowicz,. Berlin-Heidelberg. Springer-Verlag, 2010

[9] K. Czajka, *Kryteria doboru rozproszonych zasobów w organizacji sieciowego systemu wytwarzania*, /In:/ *Strategiczne i operacyjne doskonalenie procesów w obszarze zarządzania i inżynierii produkcji*, eds. M. Dudek, H. Howaniec, W. Waszkielewicz, Wydawnictwo Naukowe Akademii Techniczo-Humanistycznej, Bielsko Biała 2015, pp. 89-99.

Maximization of value added for the customer is the effect of minimizing the time waste in the manufacturing process, as well as the accompanying business process related with the processing of customer orders for individual production orders which also includes the product configuration, also called as customer order configuration (determine the product composition, bill of materials, product structure design, technological process design, set of materials definition, e.t.c). The waste elimination in manufacturing process is derived from the possibility of obtaining the most desirable manufacturing flow parameters, which are feasible by the continuous and synchronized flow organization. Only the continuous and synchronized manufacturing flow provides the minimum time of material flow with simultaneous minimizing the level of work in progress and ensuring the expected productivity and timeliness of production tasks. They provide thereby minimum level of wastes in the integrated manufacturing process, what is the effect of the elimination of waste as: waiting for work items, expectation of the work items to the availability of resources, unnecessary inventories of work in progress or overproduction. While the elimination of the remaining wastes of the six big wastes according to the concept of lean manufacturing, such as reprocessed, bugs in the process, or unnecessary movements and transport associated with material flow, depends heavily on the proper implementation of activities in the customer order configuration and depends on the each resource experience in the given type of product design and their key competencies in the organization of technological process of these products. Most of these wastes should be eliminated at resource selection stage in network manufacturing systems organization process. To create a variants of structural layouts should be taken into account only those resources which key competencies provide elimination of these wastes.

Manufacturing cost minimization is the most important element in assessing the economic efficiency of structural variants of network manufacturing system. Defined level of costs associated with commitment of resources to the integrated manufacturing process is determined at the resource selection stage in the network manufacturing system organization process. However, this level of cost, which is only a rough estimate of the manufacturing cost is not a sufficient criterion in the evaluation of structural variants. Because the accepted criterion for assessing structural variants is both cost and time that the proposed method for estimating manufacturing costs should be directly related to the time commitment of the resource in the process. Therefore it becomes necessary to propose a method for estimating manufacturing costs, which are directly related to the commitment of resource commitment to the realization of the integrated manufacturing process. With the resource commitment is bound a number of activities executed within the process or operations or work tasks, which causes that the cost should be calculated directly by any activities occurring in the implementation integrated manufacturing process.

Analyzing the problem of costs related to the commitment of distributed resources to carry out manufacturing tasks in the network manufacturing system must be made their classification. The integrated manufacturing process in network manufacturing system under conditions of distributed resources requires the involvement of the following main types of resources:

- direct manufacturing resources, implementing the basic manufacturing process with auxiliary processes, which will be the same as manufacturing modules,
- transport resources responsible for transporting the work items between the various manufacturing modules,
- operating resources responsible for carrying out the service and operational processes related to customer order.

Evaluation of economic efficiency of structural variants in NMS

The evaluation of economic efficiency of particular structural variants in NMS due to conditions presented in the previous section of this paper will be based on the determination of the total cost of the customer's order realization in these variants. These costs will be the total value of the costs of the

different types of distributed resources commitment in process. The ideal candidate for estimating the costs of resources commitment appears to be activity based costing (ABC). However, the literature aspects activity based costing shows that the application in manufacturing companies, whose production structure based on the classical form also not be the right solution, because due to the time consuming to update data, result obtained of its use to estimate the costs of processes, products and customers are inaccurate. Furthermore, the use of this cost calculation in the classic form requires a huge commitment of employees associated with the provision of information concerning working time, data collection, its processing and preparing expected reports[10]. Therefore it should be considered that the best way of calculation manufacturing costs for the assessment of structural variants in the networked manufacturing system will be a variety of ABC proposed by S.R. Kaplan and S.R. Anderson, that called time-driven activity based costing (TDABC) and which eliminates the major disadvantages of the traditional ABC.

The commitment cost of distributed resource in the production task doesn't consist exclusively of direct costs. It also includes part of the indirect costs incurred in a enterprise related to the realization of a specific production order. The calculation thus defined commitment cost of resources by using traditional forms of cost calculation becomes practically impossible. This is due to the fact that the allocation of indirect costs, so-called overheads costs in traditional form of cost calculation is carried out by assigning them to a previously recorded magnitudes, such as direct man hours of work or cost of direct labor. Therefore important disadvantage the traditional form of cost calculation is inadequate allocation of overheads. The solution to this problem was to be the use activity based costing. The essence of ABC is the first assignment of indirect costs to the activities performed for the needs of different processes using all the resources of enterprise, and then calculating the individual costs objects , for example customer order, work order or products, based on the amount of activities used to realization them in the enterprise[11]. ABC in the context of the valuation distributed resources commitment in integrated manufacturing process allow the total cost calculation only after the realization of commissioned production tasks and after a certain period of time associated with the adopted by the company cost calculation horizon. ABC exhibits also one major disadvantage in this case, namely the calculated cost takes into account the cost of unused capacity of a given resource. These problems are eliminated by using time-driven activity based costing. TDABC excludes the traditional approach of accounting the cost of resources for particular activities before assigning them to cost objects. TDABC assigns resource costs directly to cost objects, using the cost of resource capacity and demand expressed by the production capacity of a given resource commitment time. The notion of the production capacity resource to be understood as total costs considered with both the costs of work-related equipment or cost of the auxiliary processes. Whereas demand for resources production capacity is most often expressed by the equation of time describing the time consumption of events related to the execution of the tasks performed by the resource[12].

The cost of the manufacturing module, which is commitment in the production task realization includes the cost of direct machine utilization, direct labor costs, the cost of materials used and calculated indirect cost based on the utilization time of this module capacity. In general, the indirect costs of production are related to the costs incurred for the production preparation, scheduling, administrative and accounting service, processing customer orders and production orders, purchasing, warehousing, internal logistics, materials handling and order picking, packing and distribution. For the purpose of economic evaluation of structural variants in NMS indirect costs associated with the commitment of the manufacturing module in integrated manufacturing process should be grouped. As a criterion for grouping should take the set of performed activities related the execution of a production order. This allows to define the following

[10] R.S. Kaplan, S.R. Anderson, *Rachunek kosztów działań sterowany czasem*, PWN, Warszawa 2008, s.15
[11] R.S. Kaplan, S.R. Anderson, *op.cit.,* s. 18-19.
[12] R.S. Kaplan, S.R. Anderson, *Rachunek kosztów działań sterowany czasem*, PWN, Warszawa 2008, s. 21-24.

actions, for which should estimate the unit cost of involvement in the process on the basis of defined equations of time:

- module preparation to perform a task including changeovers,
- internal transport including the parts completion and materials handling,
- warehousing parts and finished products including release and admission operations,
- shop-floor control including scheduling production orders,
- supply of materials including activities connected with purchasing orders for materials,
- packing and shipping, including distribution to the customer if required,
- processing production orders including product configuration, administrative and accounting service if required,
- production preparation including construction and technological activities if required.

Apart from the costs of the manufacturing modules using in integrated manufacturing process it is also necessary to determine the cost of transport and operational resources. Depending on the complexity of the customer order, configuration time-consuming or the scope of activities related to the preparation of production orders, processing cost of transformation customer order for a set of production orders can be varied. Due to the link between the cost for the parts of the customer order realization from the time of its realization for calculation operational resources cost is also recommended to use time-driven activity based costing. To make this possible orders center must be treated as a separate organizational unit, which is directly related to a specific level of operating costs or respectively calculated on that cost center level of indirect costs, which will be subject to further calculation. An important is to distinguish whether the operational resources costs have influence on total cost of customer order processing in particular structural variants in NMS or haven't. These costs may be the same for each structural variant if the order center generates production orders for individual manufacturing modules as a result of distribution of production tasks in such a way that they do not require the involvement of other than direct production resources (work stations, workers) and auxiliary resources which ensure an adequate material flow through this module. Otherwise, the cost of each additional manufacturing module activities associated with the customer order processing or additional product configuration or additional production preparation must be further calculated as a part of manufacturing module total cost. The cost of transport work items between particular manufacturing modules related to the execution of a production order does not require the use of time-driven activity based costing. It is possible to use this method of cost calculation, if transport is carried out using resources cooperating enterprises. The easiest way to the cost of transport resources calculation for the economic evaluation of structural variants is the adoption of the average market price of the transport service. It should be noted that the cost of activities related to the preparation of the work item to shipping and the cost of activities related to the adoption of materials for storage is calculated in the cost of manufacturing module commitment. Defined and calculated in this way manufacturing modules, transport modules and operation modules costs allow to determine the total cost of the production order realization order in the particular structural variants of NMS and allow their evaluation of economic efficiency as a one of the evaluation criteria.

Conclusion

Newly established co-operational systems of enterprises are treated as voluntary and joined actions of the subjects in order to achieve co-operational or individual goals, whose feature is cooperation in work organisation, supplies, production and exchange of information, and relations within the cooperation of the enterprises under concept of sector coopetition. This changing the nature of relations in the context of cooperation between undertakings have contributed to the creation new forms of manufacturing systems organizations. The most adequate for these conditions form of manufacturing system is a network manufacturing system under condition of distributed resources. The organizing process of this system

is multi-stage and demands including numerous limitations instead the existing attitudes to the system organisation are not adequate to the organisational requirements, in particular to the necessity of treating distributed resources as a whole and simultaneously parts of different systems. The most important step in this process is the negotiation and organize resources, which leads to the creation of a temporary system structure dedicated to carry out a particular set of production orders. The system structure is the result of choosing the most favourable under the given market and production conditions structural variant based on the criteria provided in this paper. Costs related to the execution of production orders in the different structural variants have to be directly calculated on the activities taking place during the realization of an integrated manufacturing process. Therefore, taking into account the diversity of costs account using by the cooperating enterprises and the fact that it requires a dynamic method for determining the cost of activities, it is not possible to apply to the cost calculation on of the classical types of cost accounting. So that the most appropriate method of the cost estimating for structural variants economic evaluation in network manufacturing system is time-driven activity based costing.

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Piotr Niedzielski
University of Szczecin, Poland

Wojciech Downar
University of Szczecin, Poland

THE USE OF THE LOGICAL FRAMEWORK IN PROJECT MANAGEMENT ON THE EXAMPLE OF THE CONSTRUCTION OF THE AHLBECK GRANICA PAŃSTWA – ŚWINOUJŚCIE CENTRUM (AHLBECK STATE BORDER – SWINOUJSCIE CENTER) RAILWAY LINE

Summary

Logical Framework Matrix (LFM) is a comprehensive tool supporting planning, implementation and monitoring of projects. In the project analyzed in this paper, The Logical Framework Approach (LFA) was used not only to determine the hierarchy of goals and purposes, but also to define basic assumptions and risks related to the project. The implementation of the project showed that all the relevant goals set out in the planning stage of the project have been achieved. Therefore, particularly the Swinoujscie city center has been connected to the transport system of the island of Usedom, and thus to the German and European rail network.

* * *

Introduction

One of the frequently used tools, especially for planning, implementation and monitoring of projects co-financed by EU funds is Logical Framework. The purpose of this article is to show how the Logical Framework for the project of extension of the railway line from Swinoujscie Centrum to Ahlbeck Granica Panstwa (Swinoujscie Center to Ahlbeck State Border) was developed and how the approach originating

from Logical Framework Approach supported the conceptualization of the project. The implementation of the project, seven years after its completion, showed, among others, through a wide range of transport and the volume of passenger rail service to and from Swinoujscie, far-reaching benefits for both locals as well as tourists visiting the city and region of the island of Usedom.

The Logical Framework as a tool of project management

In theory and practice, there are lots of methods, techniques and tools of project management. A project can be understood as a set of activities which have the possible to determine the beginning and the end, and which serve to achieve the goal. Each project hasa clearly identified stages, with a specific logical consequence, each of which must be defined and described in a way that allows monitoring of its implementation.

One of the methods of project management is a logical framework (Logical Framework Matrix - LFM). The logical framework is an analytical and presentation management method that helps planners and managers to: analyze the existing situation in the preparation phase of the project, establish a logical hierarchy of objectives and the means by which they will be achieved, determine the indicators by which you can monitor the effects of the project and identify potential risk. The basic assumption of a logical framework is l to define four levels of goals, from the most detailed to the general related to the broader impacts of the project.

Logical framework can also be understood more thoroughly, as an approach to project management in all its stages. This approach based on logical framework (Log Frame Approach - LFA) is characterized by the following features:

- It helps by its nature, facilitates project management as a kind of ‘’a thinking aid",
- It is universal. In case of an unusual problem, this does not disqualify the use of Logical Framework Approach - LFA,
- As far as possible the effects (as well as targets and indicators) are measured,
- It is not a single-use prescription similarly to the method that should enlighten the way [...] pave the various possible routes.[1]

The logical framework includes a synthetic way all the key information needed to understand and implement a project. The matrix is usually made of 4 columns and 4or 5 rows. This system allows to combine the columns and rows in a logical sequence of events called the horizontal logic and vertical logic[2]. The vertical logic identifies the vertical hierarchy of objectives of the project, explains the cause and effect relationships between objectives and specifies the important assumptions and risks beyond the control of the project manager.

The vertical logic lets you specify the vertical hierarchy of objectives in the following way:

- primary objective (GOAL),
- immediate objective (PURPOSE),
- sub-goals (COMPONENT OBJECTIVES),
- results and products (OUTPUTS) and,
- actions (ACTIVITIES)

In such a way that the goal of the lower order leads simultaneously to the goal of the higher order.

On the other hand, the **horizontal logic** lets you specify how to measure and how to verify the measurements of the objectives set out in the project. The horizontal logic of thematrix helps to define

[1] Czerniewicz, O. *Z publikacji zagranicznych*, Problemy Organizacji, no 5, after: Martyniak, Z. *Metody organizacji i zarządzania*, AE w Krakowie, Kraków 1999, pp. 7 onwards.

[2] Based on AustralianAgency for International Development ‘’The Logical Framework Approach”, 2005

the bases for monitoring and evaluating the effects of the project. Above all, horizontal logic should be a manner of:
- testing the transparency of the formulated goals,
- indicating what information is required and how to get it (to monitor and evaluate the effects of the project),
- creating a framework in which the people introducing the project may establish detailed rules and elements of monitoring and evaluation (after the start of the project),
- helping to identify the resources needed in the establishment of effective monitoring and evaluation system to implement this in the structure and budget of the project.

A part of the horizontal logic are indicators showing how you can measure and verify the achievement of the objectives set of the project. They provide the basis for monitoring progress in the work on the project (completion of activities and the implementation of results) and the assessment of the effects of the achievement (component objectives and purpose). Indicators should answer the question: "How do we know if what has been planned is being implemented or already completed?"

Another element of horizontal logic are means of verification (MOV). When you have it defined what information in the form of indicators should managers get, the question arising is how to get this information. It is useful to answer the following questions:
- How should the information be collected?
- What is the best source?
- Who should do it?
- When and how often should the information be collected?
- What is the preferred format of the information?

The complements of a vertical logic matrix are assumptions and risks (the fourth column). The project is always subjected to the impact of factors partly outside the direct control of the project manager. The fourth column of the matrix is used to indicate the external conditions (assumptions) that must be maintained for a vertical logic of the project description to stay a vertical logic. Its purpose is to determine the effect of external factors on the project and the improvements of the structure of the project, if necessary. LFM is a starting point for further risk assessment, consultations with stakeholders on risks, and to prepare a risk management plan.

Combining the two sections (horizontal and vertical) of the matrix, we get a coherent, overall approach to the assessment and the project management.

Characteristics, aims and objectives of the project

For many years, the border character of the city of Swinoujscie and relatively well-developed urban areas on both sides of the Polish - German border resulted in need to travel between both countries. The island location of the city, the postwar history and politics separated the transport systems of the two countries, especially in the field of railway transport.

The idea of the project involving the construction of a fixed rail link between the city of Swinoujscie and Ahlbeck to facilitate crossing the border, met the expectations of both, tourists visiting the island of Usedom, as well as local residents of border areas. The existing crossing between Swinoujscie and Ahlbeck was for pedestrians only. Thus, crossing the border forced a change of the means of transport increasing the travel time. Therefore, the tourist traffic was naturally limited, and consequently it resulted in loss to the economy of the border regions of Germany and Poland. The project presented in this article3 deals with an extension of the existing railway line Bad Heringsdorf– Ahlbeck Grenze across the state border, to Swinoujscie downtown (see Appendix 2).

As a result of previously conducted in-depth study work on possible solutions and their economic and financial effects, the solution meeting the best technical and location criteria was adopted. It generated

the lowest investment costs, allowing at the same time to achieve this effect while keeping the standards of the European Union. The planned total investment cost of the works amounted to 2.472 million euros, including the financial support of the European Bailout Fund in the amount of 1.842 million euros. It should be emphasized that this is the second stage of the investment (the first stage was completion of the track section Ahlbeck – Ahlbeck Grenze, i.e. to the Polish border) consisting of the construction of a section of a track of approximately 1.5 km, along with the railway station building.

According to the adopted methodology based on the Logical Framework, the objectives of the project were set, taking into consideration their structure, depending on the degree of validity and impact in the long term. The most specific objectives were defined for the implementation phase of the project, in the form of **the activities** included in the schedule, among them tasks related to the implementation of the procurement process and the implementation of preparatory works and basic works. The intended **output** (product) of the project was constructing a railway line from Ahlbeck Grenze to Swinoujscie Center with specific technical parameters and consequently launching rail connections as transport offer for residents of, and visitors to the island of Usedom.

The purposes of the project were: the inclusion of Swinoujscie into the European rail system, the improvement of the conditions of communication between the two parts of the Usedom island and in the whole region, tourism development, increasing investment attractiveness and better use of the cultural, tourist and health resort attractions.

The goal of the project was the development and modernization of infrastructure enhancing the competitiveness of the regions, the completion of the trans-European rail links, development of border crossings, economic development of the region, environment protection by increasing the availability of the competitiveness of rail transport as a green, environment-friendly branch and creation of Polish-German cooperation within the development of the Usedom island region. These goals, together withother elements of the logical framework drawn up for the project'ssake can be found in Appendix 1.

Rail transport system on the island of Usedom

One of the main goals of the project was the inclusion of Swinoujscie into the European rail system. The city of Swinoujscie populated by 41, 5 thousand inhabitants (2012) plays a significant role in the West Pomeranian region. This is due to not only its geographical position, but also its well-developed tourist accommodation infrastructure, health resort and spa amenities and cultural attractions. What is more, it is an important transport hub where there is The Seaport and The Sea Ferry Terminal communicating Poland with Scandinavia.

The development of Swinoujscie was connected with the development of the island of Usedom as a complex of beach resorts and spas. A particularly intensive development of the leisure and health resort infrastructure happened after 1876, following the construction of the first railway line, which contributed to the improvement of transport accessibility of the island of Usedom. That year, a section of the railway line from Swinoujscie to Ducherow was built. In 1894 the line was stretched from Swinoujscie to Heringsdorf, and in 1911 from Heringsdorf to Wolgast.

In the thirties of the twentieth century, the expansion of railway lines on the island of Usedom was also for the military purposes. The investments of a military nature on the island of Usedom, activities during both world wars and the shape of the state borders since 1945 have made Swinoujscie a place of a strategic importance. This resulted in the isolation of the city from the western part of the island partly by the demolition of the railway line Ducherow - Swinoujscie - Ahlbeck. The post-war development of the city of Swinoujscie was implemented on the basis of communication with the island of Wolin using ferry crossings. Some of the lines on the island were to be closed because of their bad condition.

The restoration of the railway network on the island started in the first half of the 1990s, and a breakthrough event was the establishment of the Usedomer Bäderbahn(UBB), the Usedom Bathing

Railways. On 21 December 1994, UBB was created as a 100 percent-owned subsidiary of the German national railway, Deutche Bahn AG and the owner and operator of the railway network on Usedom. The UBB overtook the role of main carrier and manager of railway lines infrastructure on the island. The modernization of railway lines in the [3] German part of Usedom became its main task for the incoming years.

1994 was the year when the renewal of a railway track was started to increase the maximum speed of 60 and 50 km / h in some sections up to 80 km / h. On 1 June 1995 the UBB took over the railway line Seebad Ahlbeck - Zinnowitz – Wolgaster Fähre and Zinnowitz - Peenemunde, and thus the 54 km-long railway network threatened with immobilization. Only in the years 1995 - 1997 the UBB invested around 47 million German marks in the modernization of railway equipment. All junctions and crossings were exchanged during the construction of the tracks. And installed new automatic half barriers were also installed.

Another important event was the acquisition of a railway section from Züssow to Wolgast Hafen by UBB in 1999. This section provides access from the already existing rail network of the island of Usedom to the railway line linking Berlin with Stralsund.

In 2000 there was another important event in the transport system of the island of Usedom. The rail and road movable bridge was opened in Wolgast within the section Wolgaster Fähre - Wolgast Hafen. After 55 years, this event enabled reconnecting the railway network on the island with the existing line of Wolgast Hafen to Züssow and further with the DB railways, so practically with the entire rail network in Europe.

The modernized and developed network of connections on the German side of the island of Usedom has also enabled the inclusion of Swinoujscie into the transport system of the island. Restarting the route from Ahlbeck to Ahlbeck Grenze in summer of 1997 significantly improved the connection to and from Swinoujscie and animated the border traffic.

The first steps to restart the route to Swinoujscie and Heringsdorf / Garz airport have been taken with the involvement of German and Polish citizens and the institutions concerned. The first statement of intent was made on 26 June 1999 in Swinoujscie between Deutsche Bahn AG, Polskie Koleje Państwowe (the Polish State Railways-PKP) and the city of Swinoujscie. In accordance with the wishes of PKP and DB AG theroute was entered into the list of the German-Polish railway crossings.

The two-stage plans for routing the course of the railway line Swinoujscie Center - Ahlbeck Grenze were submitted from 5 November 1999. The solution presented was to realize the connection between the end point of the UBB track in Ahlbeck (a state border) and the city center of Swinoujscie (stage 1). In the next stage Swinoujscie there was a planned connection to the airport Garz, on the German side, through the old railway embankment of the former railway line Ducherow - Swinoujscie.

The first phase of the planned project has been implemented. The opening ceremony of the Ahlbeck Grenze - Swinoujscie Center UBB railway section took place on 20 September 2008. A day later, UBB trains scheduled to Wolgast and Stralsund Züssow started their departures from the Swinoujscie Center station.

Moreover, the lines from Züssow to Stralsund and Stralsund to Velgast (Appendix 2) are operated together with DB. Thus, there has been the full integration of the rail transport system on the island of Usedom (including the city of Swinoujscie), with the transport system of German railways, and Swinoujscie has indirectly been incorporated into the European railway network.

The second phase of the project, a connection of Swinoujscie with the Heringsdorf airport is planned after the construction of the stop located on 11 Listopada Street in Swinoujscie. The line will run mostly on the German side through the old railway embankment former line of Ducherow - Swinoujscie.

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[3] ''The Expansion of a Rail Line from Ahlbeck Grenze to Swinoujscie Centrum''. EU Financial Support Application, Swinoujscie, Nov. 2000.

Current state after the implementation of the project

The existing network and rolling stock

A few years later, having completed the project, it can be stated that all the goals and objectives established in the logical framework have been achieved. It applies both to the construction of the railway line with specific technical parameters and the objectives of a higher importance, of which the key objective is the inclusion of Swinoujscie into the transport system of the island of Usedom on the German side, and consequently into the system of Germany and Europe. The existing transport operator offer signifies the economic and social importance of the existing connection.

According to the project, the linear rail infrastructure of the UBB railway line is a single-track normal gauge tracks, i.e. 1.435 mm (standard gauge). It is a non-electrified railway line, designed for the passenger traffic use only (no sidings and loading points). The railway line allows trains to be driven at a maximum axle load of 22.5T. The length of platforms determines the maximum length of trains to 120 m. The maximum speed of the trains on the line is up to 100 km / h, and on the trail Ahlbeck State Border - Swinoujscie Center 80 km / h. On the railway, in order to ensure train - traffic station communications, analog radio communications is used on the train. Due to the typically passenger character of transport services and their distribution throughout the day, some part of the routes on the railway line is not open around the clock (breaks during night hours - between 24 am and 4 am) when there is no traffic and train connections are not implemented.

The above-mentioned arrangement of railway lines managed by UBB and DB provides full access to the rail networks of Germany. The current network of Usedom Bathing Railways (UBB) is composed of the following railway lines:

– Railway line No. 6768 Swinoujscie Center - Seebad Heringsdorf,
– Railway line No. 6772 Züssow - Wolgast Hafen,
– Railway line No. 6773 Seebad Heringsdorf - Wolgast Hafen,
– Railway line No. 6774 Zinnowitz - Peenemunde and
– Railway line No. 6778 Velgast-Barth.

Currently, the rail connections carried on the network UBB are supported by modern diesel multiple units GTW 2/6 series produced in a cooperation with Bombardier Transportation, STADLER Rail and AD tranz.

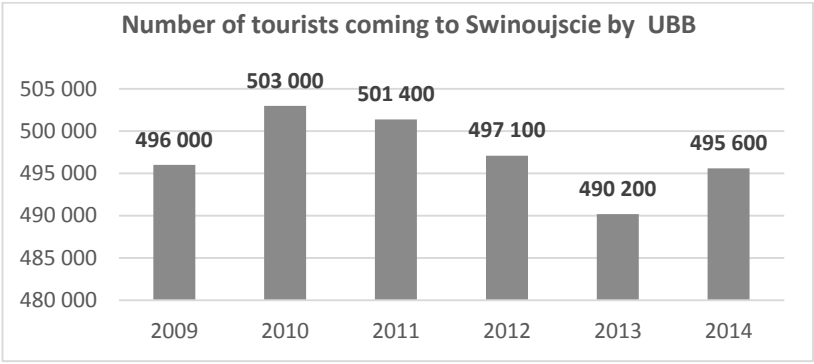
Offers and services– timetable, tariffs, special offers for loyal customers

The ongoing, since 1994, expansion and modernization of the railway lines gives tangible results. In case of the analyzed railways, the number of passengers carried in recent years, has stabilized at a relatively high level. The number of passengers carried in the period 2009 - 2014 between Swinoujscie Centre and Ahlbeck the State Border (Swinoujscie Centrum - Ahlbeck Granica Panstwa) is presented in Figure 1.

One of the aims of the project is to offer transport services, providing not only physical inclusion of Swinoujscie in the European network of shipping, but also enabling the development of tourism, increasing the attractiveness of investment and better use of the cultural, tourist and health resort infrastructure of Swinoujscie.

Everyday, the Usedom Bathing Railway (UBB)provides services to 31 pairs of trains on the section Swinoujscie Center –Ahlbeck Grenze and further to Seebad Heringsdorf. Wolgast -Swinoujscie Center is operated by 27 train connections. The number of direct connections from Swinoujscie Center to Züssow (providing access to the DB main railway lines) is 18. In contrast, during the summer - 9there are only 9 direct connection between Swinoujscie Center and Stralsund.

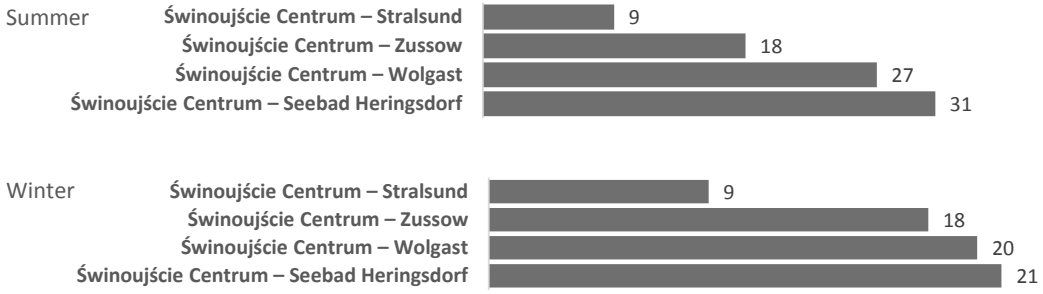
Figure 1: Number of tourists coming toŚwinoujście by UBB rails



Source: UBB statistics

In winter these rail connections on selected routes are supported, respectively (Figure 2):
– ŚwinoujścieCenter–SeebadHeringsdorf (via AhlbeckGrenze) -21 connections
– ŚwinoujścieCenter - Wolgast - 20
– ŚwinoujścieCenter - Züssow - 18
– ŚwinoujścieCenter - Stralsund – 9

Figure 2: Number of rail connections on selected routes supported by UBB in summer and winter



Source: own work based on UBB train timetables

The transport offer in summer season differs only in the sections closely linked to bathing tourism (section Swinoujscie Center – Seebad Heringsdorf).

The UBB tariff is divided into three tariff groups depending on the range of railway lines. Tariff A comprises railways from Swinoujscie Center to Züssow and the railway line from Zinnowitz to Peneemunde. Tariff B includes the railway line Züssow - Greisfald - Stralsund Barth. Moreover, the tariff provides a joint offer A + B (ticket Insel & Mehr).

In the first case, the tariff provides tickets for adults, children (6 - 14 years) and group tickets (over 6 people). A ticket price increases from 2 euros to 10 euros every two euro in five tariff groups (for adults). Discount tickets are 50% or 70% of the standard fare. A ticket group price represents 50% of the standard fare. Moreover, the offer includes time tickets. A week ticket costs 35 euros, a month ticket -70 euros, annual 500 euros and a workers ticket is 600 euros. In addition, there are all-day tickets valid on the island of Usedom, for up to five people. The tariff also provides a fee for bikes (4 euro).

In the second case (B tariff), the price of a regular ticket for one trip varies from 2 to 10 euros. Time tickets cost: a weekly from 12 to 41.5 euros, a monthly from 36.50 to 125 euros anda yearly from 347 to 1,187.5 euros. There are also all-day tickets for small groups (2 adults plus up to three children) and a fee for bicycles (4.5 euros). The tariff combined A + B covers an offer of daily tickets for 5 people (price from 20 to 36 euros).

It should be emphasized that the UBB transport offer can be described as:

- taking into account the needs of all groups of passengers,
- presenting periodicity of trains at fixed times of arrivals and departures from stations and stops,
- fitting the size of the offer to the summer (summer timetable) and winter (winter timetable) seasons.

The transport offer takes into account the needs of both permanent local residents of the island, and guests staying there temporarily for leisure. The task above was significantly easier to complete due to the fact that the freight transport disappeared on the railway line in question.

Conclusion

The above example of the project shows the use of logical framework approach planning and monitoring the effects of the completed project. The overall goal of the project described as expansion and modernization of infrastructure to enhance the competitiveness of regions, from the perspective of years, has been fully achieved. A very intensive development of railway transport system on the island of Usedom and its complementing by building a railway line to Swinoujscie, caused stability of rail traffic to and from Swinoujscie at a relatively high level.

The established objectives of the project the environmental aspects has also been highlighted (now, all the towns along the seaside coast of the island of Usedom are connected by a railway line, so that the need of using cars as means of transport seems reduced). As a confirmation of the high quality and usefulness of the UBB rail on the island of Usedom can serve the fact that these solutions have been placedplaced among five standard examples of the development of regional railways in Germany (Allianz pro Schiene - "The Pro-Rail Alliance" organization report).

Janusz Nesterak
Cracow University of Economics, Poland

Waldemar Paluch
Bahlsen Poland, Poland

UTILIZATION OF EOQ MODEL IN INVENTORY MANAGEMENT IN A SUPPLY CHAIN ACCORDING TO THE EXPERIENCE OF THE BAHLSEN COMPANY[1]

Summary

In an era of economic crisis, globalization and the growth competition tied to it, consumers expect not only high quality but also low prices and deliveries exactly when they need it. Therefore, companies have to focus their effort on searching areas wherethey would be able to generate additional savings, while accelerating processes in the company. One of the least optimized areas in companies operating on markets characterized by large fluctuations of demand is supply chain management. The aim of this article is to present the results of implementation of the EOQ model which optimize inventory level in Bahlsen Company.

* * *

Introduction

In an era of economic crisis, globalization and the growth competition tied to it, consumers expect not only high quality but also low prices and deliveries exactly when they need it.Therefore, companies which want to keep on the market have to focus their effort on searching areas where they would be able to generate additional savings, while accelerating processes in the company. At the beginning, almost every enterprise is able to locate very quickly areas that can be improved easily and practically without any costs. However, it is necessary to go deeper into processes in search of waste.One of the

[1] The publication has been financed by the funds allocated to the Department of Economics and Organization of Enterprises at the University of Economics in Cracow in the framework of grants to maintain research potential.

least optimized areas in companies operating on markets characterized by large fluctuations of demand is supply chain management.

The aim of this article is to present the results of implementation of the EOQ model which optimize inventory level in Bahlsen Company.

Supply Chain Management

Modern Companies wishing to meet customer requirements, without an efficient supply chain management[2] are faced with: overloaded warehouses, low service level, demand from the customer on short-term promotions, issue of the availability of packaging materials and raw materials for the production of the finished products, insufficient cap city of production lines in periods of increased sales and bad relationship between sales, production, logistic and planning, procurement.

The building of partnership relations with its contractors, as well as customers the establishing of procedures for coordinated management is the basis for implementation of the supply chain management concept[3].This action is primarily associated with the need to share, previously regarded, as well as almost top secret information's concerning the demand for our products, sales forecasts, production plans. However, only such a complete integration with business partners can reduce the costs and the price of the final products in so doing.

The domain in which optimization can bring tremendous benefits is stocks in the warehouses, both for both finished products as well as materials and semi-finished goods for the production. They are nothing more than a frozen capital, what is more they generate alternative cost, also known as missed opportunities. This domain is difficult to optimize, because any irresponsible and untaintedinterferencesin the stock level can be finished by stopping production and consequently a decrease of service level and contractual penalties imposed by the client. Therefore, it is very important to strike a balance between the ordered quantity that will meet the needs of production and the costs that are associated with their purchase and storage.

Model of steering stock of materials (EOQ)

There are many models which allow to manage in an efficient way stock materials. However, on their background stands out model of inventory level defining moment of ordering. Its basis is an indicator of the economic size of the order (EOQ) and buffer stock. It was created by Harris W. Ford, who published the concept in 1913[4]. Economic order quantity (EOQ) is the amount for which the total cost of the order and maintain inventory will be minimal[5]. This situation is shown in figure 1.

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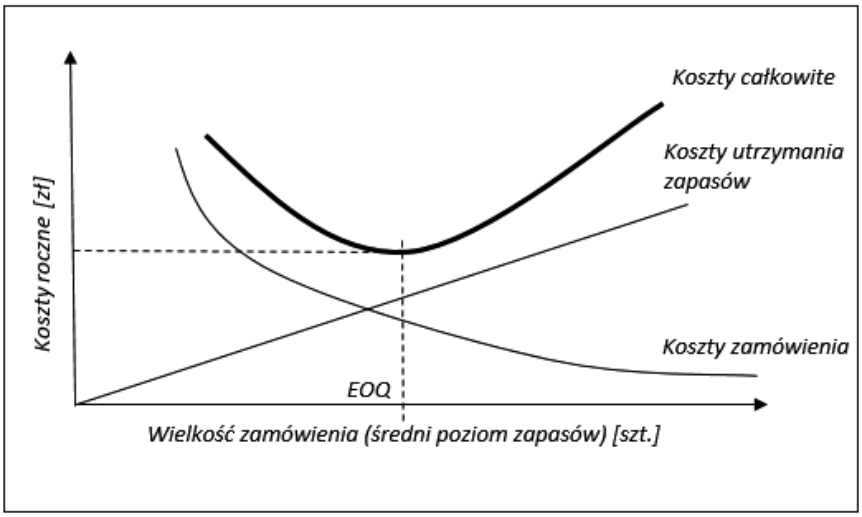
[2] The supply chain is an organized group of at least three companies representing the supply, production and distribution sphere, implementing logistics and beyond logistics processes. The purpose of all activities in the chain is to ensure the smooth flow of materials, products and services, starting from the place of origin of the foods and ending with the final recipient, [in:]Lysons K., *Zakupyzaopatrzeniowe*, PWE, Warszawa, 2004, pp. 216-260.

[3] Supply chain management by M. Christophera is the management of relationship with suppliers and customers up and down the chain in order to provide the highest quality for the customer and at a Lower cost from the supply chain point as a whole [in:] Chirstopher M., *Logistykaizarządzaniełańcuchemdostaw*, PCDL, Warszawa 2000.

[4] Ford H.W., *How many parts to make at once*, "Factory, The Magazine of Management", 1913, Vol.10, Number 2, February1913, pp.135-136, 152.

[5] See more: Bozarth C. Economic order quantity (EOQ) model: Inventory Management Models, https://scm.ncsu.edu/scm-articles/article/economic-order-quantity-eoq-model-inventory-management-models-a-tutorial; Krzyżaniak S., Podstawy zarządzania zapasami w przykładach, ILiM Poznań 2002; Setfel C.F., Rethinking EOQ, http://www.apics.org/industry-content-research/publications/apics-magazine-home/in-this-issue-11-30-2014/apics-magazine---landing-page---everyone---recent/2014/11/26/rethinking-eoq [2016.02.10]; Tanel T., How to Make EOQ Relevant Again, http://www.sdcexec.com/article/10732246/how-to-make-eoq-relevant-again [2016.02.10].

Figure 1: The ratio of cost maintenance and the creation material Stock costs



Source: own study

Economic order quantity is determined by a formula that shows the relationship between costs of creating the stock, or the orders, and the costs tied to the maintenance of the inventory:

$$EOQ = \sqrt{\frac{2 \times P \times K_t}{K_u}}$$

where:

- P – the demand for the material in a given period of time (year, month, week)
- K_t – the cost of creating a material stock converted on unit in this period of time (the cost of the contract per one order)
- K_u – the cost of maintenance of the unit of the materials in stock over a specified period of time.

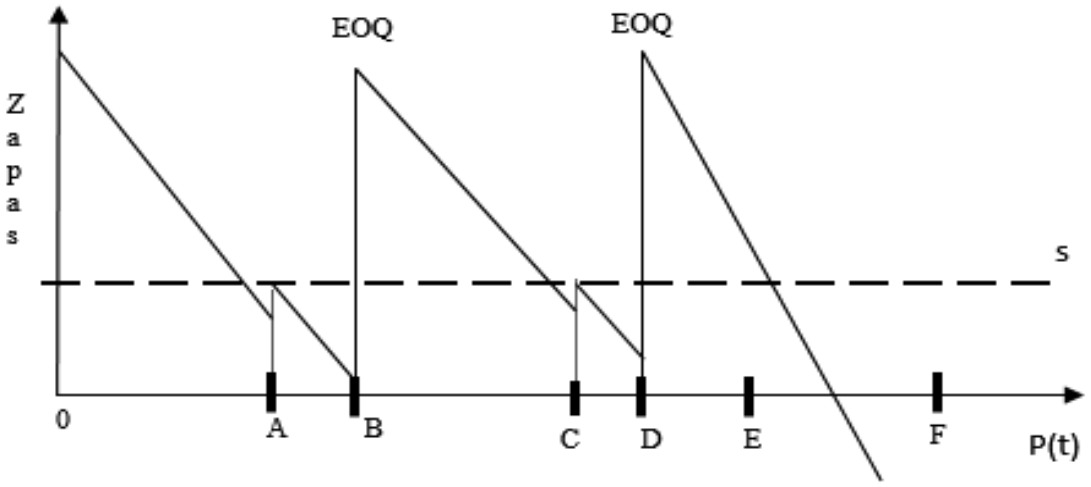
As the maintenance costs, we mean the costs incurred by the unit as a result of keeping stocks. These costs consist mainly of: the cost of lost opportunity in investing in stocks, increase in insurance costs, increase storage costs, increase in material costs as a result of inventory service and the cost of aging and spoilage of stocks. Order costs are a turn of all costs related to the preparation of the contract, obtaining supplies and debt repayment.

EOQ model based on the existence of two types of stocks: rotation and safety (buffer). During a standard production the first stock the one which is consumed.His exhaustion is a signal to place an order with the supplier on the quantity determined by this model[6]. The safety stock is consumed until the supply reached[7](figure 2).

[6] Wongmongkolrit S., Rassameethes B., *The Modification of EOQ Model under the Spare Parts Discrete Demand: A Case Study of Slow Moving Items,* Proceedings of the World Congress on Engineering and Computer Science 2011, Vol II WCECS 2011, October 19-21, San Francisco 2011, pp.1179-1184.

[7] Krawczyk S., *Zarządzanie procesami logistycznymi*, PWE, Warszawa 2001, pp. 64-68.

Figure 2: The control process of the material stock consumed in production



where:

- EOQ –economic order quantity
- P(t) – demand for material in a period of time
- s – safety stock (buffer)

Source: Own study

The image of the consumption of safety stock determined by the formula is in section A-B[8]:

$$s = y \times L + k \times \sigma \times \sqrt{L},$$

s – safety stock
y –the average level of demand in the given period
L –the average time of delivery
k –coefficient level of service level
σ –average forecasting error

Characteristics of the research subject – Bahlsen Poland Company

The Bahlsen company is an international family company committed to the food industry. The Bahlsen produces biscuits only. The products of the Bahlsen are exported to over 80 countries around the world. The polish branch of this company was founded in 1993 in Skawina. The Bahlsen is covered by a special economic zone, because of the use of innovative technological solutions. Later a co-packing plant was also opened in Jawornik in 2003. The Bahlsen Poland is the second most important manufacturer of biscuits. It is the fastest growing manufacturer in the industry. Its core brands are HIT, Krakuskiand Leibniz. It is important to specify that the sweets market is divided into several segments: biscuits, chocolate bars, pralines, candy, candy bars, and other.

Integrated Material Management Department is responsible for ensuring the availability of goods in the Bahlsen Poland located in the Supply Chain structures. Its main task is to provide the highest

[8] Sarjusz-Wolski Z., *Sterowanie zapasami w przedsiębiorstwie*, PWE, Warszawa 2000, pp. 97-139.

service level at the optimal cost of production and storage. On the other hand in other companies operating in similar markets, with a similar specificities one of the basic problems in supply chain management is piling up of stocks, that causes a freezing of a large capital in inventory. This is due to the specificity of the food industry: custom packaging, seasonality of many articles, rapidly changing tastes of consumer, large fluctuations in demand and sudden promotional campaigns.

All these factors lead to the fact that managing of the packaging and raw materials in a way that the level at which they are held allowto secure the manufacturing while minimizing the quantity is very difficult.It should be noted that the high seasonality of production and a significant change in demand also affected the growth of the load from a supplier. It cause that a lead time for deliveries of orders are often extended. An additional group of factors which are very important from the point of view of stock is influenced by suppliers.They include: minimum production lots, the necessity of pooling supplies in order to make full use of the mean of transport, specified times of free storage at the supplier, after which the material must be delivered to the dispatch establishment order, often a long *lead time*,so the time between the order and the delivery to the plant, expiration date / use, after which the material cannot be used and custom-sized pallets or very large quantities on a single pallet.

In such circumstances it becomes very important to find a „golden mean" between the cost of maintenance and the continuity of production. Here the EOQ model allows with the calculation of the size of the order allowing to the optimizationof storage costs.

Use of the EOQ model at the Bahlsen Poland

Analysis of the economic order quantity is carried out in the Bahlsen Poland every 3 years along with the ongoing projects focusing on optimizing inventory levels of packaging materials. This frequency is dictated by the strict specificity of the analysis itself. Because of its limitations it seeks to draw attention to the costs that generates inventory, as well as a base for negotiations with new suppliers. At the beginning we will know what we are interested in.On the other handthe suppliers that want to appear on the list of permanent suppliers are willing to make greater concessions.

The first stage of accession to calculate the EOQ is defining the materials which will be analyzed. At the beginning it is necessary to take care of one group of materials only.This is because different materials can generate, various maintenance costs on the one hand, andvarious costs of the order on the other.

When You select a group of materials, the next step is to gather the necessary informations such as: the unit price, the level of demand in a given period, the current size of the order, the cost of the order and the costs of maintaining inventory. At this stage it is important to define the appropriatecosts, which affect the size of the order.They decide about the final outcome of the whole analysis. The omission of any costs will result in overestimation or underestimation of the results. The Best solution is to talk to the Merchant, Finance Director, Warehouse Manager because these people are mainly oriented to the costs that the company bears from the inventory. Only by having such comprehensive information we can proceed to calculate the economic order quantity (table 1).

Furthermore it is needed to compare total costs, that is to say the costs of maintenance and ordering for the situation before optimization (table 2) and after introduced EOQ model (table 3).

Table 1: A fragment of the table reduction in size of the order

Materialnumber	Price [1 m] PLN	The annual demand (P) [m]	Order quantity (Q) [m]	Unit cost of the order (K_z)	The cost of maintenance at 1 m (K_u)	EOQ	Reduction of the size order [%]
1	0,21	186 339	40 096	1	0,01	5 955,96	85%
2	0,19	128 366	53 864	1	0,01	5 197,74	90%
3	0,21	93 983	27 600	1	0,01	4 192,29	85%
4	0,25	61 042	16 950	1	0,01	3 144,60	81%
5	0,25	140 037	31 288	1	0,01	4 704,66	85%
6	0,29	133 185	32 460	1	0,01	4 295,99	87%
7	0,22	823 118	47 611	1	0,01	12 093,03	75%
8	0,37	417 562	24 931	1	0,02	6 719,92	73%
9	0,29	64 519	29 700	1	0,01	2 996,13	90%
10	0,41	85 216	29 877	1	0,02	2 890,06	90%
11	0,29	57 647	30 760	1	0,01	2 809,42	91%
12	0,38	145 230	35 442	1	0,02	3 904,46	89%
13	0,27	100 827	35 467	1	0,01	3 849,31	89%
14	0,29	363 740	30 667	1	0,01	7 093,53	77%
15	0,22	266 181	27 380	1	0,01	6 990,98	74%
.							
56	0,20	563 538	30 000	1	0,01	10 598,73	65%

Source: own study based on a data from the Bahlsen Poland

Table 2: A fragment of the table *Total cost* for the order quantity in the Bahlsen Poland

Materialnumber	Order quantity (Q) [m]	The total cost of the order (OC)	The cost of maintenance (CC)	TC [PLN]
1	40 096	4,65	210,62	215,27
2	53 864	2,38	255,93	258,31
3	27 600	3,41	147,59	150,99
4	16 950	3,60	104,63	108,23
5	31 288	4,48	197,95	202,43
6	32 460	4,10	234,25	238,35
7	47 611	17,29	267,98	285,27
8	24 931	16,75	230,53	247,28
9	29 700	2,17	213,46	215,64
10	29 877	2,85	304,82	307,67
11	30 760	1,87	224,66	226,54
12	35 442	4,10	337,64	341,74
13	35 467	2,84	241,34	244,18
14	30 667	11,86	221,68	233,54
15	27 380	9,72	149,12	158,84
….	…	…	…	...
56	30 000	18,78	150,50	169,28
TOTAL:				**12 718,52**

Source: own study based on a data from the Bahlsen Poland

Table 3: A fragment of the table*Total cost* for EOQ inthe Bahlsen Poland

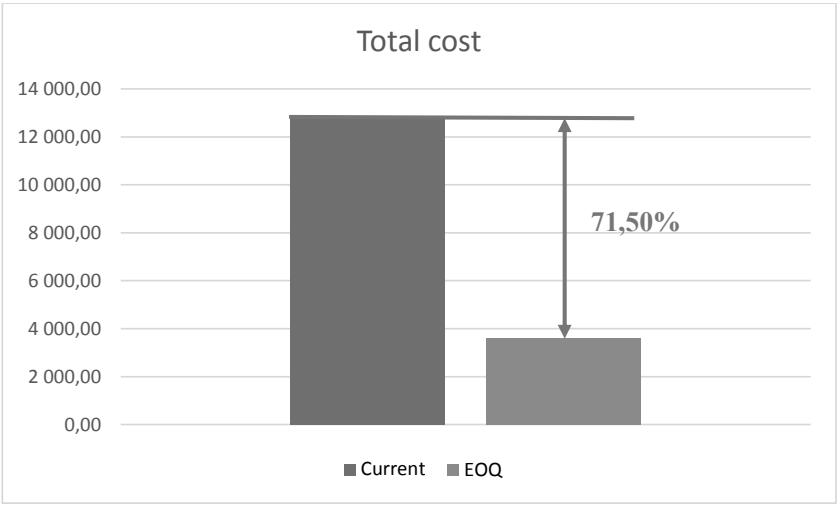
Materialnumber	Order quantity (Q) [m]	The total cost of the order (OC)	The cost of maintenance (CC)	TC [PLN]
1	5 956	31,29	31,71	63,00
2	5 198	24,70	25,15	49,84
3	4 192	22,42	22,84	45,26
4	3 145	19,41	19,82	39,23
5	4 705	29,77	30,19	59,96
6	4 296	31,00	31,44	62,44
7	12 093	68,07	68,44	136,50
8	6 720	62,14	62,50	124,64
9	2 996	21,53	21,98	43,52
10	2 890	29,49	29,94	59,42
11	2 809	20,52	20,97	41,49
12	3 904	37,20	37,64	74,84
13	3 849	26,19	26,64	52,83
14	7 094	51,28	51,66	102,94
15	6 991	38,07	38,45	76,52
.	…	…	…	…
56	10 599	53,17	53,49	106,66
TOTAL:				**3 625,06**

Source: own study based on a data from the Bahlsen Poland

In the EOQ model the foil was taken into account because of: the relatively high value, custom pallets, large quantities on a single pallet, short term of a free storage at the supplier, lack of space in the warehouse and a lot of new products.

Using the EOQ model allowed us to estimate a large reduction in the order size, approximately about 85%. This leads to a significant reduction in the level of stock in warehouse. In addition this model allows to estimate the total cost of 9 903,47 PLN (about 71,50%) (graph 1).

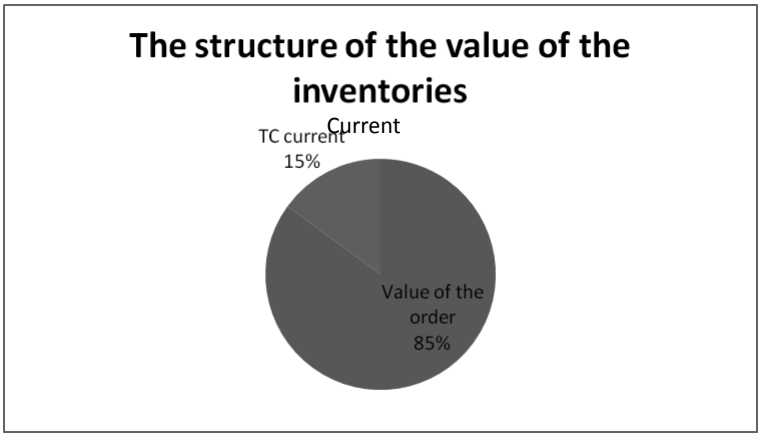
Graph 1: Percentage change in *total cost*



Source: own study based on a data from the Bahlsen Poland

Graph 2 shows the structure of the value of the stock so the ratio between the amount indicated on the order understood as what we pay supplier and the cost of maintenance of the material on the stock, which account for about 15% of the total cost of the order.

Graph 2: The structure of the value of the inventories



Source: own study based on a data from the Bahlsen Poland

In practice, the calculation above is not sufficient because providers usually apply discounts for ordering larger quantities.In the case of packaging foil ordering, using EOQ model involves the preparation of smaller pallets by the supplier, so he will need more pallets in the warehouse for storage. Moreoversmaller individual orders lead to the fact that suppliers will be forced to keep higher stock from the contract throughout the storage period. In addition, smaller quantities on a pallet are associated with a higher cost of a delivery falling on one pallet.Therefore, it becomes necessary to compare total costs (TC) for the whole price offer tied to ordered quantities. Only after verification of unit prices for EOQ it is possible to make a business decision about a possible reduction in the size of the order.

It is said that stocks are a waste which should be optimized.Supply Chains must often face with the problem of estimating how much it can be really gained from the optimization of inventory level. The analysis of EOQ gave a tool to argue the merits of inventory reduction, but also showed where the border is. This, when exceeded, will higher costs in another area of the company.

Conclusion

There are many models of management of inventory, but EOQ stands out on their background because of the possibility of mathematical calculation of the amount that should be ordered.In addition it allows to calculate the whole costs associated with the stock.In a real way it shows a profitability flowing from the optimization of the order quantity without having to deploy complex systems.Therefore, it is a system that allows to objectively assess the current situation and determine a direction for further action.

The EOQ model presented in the article and its use in the Bahlsen Poland Company allowed us to estimate the quantity of a particular material which should be ordered to minimize any costs associated with operating the store and the freezing of capital.It is essentials to have reliable data on the costs of creating and maintaining inventories.However, the disadvantage of this model is assumption of linearity consumption.The next case is associated with a big fluctuation of demand could cause that the safety stock which should be kept would be very large.Another problem with the calculation of economic order quantity is to determine the costs that generates a single order, especially if the supplier provides us several different materials in a single delivery.It is necessary to consider that by reducing the quantity ordered we generate higher transport costs because the truck that will caring the goodsmight be incomplete. Suppliers very often do not agree on such loss. That is why they offer a lower price when you buy a larger quantity which additionally should be taken into account making business decisions regarding the ordered quantity from the supplier.You may find it more profitable for the company to purchase in accordance to rebate offer from a supplier than by the calculated EOQ. Another obstacle for reducing the quantity order are minimal production lots of suppliers.He simple may not be able to perform for us a smaller batch.

The model of economic order quantity should be used with extreme caution in industries characterized by large fluctuations in demand. Accordingly, to optimize the ordered quantity should be first of all based on sales plans, which should be characterized by high precision. Only then safety Stock, which would be kept not lead to an excessive increase in the level of inventories.

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Agata Sierpińska-Sawicz
Poznań University of Economics, Poland

CONTROLLER'S PROFILE AND RESPONSIBILITIES IN THE COMPANY

Summary

The paper presents the controller's profile and responsibilities, his competence requirements and personality traits. The controller serves as a business advisor to the Board of Directors and head of the controlling function. His main responsibility is to develop strategic and operational plans, budget cost, revenues and result for short-term periods, monitor deviations from the budget or plan and explain the reasons for these departures. All of these allow for more accurate control of companies' financial results. The controller must work closely with other functions. At the same time, he must be neutral in relation to the work of other departments.

* * *

Introduction

In the most general terms, controlling is a management system aimed at achieving corporate objectives. Their scope may be very wide. The primary goal of companies is to maintain short-term liquidity and ensure reasonable financial performance. In the long run, however, companies aim to create shareholder value, while being mindful of the need to balance the objectives of all stakeholders.

Controlling is to prepare and subsequently equip corporate management with methods, techniques, instruments, models, diagrams and intelligence feeding into the planning and monitoring of processes of plan implementation and co-ordination of real social and economic processes within individual functions of the company[1]. The efficient functioning of the controlling system involves the possession of information gleaned from different areas. This will allow the use of new solutions to improve the company's efficiency by making better use of production factors and labour. The controlling system affords a very important role to the position of the controller. His role in the company amounts to the implementation and supervision of the entire controlling system.

The controller has a large range of duties. His position is underpinned by a lot of responsibility and independence. Hence the controller should have specific qualities and skills: he should be communicative,

[1] S. Marciniak, *Controlling. Teoria, zastosowanie*. Wydawnictwo Difin, Warszawa 2008, p. 23

able to easily establish contacts and constantly broaden his knowledge. Moreover, he must be creative and have that intuition which is essential in identifying the root causes of deviations from the budget.

The paper aims to show the controller's role and profile and his place in the organisational structure of the company, which, in turn, conditions effective implementation of his tasks. The author has studied existing literature to determine whether the controller's job descriptions are differentiated according to controlling solutions deployed in companies.

Controller's competence and profile in the company

The controller plays a special role in the controlling system. The German Controller Association defines the controller as a person who provides economic consulting services to corporate management, ensures transparency of costs, results and strategies, coordinates goals and business plans, arranges reporting allowing management and control of the entire company, and who by using his methodology takes care of increases in efficiency across the company, viewed as a system of regulations[2].

Practice reveals the existence of various types of the controller profile. For the controller to be able to fulfil his function in the best manner possible, it is important that his position be placed at the highest level of corporate hierarchy because the effectiveness of his work is proportional to the position he occupies in the hierarchy. Placing him at the highest level of management hierarchy ensures that the entire management process will be coordinated, supervised and synchronised across different areas. This senior position is a place where goals are set for the entire company and where they are translated into specific tasks, while strengthening their effectiveness.

The controller person has seen several attempts at a graphic presentation of his role and responsibilities in the management hierarchy (Figure 1). In existing literature, the best known and widespread representation involves the figure of a navigator who attends to the task of ensuring that the ship does not drift off course and go astray. The controller's task is to find ways to achieve a guiding purpose by comparing objectives and tasks to the actual status. A search for the course requires that action programmes be developed that will be communicated to decision-makers.[3]

Within the cyber system of the company, the captain can be likened to the company's CEO, who sets out the objectives in the form of the planned values. On the ship, i.e. in the company, the controller is to act as navigator comparing assumptions with the actual status and is to look for ways leading to the achievement of objectives. The search for ways requires the development of action programmes or ways to achieve the objectives. The controller's task within the cyber system is thus to pass on to decision-makers the information obtained by comparing assumptions with the actual status and to give advice on how to achieve the planned goals.

Acting as a helmsmen, executives try to stay the course, i.e. to achieve a set goal. In the case of deviations, the course must be corrected. Deviations are disclosed by comparing actual values with planned ones. For the controller, deviations sound a warning and whenever they manifest themselves, he must take care to explain the causes and take adequate steps.

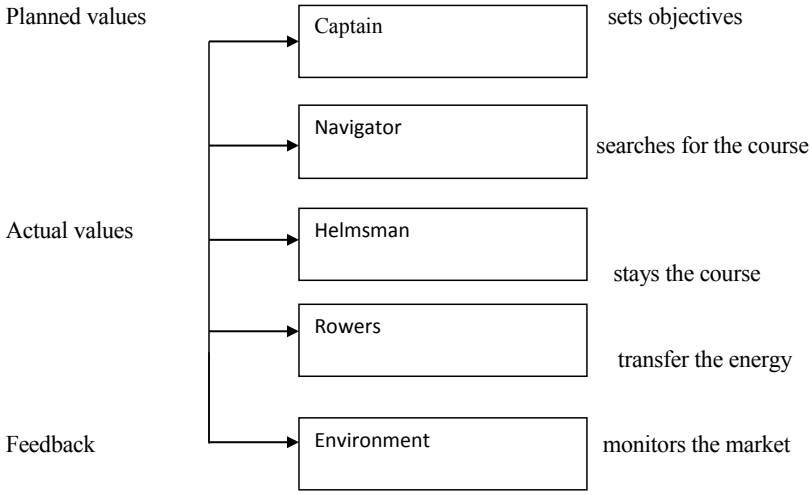
Within the company, tasks are performed by the workers, whom Vollmouth called 'the rowers'. The result of their work is transmitted to the environment. There must however be a feedback mechanism operating on an ongoing basis, because the company's market environment does not always develop as planned. This will allow to flexibly manage the company. In the case of deviations from planned

[2] M. Sierpińska, B. Niedbała, „Controlling operacyjny w przedsiębiorstwie", Wydawnictwo Naukowe PWN, Warszawa 2003, p. 36.

[3] Ibidem, pp. 39-40.

objectives, the necessary information is passed on to the navigator and helmsman. Once the appropriate adjustments to the programme have been made, you will still achieve the objectives[4].

Figure 1: Controller as a navigator in the cyber system of the company



Source: H.J Vollmouth, „Controlling, planowanie, kontrola, kierowanie", Agencja Wydawnicza „Placet" Warszawa 2007, p.21

Another way to portray the controller is to present him as a royal jester. Although rather peculiar, this comparison is not without its merit. The jester must tell the king (the Board) even the worst truth, dressed in an appropriate metaphor (transparent information). It is not surprising that this representation was controversial, which has given rise to a third trend – this time the controller has been compared to the priest of the parish, who is primarily to take care that the company stays the course leading to the attainment of predefined objectives.

Comparing the controller to the priest, J. Weber found common features of the two, namely[5]:

- taking care of eternal life, one – of the flock, and the other – of the company,
- possession of personality traits that allow the pursuit of the profession,
- in both cases they help make decisions,
- their work is based on trust,
- they are subject to a process of institutionalisation.

Controller functions in business management change over time. The change reflects shifts in the environment. Surrounded by a stable environment, the controller becomes a data logger of past economic processes that subsequently serve him to build plans for the future and control their implementation. In a temperate environment, the controller is the navigator and his job is to find the best way to achieve the objective. In a turbulent environment, the controller is an innovator. He participates in management in order to accelerate response to change in the environment. The innovator-controller must quickly understand the changes happening in the environment to be able to efficiently and effectively make the right decisions. The innovator should be particularly focused on the future and on dynamic innovation,

[4] H.J Vollmouth, *Controlling, planowanie, kontrola, kierowanie*, Agencja Wydawnicza „Placet" Warszawa 2003, p.21-22.
[5] J. Weber, *Controlling doświadczenia krajowe i zagraniczne*, PROFIT, Katowice 2002, p. 18

through which he positions the economic system of his company in relation to modern, better solutions[6]. In an extremely dynamic environment, the controller is the cost conscience of the company. [7]

The contemporary controller is seen as a business partner who is to search for ways aimed at achieving the goals set out in the company strategy. He is an advisor to the Board, and his main responsibility involves professional interpretation of the figures, relationships and business relationships. Within the company, he can act as[8]:

a) coordinator who reconciles activities, standardises and harmonises joint plans,
b) analyst who, after a thorough analysis of data with appropriate instruments, presents various proposals for solving the problem,
c) initiator, a competent counsellor, because he presents opinions on the individual measures,
d) innovator designing change and implementing projects in a number of areas of the company.

The effective operation of the controller should be underpinned by his independence and a comprehensive knowledge of business management, and the controller's activity should be geared to long-term business operation and skilful analysis of the causes and effects of events taking place in the organisation[9].

Existing literature reveals numerous different concepts related to requirements as to the controller's skills and education because in the company he can play the functions of the admin's "iron worker" responsible for the preparation of a large number of reports for the company's "éminence grise"[10]. Quoting E. Mayer, E. Janczyk-Strzała says that "a controller is or will be he that learns more than the others, sees the sequence of environmental impacts and focuses thinking and action on the future in order to effectively manage the company".[11]

At the turn of the twenty-first century, the most frequently identified challenges facing controllers included a thorough knowledge of management and financial accounting issues and techniques of recording economic events. In the current situation, these skills are a bare minimum, almost like command of the English language. Increasingly, attention is drawn to the interdependence between the company's financial area and other areas of its business. What does this mean from the point of view of an efficient controlling system? This demonstrates the need for controllers to engage in understanding issues of marketing, sales, operations, etc. The evolution of controlling systems leads now to a strengthening of the position of the controller as an internal adviser. Increasingly, more emphasis is placed on the following characteristics of employees working in management support units: analytical thinking skills and data analysis, empathy, assertiveness and strong interpersonal skills. Such stringent requirements imply that good controllers are usually specialists with many years of experience who are held in high esteem by other employees.[12]

Requirements facing the controller can generally be classified in two groups (Figure 2). The first refers to personality traits, and the other to occupational training.

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[6] A. Skowronek –Mielczarek, Z. Leszczyński, *Controlling analiza i monitoring w zarządzaniu przedsiębiorstwem*, Centrum Doradztwa i Informacji Difin, Warszawa 2007, p. 64-65.

[7] M.Sierpińska, B.Niedbała , *Controlling operacyjny w przedsiębiorstwie,* WN PWN, Warszawa 2004, p. 42.

[8] A. O. Surmacz, M. Brojak- Trzaskowska, M. Porada- Rochoń, J. Lubomska-Kalisz, *Budżetowanie i controlling w przedsiębiorstwie*, Wydawnictwo CeDeWu, Warszawa 2010, p. 94

[9] *Controlling funkcyjny w przedsiębiorstwie,* (red.) M. Sierpińska, Oficyna Ekonomiczna, Kraków 2004, pp. 189-190.

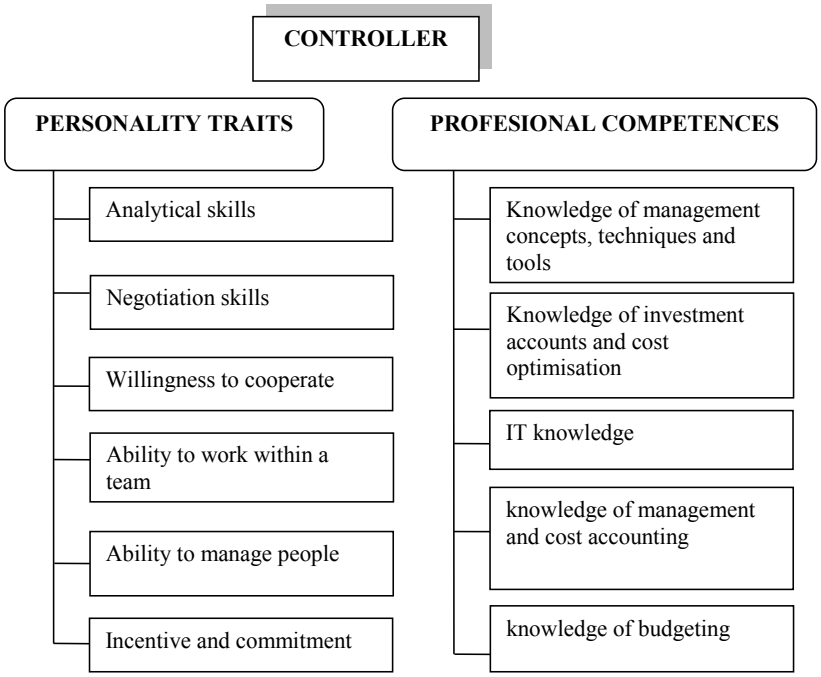
[10] *Controlling w przedsiębiorstwie, Koncepcje i instrumenty*, (red.) E. Nowak, ODDK, Gdańsk 2003, p. 41

[11] E. Janczyk-Strzała, *Controlling w przedsiębiorstwach produkcyjnych,* Wydawnictwo CeDeWu, Warszawa 2008, p. 4

[12] Szarska E., Wymagania wobec profesjonalistów controllingu, Controlling i Rachunkowość Zarządcza, 2007, nr 4, pp.40-41.

UK's CIMA divides these requirements into "hard" and "soft" skills. Controlling specialists' hard skills include[13]:
a) good command of English,
b) university degree in economics,
c) knowledge of business processes (sales, production, services)
d) knowledge of financial accounting and management accounting,
e) advanced knowledge of IT tools of controlling,
f) knowledge of information systems in the field of quality of the information stored in these systems,

Figure 2: Controller's traits and competences



Source: Author's own work based on A.O. Surmacz, M. Brojak- Trzaskowska, M. Porada- Rochoń, J. Lubomska-Kalisz, *Budżetowanie i controlling w przedsiębiorstwie*, Wydawnictwo CeDeWu, Warszawa 2010, p. 94

Practitioners of controlling possess the following soft skills:
a) analytical skills and capacity for abstract thinking,
b) persuasion skills,
c) presentation and project work skills,
d) communicative skills and ease of networking,
e) assertiveness,
f) ability to work within a team environment,
g) leadership and organisational skills.

[13] E. Szarska, *Wymagania wobec profesjonalistów controllingu, "*Controlling i Rachunkowość Zarządcza", 2007, nr 4, p. 40 - 41

The hard dimension of a controller's work, i.e. his knowledge of economics and ability to present the business activity in figures corresponds to the concept of efficient management (doing things right). On the other hand, the soft dimension corresponds to the concept of effective management (doing right things).

In addition to the aforementioned features, the controller should possess:
- ability of systemic thinking and interest in the detail because these often allow you to explain the real causes of deviations,
- ability to analyse the business environment,
- knowledge of communication techniques,
- ability to distinguish between the different levels of problem gravity,
- ability to visualise problems.

The controller should know and well understand the nature of his company's business operations to be able to prepare a useful report. He should know the general cause-effect relationships in the area of the technical economic activity and the ways of working prevalent in the company's different departments. Knowledge of specifics will facilitate subsequent identification of important information useful in the interpretation of whether a given deviation from the cost budget is a one-off or a recurrent deviation or whether it results from incorrect data.

In its analyses, future-oriented controlling uses only that information from the past that has an impact on the future. Furnishing ready-made statements, the controller relieves the Board of Directors and senior management, affording them time to choose strategic solutions. He should submit reports that do not induce recipient's feelings of guilt arising in connection with the deviations. He should analyse the cause of deviations and reflect on the possibility of eliminating them in the future. The controller is expected to exhibit psychological empathy and be geared to react to individual reactions of the recipients of reports on budget execution. The controller must have a strong position in the company so that once the causes of deviations from the budget have been identified, he can react and affect the pace of decision-making by managers in responsibility centres. If his position is weak, managers will react more slowly to deviations from budgets and take longer to make corrective decisions. The controller can enjoy long-term success only if he has the full support of the company's management.

Controller's responsibilities in the company

Within a controlling system, the controller's tasks are defined in different ways. The controller acts as the organisation's economic adviser. He is appointed to search for ways leading to the objectives set out in the company's strategy. He coordinates the implementation of objectives and plans and ensures adequate instruments supporting the monitoring and control in the process of their achievement. His main task involves professional interpretation of data, relations and cause-effect relationships between economic phenomena. Controller's responsibilities have evolved over the years. According to S. Olech, the controller used to be treated as: [14]
- executive assistant who creates and collects the information necessary for the manager, translates management problems into numbers, compiles and presents them,
- sparring partner who discusses with the manager various considerations and alternatives, highlighting their side effects in the longer term,
- physician specialist who formulates a problem, offers solution and bears responsibility for this, with the last word resting with the manager,
- facilitator who controls processes, coordinates the work of professionals working on solutions to a problem and acts as a project manager and enquirer asking stimulating questions.

[14] S. Olech, *Tendencje rozwojowe controllingu*, „Controlling i Rachunkowość Zarządcza w Firmie" 1999, nr 2.

According to the German Controller Association, the controller ensures transparency of costs, performance and strategy, coordinates the company's goals and partial plans, organises reporting allowing management and control of the entire company and, thanks to his methodology, cares for increases in efficiency across the company treated as a coherent system. A US controller plays a slightly different role from that of the German controller. He heads the accounting and financial department and takes decisions from that angle. In Poland, the controller person has a similar function as in Germany. He is a preparer rather than a taker of management decisions. [15]

The main task of the controller is to ensure access to information needed to make well-informed and economically reasonable decisions and to assist persons in charge of the entire management cycle (starting from planning, through organising, motivating, to control). The controller's role is to provide advice in the decision-making process, cooperate in determining information needs and sourcing out that information, define indicators relevant to the information needs, manage the work on analyses of the environment or industry. Therefore, he should focus on limitations and barriers that hinder the pursuit of these tasks. The controller must continually analyse different options to eliminate bottlenecks, i.e. those functional areas that hinder the objectives of the company. He can give advice during the planning stage, during inspections, as well as conduct research on new products, analyse the balance sheet, the company's and competitors' strengths and weaknesses[16]. Acting as an advisor to the Board, the controller must assess the directions of the company's development and timely respond to the need for change.

There are two concepts of the role of the controller: German and American. The German model includes management accounting, planning and processing of information. By contrast, the American model includes financial and business accounting, planning, organisation and information. A detailed set of tasks under the German concept was developed by H. Vollmuth. According to him, the controller's duties and responsibilities include[17]:

- introduction and deployment of a planning, monitoring and control system subordinated to the needs of performances,
- coordination and expansion of operational and strategic planning,
- setting corporate goals in cooperation with the management and employees in managerial positions,
- practising control together with managers,
- creating comparisons between planned and actual values for those who are responsible for the different responsibility centres,
- analysis of deviations in order to detect the causes,
- conducting control in the company together with managers,
- introduction of corrective actions,
- eliminating company's weaknesses together with management,
- acquiring, developing, summarising and presenting external and internal data to facilitate the making of the most accurate decisions,
- introduction of a reliable calculation of costs and profits,
- inclusion of coverage mark-up,
- development of a reporting system tailored to the audience,
- checking and improving the structure of management organisation,
- use of the collaborative management style,
- introduction of management tools,

[15] M.Sierpińska, B.Niedbała ,*Controlling operacyjny w przedsiębiorstwie*, WN PWN Warszawa 2004, p. 36

[16] *Controlling w pytaniach i odpowiedziach. Praktyczne narzędzia dla controllera*,(red.)S. Woźniak , INFOR, Warszawa 2007, p. 41

[17] http://controlling.info.pl/artykuly/controller-rola-i-zadania,14.html (accessed on 15.11.2015)

• initiation and constant application of continuous training within the company,
• introduction in all sectors of accountable thinking serving the needs of profitability,
• conducting specialised studies, e.g. buy-produce analysis, analysis of the company's potential, etc.

To perform these tasks, it is necessary to control on an on-going basis the flow of information in the company in order to avoid errors. The controller's task is to draw up a comparative analysis of the plan and actual performance and to look for the causes of deviations occurring both now and likely to occur in the future.

The controller's position in this area will depend on the competence of the managers of responsibility centres. Once limits of tolerance for deviations from budgets without consequences for the bonuses afforded on task completion are set for them, the controller will work with these managers, advise them and take decisions concerning projects implemented in the area affecting the potential bonuses for managers of responsibility centres. Within the limits of tolerance for deviations, the controller will work with the manager of a given responsibility centre without a need to report deviations to the Board. Once the limits of tolerance are exceeded, the controller will report to the Board on the scale of deviations and on their causes. This is important from the point of view of the implementation of the company's plan and especially from the point of view of sources of investment financing. If the target financial result which was to be used to finance development projects is not achieved, the company must turn to other available sources of financing. The lack of such options will extend the timeframe for the investment and reduce the project's rate of return. This, in turn, may adversely affect the value of shareholder value.

Analysis of deviations from the budgets of responsibility centres and burden apportioning the blame for these deviations to managers of these centres can lead to conflicts which will hinder the cooperation between the centres and the controller. It is the controller who must be responsible for skilful resolution of conflicts and persuading the centres to implement projects to achieve the company's objectives rather than merely such implementation of the tasks allocated to the centres that have an impact on the level of bonuses. Sometimes, what is good for the company adversely affects the level of a centre's performance. This leads to the so-called sub-optimisation, whose effects must be alleviated by the controller. Such developments are of a short duration. Hence, for the purpose of bonus awards some companies adopt the so-called measures of solidarity relating to the results of the whole company in addition to assessment measures of responsibility centres. The controller must have the skills needed to build a rational assessment systems to weigh up the performance of responsibility centres. An individualised approach to different managers taking into account their personal qualities will reconcile the interests of both parties[18].

The controller may decide on or propose that the decision-maker himself considers the advisability of establishing a new responsibility centre and cost centre or its very liquidation. This happens when[19]:

- the company is expanding,
- the complexity and uncertainty of the environment are increasing, and the company must respond to this complexity with flexibility,
- the company is choosing specialisation or diversification strategies,
- the company is adopting the so-called spin-off strategy aimed at preparing the company for restructuring, outsourcing or a merger,
- an IT system is being implemented that enforces the establishment of responsibility centres attuned to the specificity of the implemented application,

[18] M. Sierpińska, B. Niedbała, *Controlling operacyjny w przedsiębiorstwie*, WN PWN, Warszawa 2003, pp.36 - 37.
[19] D. Fijałkowska, *Strukturalna wielkowymiarowość centrów odpowiedzialności*, „Controlling i Rachunkowość Zarządcza", 2004, nr 1, p. 33.

- this is required by the implementation of a controlling concept relying on a decentralised management model through responsibility centres, or when it is reasonable to amalgamate several cost centres or split a hitherto cost centre into more. The establishment or disbanding of a responsibility centre at the stage of operational planning facilitates future cost control. The company has an adequate amount of time to adapt its cost accounting system to the new structure. These activities relate to the function of event forecasting, especially forecasting organisational change.

Table 1 shows the interdependencies of the controller and the manager relying on controller's advice.

Table 1: Division of responsibilities between the controller and the manager.

Controller	**Manager**
1. Coordinates basic planning and decision-making, manages budgeting. 2. Informs periodically about the size of and reasons for deviations from target. Informs about changes in company's external environment. 3. Gives business advice. 4. Implements business methods and instruments and agreed decisions. 5. Co-develops the company (e.g. as innovator). 6. He is a navigator and advisor to manger.	1. Determines the size of the budget, objectives and means of their implementation and makes decisions. 2. Deploys control measures in the event of deviations from target. 3. Acts and reacts to adjust objectives and measures to the changes in the company's external environment. 4. Seeks business advice. Determines requirements for control of the company in terms its goals 5. Manages, aiming to implement objectives, relying on planning and control. 6. Views the controller as an indispensable partner in the management process.

Source: R. Eschenbach, R. Niedermayer, Die Konzeption des Controlling. W Controlling, ed. R. Eschenbach, Schaffer – Poeschel Verlag, wyd. 2, Stuttgart 1996, p. 91., after: M. Sierpińska, B. Niedbała, *Controlling operacyjny w przedsiębiorstwie,* WN PWN, Warszawa 2004, p. 18.

What is worth noting is the evolution of the controller function accompanying the transition from the industrial era to the era of knowledge services. In the industrial era, enterprises were focused on mass markets, in which they placed their standardised products and services in stable highly developed markets. Inside the company, management was focused on optimising asset productivity and efficiency. The knowledge era is dominated by consumer attitudes, customer markets and adjusting the products and services portfolio to the needs of different markets. Managements put emphasis on the decentralisation of decision-making. In the new knowledge-based economy, the role of the controller shifts from that of a commentator explaining the divergence between the plan and the actual status to that of a business partner. In this function, the controller works as the Board's business consultant and integrator of management processes in the company. He supports business decisions and ensures the stability of the business providing a multi-dimensional and cross-sectional view of the business. In this new role, the controller actively manages value factors.

Cooperation between the controller and other organisational units of the company

The relationships between the controller and other organisational units of the company are close. In the case of taxation, it is the controller that analyses the tax laws that affect the purpose for which the controller is responsible. With regard to the planning department, the controller's role is to coordinate partial plans, and in the case of the organisation department, the controller's responsibility is to carry out any organisational changes. Working with the IT department, the controller uses data that are necessary to manage the company. In the case of the marketing function, he coordinates products' prices and quantities of sales[20].

Particular significance is attached to the controller's relationship with the heads of technical departments, who are mostly leaders of responsibility centres with accountability for costs or for cost coverage margins. The controller must develop and cultivate good relations with managers by[21]:
- providing them with economic expertise,
- explaining to the managers the impact of their activity on the performance of the entire company,
- advising managers on managing their working time.

Conclusion

Controlling must be regarded as a dynamic system requiring continuous improvement in order to best meet the information needs of the Board. The success of controlling depends on the controller person. Acting as the head of the controlling unit, the controller must constantly develop his skills and flexibly adjust the activity of the controlling unit to the needs of the Board. The controller's position in the company is affected by such factors as management style and organisation's culture, as well as the possibility of using information technology to support planning and control. In his capacity as the head of the controlling department, the controller determines the efficiency of the entire system.

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[20] E. Duda-Piechaczek , *Controlling. Wspieranie zarządzania przedsiębiorstwem*, Helion, Gliwice 2007, p. 38
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Giovanna Centorrino
University of Messina, Italy

TOWARDS THE FINAL VERSION OF REVENUE RECOGNITION. THE JOINT STANDARD FROM IASB AND FASB

Summary

It is known that revenue is typically the single largest item reported in a company's income statement. Thus, FASB and IASB have now decided to prepare a joint standard on revenue recognition.

The paper discusses the institution of the new standard on revenue recognition in the light of the notion of convergence as an important implication, and identifies an issue regarding the capability of such accounting procedures to reflect the complex nature of the revenue.

In this paper a historical background of the development of the project of convergence between FASB and IASB is presented; then, the main differences and similarities in U.S. GAAP and IAS are analyzed. Finally the paper investigates the new joint standard on revenue recognition also with regard of the recent Exposure Draft for public consultation[1] on the need for some changes in the standard itself given some difficulties it its application.

* * *

Introduction

The idea of harmonization of accounting standards first arose in 1950 after World War II, when the reduction of differences among accounting principles used in the major capital markets worldwide was

[1] "The IFRS Foundation has developed a very thorough *Due Process Handbook* for the IASB to follow in developing new and amended Standards. That handbook requires the IASB to operate in line with three main principles: transparency, full and fair consultation and accountability. Among the main provisions are that all Board papers are available from our website and all standard – setting meetings are held in public and can be observed through the Internet. The IASB welcomes comment letters from individualsas well as private and public bodies. Feedback receivedis weighted based on the merit of the ideas presented, rather than the perceived importance of the submitter",Hoogervorst H., Prada M., *Working in the Public Interest: The IFRS Foundation and the IASB,*14 September 2015 p. 11, web 15 September 2015.

seen as a process target. Since 1990, the notion has grown and has been replaced by the concept of convergence[2] that today constitutes one of the most ambitious and far reaching efforts in financial history.

It is known that the International Financial Reporting Standards (IFRS) Foundation, an independent, nonprofit private organization, through the International Accounting Standards Board (IASB), has developed a single set of international financial reporting standards[3] (IFRSs). The IFRS community continues to grow and become more complex due also to new aspects of financial reporting. Over time, the IASB has grown in importance and has, arguably, acquired the status of a private standard-setter whose activities are of primary interest for a global audience[4].Instead, the United States of Americafollows the generally accepted accounting principles (GAAP) and the Financial Accounting Standards Board (FASB). IASB standards are different from FASB standards, and,even if differences are inevitable and sometime appropriate, the use of two accounting systems is often expensive when investors are making financial decisions,andit creates difficulties and problems.

In the light of the above mentioned consideration,IFRS and GAAP took the decision to develop a single set of high-quality international accounting standards.

Historical background

The beginning of the process of the IASB and U.S. GAAP convergence can be traced back to 2000, when the use of international standards was in rapid growth, and the Financial Accounting Standards Board (FASB - the private sector accounting standard setter for the United States) and the IASB began to collaborate, formally.

The pursuing of convergence is seen by FASB as fully consistent with its own mission, which is to improve U.S. financial accounting for the benefit of present and future investors and other users of financial statements.

With regard to convergence, the two Boards (FASB and IASB), in consultation with other national and regional bodies, collaborated through joint projects to develop common standards and remove differences between International Standards and US GAAP, and their tactics to achieve this goal is described in two different documents: The Norwalk Agreement and the Memorandum of Understanding (MoU) originally issued in 2006 and updated in 2008 and 2010[5].

In September 2002, the FASB and the IASB announced plans to achieve convergence in a document called the 'Norwalk Agreement'. The proposal was that some detailed differences should be removed rapidly and,later, other differences gradually. However, the Memorandum of Understanding issued is considered the definitive step forward in the convergence process. The document identified the standard-setting projects that the Boards considered to be most in need of improvement in the near-term. The FASB and the IASB have recognized that their contribution to achieving the objectives regarding reconciliation requirements is in continued and measurable progress on the FASB-IASB convergence

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[2] "There exist several notions (or interpretations) of convergence in accounting standards. From a strict viewpoint, 'convergence' refers to the enforcement of a single set of accepted standards by several regulatory bodies, while a soft notion of 'convergence' refers to diminishing differences among accounting standards issued by several regulators". S. Carmona, M. Trombetta, The IASB and FASB convergence process and the need for 'concept-based' *Accounting teaching, Advances in Accounting, incorporating Advances in International Accounting* 26 (2010) p. 3.

[3] Choi F. D. S., Frost C. A., Meek G. K., *International accounting* (4th ed.), Upper Saddle River, New Jersey: Pearson Education Inc., 2002.

[4] Jorisen A., Lybaert N., Van De Poel K.,*Lobing Towards a Global Standard Setter- Do National Characteristics Matter? An analysis of the Comment Letters written to the IASB*, in G.N. Gregorious, G. Gaber, *International Accounting: Standards, Regulation, and financial Reporting*, Elsevier, Oxford. 2006

[5] BarthM.E., Landsman W. R., Lang M., Williams C.,*Are IFRS-based and US GAAP-based accounting amounts comparable?*, "Journal of Accounting and Economics", 2012, 54, p. 68–93.

program. Both boards have affirmed their commitment to making such progress. It includes topics that are deemed critical to convergence: business combinations, consolidation, fair value measurement guidance, liabilities and equity distinctions, performance reporting, post-retirement benefits (including pensions), derecognition, financial instruments, revenue recognition, intangible assets, and leases.

In February 2013, the IASB and FASB published a high-level update on the status and time of the remaining convergence projects. The remaining joint projects are: revenue recognition; financial instruments; leases and insurance.

Some differences and similarities in U.S. GAAP and IAS

There are numerous research studies on the main differences between IAS and U.S GAAP. However, it should be noted that the differences between U.S. GAAP and IFRS reflect the diversity between the two historical political, economic, social, legal and cultural rights general contexts. "*Understanding why there have been differences in financial reporting in the past, why they continue in the present, and will not disappear in the future, is one of the main themes of comparative international accounting*"[6].

Thus, the following brief comments should be considered in the light of these deep differences.

According to some authors, IASB and FASB employ different approaches in developing standards that could result in lack of comparability of accounting amounts others note that the standards appear more similar than different[7].

According to the U.S. Securities and Exchange Commission (SEC): "*Some of the differences—whether in terms of the amount of guidance provided or actual language used in a standard—may not have significant practical accounting implications or may affect some entities or industries but not result in differences in application for a larger subset of the population. Conversely, some of the differences may be of greater significance*"[8].

In addition, it is important to note that IAS and U.S. GAAP are very similar in the areas of conceptual framework; the FASB Statement of Financial Accounting Concepts (SFAC), i.e. the conceptual basis for the U.S., is very similar to the IAS Conceptual Framework. Moreover, the treatment of related party transactions, post balance sheet events, contingencies, and provisions, as well as the financial ratios used to analyze financial statements are similar in the IAS and U.S. GAAP.

Considerable debate exists regarding the issue of principle-based versus ruled- based standards. In particular, the IASB approach relies more on principles, whereas the FASB approach relies more on rules.Reliance on principles specifies broad requirements, but requires judgment in application. Reliance on rules specifies more requirements that leave less area for discretion. According to SEC, "IFRS contains broad principles to account for transactions across industries, with limited specific guidance and stated exceptions to the general guidance". U.S. GAAP provides more narrow or specific guidance for application, and also containsspecific requirements for the U.S. legal and regulatory environment, while the IFRS were not developed for any particular jurisdiction. To further clarify the rules-based standards (considered as the dominant approach of the FASB),U.S. GAAPtry to anticipate all or most of the applications issued and prescribe solutions (U.S. GAAP are contained in about 17,000 pages),while the principle-based standards (considered as the dominant approach of the IASB) are less prescriptive

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[6] Nobes C., Parker R., *Comparative International Accounting*, Tenth edition, Prentice Hall, Financial Times, 2008, p. 4.

[7] Akwasi A. Ampofo, Sellani R. J., *Examining the differences between United States Generally Accepted Accounting Principles (U.S. GAAP) and International Accounting Standards (IAS): implications for the harmonization of accounting standards,* Accounting Forum 29, 2005, p. 222.

[8] Work Plan for the Consideration of Incorporating International Financial Reporting Standards into the Financial Reporting System for U.S. Issuers *‚A Comparison of U.S. GAAP and IFRS. A Securities and Exchange Commission,* Staff Paper November 16, 2011, Office of the Chief Accountant United States Securities and Exchange Commission,pp. 8-9.

and based on a broad statement of objectives and principles to be followed (IFRS are contained in nearly 2,500 pages).

Nevertheless, in an interview,Wayne Upton, the Director of International Activities and Chairman of the IFRS Interpretations Committee at the IASB commented: "*I think the IASB is culturally different from the FASB, which stems from the IASB having more than 100 jurisdictions to consider while the FASB has only one. That means that we have to create a different dynamic. I think it's a mistake to characterize our standards at the IASB as principle based and the FASB standards as rule based. I didn't spend 17 years over there being unprincipled.I think there is a desire for IFRSs to be structured differently but I frankly view the differences as differences in degree and not differences in fundamentals. FASB standards, as I say, are, in the main, principle based"*[9].

Despite this, understanding the major differences is important to using financial statements in a global environment. The described differences in the two approaches are shown in Table 1.

Table 1: Comparison of Rules-based Standards and Principle–based Standards

Attribute	Rules- based Standards	Principles-based Standards
Conceptual framework	Less reliance	More reliance
Professional judgment	Less reliance	More reliance
Level of detailed guidance	More	Less
Amount of industry specific guidance	Extensive	Little

Source: Belverd E. Needles, Jr. Marian, 2011.

Among the previous observations, another important point to be considered is the difference of the accounting language between the two Standards. Accounting terminology used under U.S. GAAP and IAS are not always the same, though terms can be used interchangeably. Table 2 shows some differences in U.S. and IFRS vocabulary.

Table 2: Some differences in U.S. and IFRS Vocabulary

IFRS Vocabulary	U.S. GAAP Vocabulary
Profit and Loss Accounts	Income Statement
Debtors	Account Receivable
Creditors	Account Payable
Finance Lease	Capital Lease
Provision for bad debs	Allowance for uncollectible accounts
Stock	Inventory
Ordinary Shares	Common Stock
Cash Flow Statement	Statement of Cash Flows
Debtors Circularization	Accounts Receivable Confirmation

Source: Ampofo, Sellani 2005.

[9] *Perspectives on interpretations and application, - an interview with Wayne Upton*, 13 December 2011, www. ifrs.org.

Convergence efforts have focused on coordinating standard setting and reducing differences in accounting standards.

Revenue recognition: The joint Standard

Revenue is typically the single largest item reported in a company's income statement. Russell G. Golden, Chairman of the FASB said:

"*Effective implementation of the revenue recognition standard is critical to its success in providing financial statement users with the information they need to make the right decisions about how to allocate their capital. The Boards are committed to ensuring a smooth transition to the new standard, and the transition resource group is an important tool for determining any areas that will need additional guidance before the standard becomes effective in 2017."*

Hans Hoogervorst, Chairman of the IASB further commented:

"*Revenue is a key performance indicator and is important to every business. Our joint transition group will help to ensure that stakeholders are reading the words in the new revenue standard in the way that we intend that they be read*."[10]

As with bottom line income, top-line revenue is significant not simply in monetary expressions, but also in the weight and meaning that investors place on it in making investment decisions. Trends and growth in a company's revenue are indicators of the company's past performance and future prospects[11]. The fundamental revenue recognition concept is that revenues should not be recognized by a company until realized or realizable and earned by the company. Thus, one of the critical issues of revenue concerns the appropriate moment in the sales cycle when revenue should be recognized. However, the timing of revenue recognition is problematic due to the complexity and diversity of the underlying revenue-generating transactions.

In the light of the earlier consideration, revenue recognition has been one of the most important issues confronting standard setters and accountants recently, and also one that holds greater difficulties both in its application and preparation.

The revenue recognition project was a joint project between the FASB and IASB. Nonetheless, it was developed by the two Boards separately in order to finalize the standard. Although the analysis of each Board's respective due process was carried out separately, the final standard was a joint standard and the Boards were asked to approve, substantially,the same Standard for publication, at the same time.

In IFRS, the new standard should replace IAS 11 *Construction Contracts* and IAS 18 *Revenue* and the related Interpretations on Revenue Recognition.

In the U.S. GAAP guidance, it should supersede most of the revenue recognition requirements in Topic 605 and related guidance (FASB).

The revenue recognition standard was subjected to a long, comprehensive process to ensure that the IASB and the FASB issued a relevant and workable standard. In December 2008, the IASB published Discussion Paper: *Preliminary Views on Revenue Recognition in Contracts with Customers*. It explained the boards' first views on revenue, and some of the principles proposed as the basis of a future standard. After evaluating feedback received on the discussion paper, the boards developed those principles into a draft standard. In June 2010, IASB and FASB published an Exposure Draft (ED) *Revenue from Contracts*

[10] *FASB and IASB to form joint transition resource group for revenue recognition*, 26 July 2013, www.ifrs.com.

[11] Zhang Y., *Revenue recognition timing and attributes of reported revenue: The case of software industry's adoption of SOP 91-1*, Journal of Accounting and Economics 39, 2005, pp. 535–561. Turner L.E., *Revenue recognition. Remarks by Chief Accountant of SEC, delivered at the USC SEC and Financial Reporting Institute*, Los Angeles, CA, May 31, 2001; available at http://www.sec.gov/news/speech/spch495.htm.

with Customers, in consultation until 22 October 2010. After reviewing various aspect of the proposed ED, on the basis of the received comment letters, the boards decided to re-elaborate the proposals due to the importance to all involved in the financial reporting of revenue and the desire to avoid unintended consequences of the final standard. As a result, the Boards published the revised Exposure Draft Revenue from Contracts with Customers in November 2011 ("the 2011 ED"). After the received comments[12], there was a very wide, complex activity of revision, along with meetings and discussions with various users of financial statements, including buy-side and sell-side analysts. The paper was then reviewed and proposed to the Board in July 2013.

The standard aims to identify a single set of revenue recognition principles for every type of industry, and to develop a logic of recognition of revenue founded on changes in assets and liabilities recognized in financial statements that can remove the inconsistencies and weaknesses in existing standards, in both US GAAP and IFRSs. They aim to do this by simplifying the preparation of financial statements reducing the number of requirements to which preparers must refer. For example, the revenue requirements in IAS 18 *Revenue* and IAS 11 *Construction Contracts* contain limited guidance on some topics, such as multiple-element arrangements, making the requirements difficult to apply to complex transactions. Moreover, the staff of the IFRS foundation is aware of inconsistencies in the application of IFRIC 15 *Agreements for the Construction of Real Estate*due to the difficulty in determining when control of a good transfers over time. In contrast, US GAAP includes numerous and industry-specific requirements that often result in economically similar transactions being accounted for differently. The project also aims to improve disclosure requirements to make it easier for users to understand how an entity generates revenue and to compare revenue between entities. Users of financial statements commented that, given the importance of revenue, improvements to existing disclosure requirements are of critical importance as existing disclosure requirements are generally inadequate. The necessary steps to complete the joint standard have been taken so as to be in a position to finalize the proposal new standard.At the end of May 2014, the IASB and FASB issued the Standard *Revenue from Contracts with Customers* (IFRS 15 for IASB and Topic 606 for FASB), a single comprehensive framework for revenue recognition. The effective date for IFRS 15 was for annual reporting periods beginning on or after January 1, 2017, whereas Topic 606 had an effective date for public entities for annual reporting periods beginning after December 15, 2016.

It will be applied across transactions, industries and capital markets, and will improve comparability in the "top line" of the financial statements of companies, globally.As described, disclosure requirements in previous IFRS and US GAAP often resulted in ambiguous and inadequate information, making it difficult for investors to understand a company's revenue, and the judgements and estimates made by the company in recognising revenue. In IFRS, significant diversity in revenue recognition practices had arisen

[12] It is interesting to mention here part of the Comment Letter to the Exposure Draft that was sent by the OIC (The Italian Standard Setter): *In general terms, we do not see many reasons that justify the replacement of IAS 11 and IAS 18 with a completely new standard which introduces a different recognition approach. We do not receive requests from stakeholders to rewrite these standards, which, on the contrary, seem to work adequately. We believe that limited amendments to existing IAS 11 and 18 would be sufficient to address certain controversial issues.*
We retain significant perplexities with regard to the fundamental concepts on which the ED is based. In particular, we do not see the reasons to abandon the recognition criteria provided by IAS 11 and IAS 18 to embrace the approach based on the transfer of control.We understand the need to converge with US GAAP but in our view, a decrease in the quality of the new standard to meet this objective is not acceptable. The proposals contained in the ED do not represent an improvement capable to balance the significant costs that would derive from the implementation of the new standard. On this point, it is worth remembering that the application of the new rules would imply, in many industries, very expensive updates of actual IT systems to allow the recognition of revenue at the point of the transfer of control. Furthermore, the adoption of the approach proposed in the ED will be possible, in some industries, only with significant simplifications. OrganismoItaliano di Contabilità- OIC Comment Letter to Exposure Draft Revenue from Contracts with Customers, 22 October 2010, p. 1, web 2 June 2015.

as previous revenue standards contained limited guidance on many important topics. Furthermore, the limited guidance that was provided was often difficult to apply to complex transactions. Consequently, some companies supplemented the limited guidance in IFRS by selectively applying US GAAP. On the other hand, in US GAAP, broad revenue recognition concepts were supplemented by numerous industry and transaction specific requirements, which often resulted in economically similar transactions being accounted for differently. The new standard on revenue recognition has overcome these problems, improving the comparability of revenue from contracts with customers, reducing the need for interpretive guidance to be developed on a case-by-case basis to deal with emerging revenue recognition issues, and providing more useful information through improved disclosure requirements.

The core principle of the guidance is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services[13]. To achieve this aim a company would apply a series of five steps clearly described in the standards:

1. Identify the contract(s) with a customer.
2. Identify the performance obligations in the contract.
3. Determine the transaction price.
4. Allocate the transaction price to the performance obligations in the contract.
5. Recognize revenue when (or as) the entity satisfies a performance obligation.

According to the Board, a contract is an agreement between two or more parties that creates enforceable rights and obligations. The first step for recognizing revenue states that a company can only recognize revenue if a contract with a customer exists. It is important that a company applies the standard to every contract with commercial substance, that each part can identify the contract terms and meet other important criteria.

The second step relatesto the identification of the obligations in the contract. If the contract states that more than one good or service is promised to a customer, the company should account for each distinct good or service as a performance obligation. In determining whether a good or service is distinct, it is important to consider if the customers can benefit from the good or service on its own or together with other resources that are readily available to the customers. This notion represents an important key of the revenue recognition model that involves substantial judgment.

The third step is relatedto the identification of the transaction price as the amount of consideration to which a company expects to be entitled in exchange for transferring promised good or service to a customer. The transaction price can be a fixed amount or can vary.

In order to allocate the transaction price to the performance obligations in the contract (fourth step), when a contract contains more than one performance obligation, a company would typically allocate the transaction price to each performance obligation on the basis of the relative stand-alone selling prices of each distinct good or service. If the stand-alone selling price is not observable, the company should estimate it.

The last step concernsthe recognized revenue when each separate performance obligation is satisfied. An entity must assess whether it is transferring control over time or at a point in time. For performance obligations that are satisfied over time, a company must measure progress toward its satisfaction. Instead, for performance obligations that are satisfied at a point in time, the company recognizes revenue at the point in time at which it transfers the control of the good or service to the customer.

The standards give other specific indications on additional requirements, such as portfolio of contracts, contract costs and, to better help investors understand revenue in all their components, they requires a company to disclose quantitative and/or qualitative information on its contracts with customers. Although the two common standards have reached the aim of achieving the same conclusions on all

[13] FASB *Revenue from Contracts with Customers*,Topic 606.

that is needed for accounting of revenue from contracts with customers, between the two there are some slight differences, regarding:

- Collectability threshold,
- Interim disclosure requirements,
- Early application and effective date,
- Impairment loss reversal,
- Non-public entity requirements.

However, the new standard will require significant management judgment - in addition to changing the way many companies recognize revenue in their financial statements. The changes will have pervasive impacts on people, policies, processes and systems.

It should be mentioned that in June 2014 the IASB and FASB formed the *Transition Resource Group* (TRG) for revenue recognition to support implementation of the Standard.

The group periodically meets in public to discuss potential issues arising from the implementation of the new revenue recognition Standard[14].

Its principal objectives are:

- stress, analyzing and debating issues of stakeholders resulting from the implementation of the new standards;
- notify the IASB and FASB on these implementation issues, which will help the boards to determine what, if any, action will be necessary to address these issues;
- provide a forum for stakeholders to know the new standard from others involved in the implementation.

The TRG also helps stakeholders to better understand specific aspects of the new revenue standard.

However, after discussions in the working group, many are facing significant challenges in implementing the requirements,and, for this reason,the IASB decided to propose some amendments to IFRS 15 and postpone the date of mandatory application of the principle to January 1, 2018 in order to allow companies to directly apply the amended standard. In making this decision, the IASB also considered the fact that the FASB had already decided to propose to defer the effective date of Topic 606. Indeed, the FASB evidenced important challenges especially for the software, entertainment, and telecom industries,other issues included training accounting staff and human resources.

Among the reasons for proposing to defer the effective date of IFRS 15, the IASB noted that there are benefits for a broad range of stakeholders of retaining an effective date that is aligned with the effective date of Topic 606.

In that regard, in July 2015 another Exposure Draft was issued: *Clarifications to IFRS 15*, with to aim to clarify some issues arising from the TRG discussion on the guidance in IFRS 15. According to the IASB, the proposed clarifications are not intended to remove the need for judgement when applying IFRS 15, rather they aim to clarify the principles and represent a guidance in the Standard to assist in the consistent application of judgement. Indeed, the application of judgement is a necessary and desirable aspect of faithfully representing an entity's revenue generating transactions[15].

The IASB requires comments to the following questions:

1. Identifying performance obligations
2. Principal versus agent considerations
3. Licensing
4. Practical expedients on transition
5. Other topics (collectability, measuring non-cash considerations and the presentation of sales taxes).

Comments should be submitted no later than 28 October 2015.

[14] IFRS 15/ASU Topic 606.

[15] IASB- IRFS, *Exposure Draft ED/2015/6 Clarification to IFRS 15*, web 20 September 2015.

Conclusion

Comparability is a qualitative characteristic of financial information that enhances its usefulness[16]. Better financial statement comparability and increased cross-border investment[17] reduces the information acquisition costs of global investors and thereby increases their investment in foreign firms.

The standard for the recognition of revenue from contracts with customers is intended to improve the financial reporting of revenue and improve comparability of the top line in financial statements globally.

Responding to these challenges, the Financial Accounting Standards Board and the International Accounting Standards Board have developed new, fully converged requirements for the recognition of revenue in both IFRS and U.S. GAAP, providing substantial enhancements to the quality and consistency of how revenue is reported while also improving comparability in the financial statements of companies reporting using IFRS and US GAAP.The new, long awaited revenue recognition standardsis the latest joint standard approved by FASB and IASB and represents a fine example of cooperation between the two boards, after more than a decade of effort. It will have a major impact for all firms and their advisers.

In this regard, the new Exposure Draft: *Clarifications to IFRS 15* represents a clear example of the wish and the need of the Board to develop high-quality reporting standards,even if the way towards such a sensitive and controversial topic may not seem so straightforward.

It is evident that the standard's complexity requires a more extended, study,and it is hoped that other,deeper analyses will be carried out.

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PART IV

SELECTED ASPECTS OF EFFECTIVENESS OF THE POLISH CAPITAL MARKET

Edyta Mioduchowska-Jaroszewicz
University of Szczecin, Poland

RESPECT INDEX AS A TOOL FOR MEASURING A MODERN AIM OF A BUSINESS ACTIVITY

Summary

The article aims to present utility meter Respect Index to measure the modern business. Respect Index is a measure of the future, which will be and already is a benchmark for the stock market listed companies to assess the implementation of the modern business. Is the possibility of realizing the modern to the activities of each company, what should be the satisfaction of all stakeholders, i.e. not only of the shareholders, the board of the company, employees, customers and suppliers, and society at large.

* * *

Introduction

The main objective of any business activity should be to maximize its value for owners. This is not tantamount to maximization of the value for shareholders as it would entail maximization of the share value. In the case of a sole proprietorship, this aim should be achieved by an owner, whilst in companies operating in the legal form of joint-stock company - where owners are shareholders - the aim is to maximize the value for shareholders. Nowadays, the aim of a business activity is complemented with a statement that the maximization of the value over a long period of time is synonymous with corporate social responsibility. Modern managers are aware that corporate social responsibility is not incompatible with maximizing the value for shareholders. It means that companies should develop new products that will be willingly bought by customers. Additionally, companies should manufacture goods efficiently and sell them at competitive prices, and what is more, they should obey corporate governance law. Companies that successfully maximize the value of their shares, also operate for the sake of the public interest and contribute to the welfare of the society.[1] According to A. Black, P. Wright and J.R. Bachman, the aim of a business activity is to satisfy the needs of all stakeholders. In their book *In Search of Shareholder Value,* they point out that the interests of all parties involved in a business activity are convergent in the long term.[2] The article intends to present the Respect Index as a tool for measuring a modern aim of an enterprise.

[1] E.F. Brigham, J. Houston, *Zarządzanie finansami*, PWN, Warsaw 2015, pp. 5, 11, 25.

[2] A. Black, P. Wright, J. E. Bachman, et al., *W poszukiwaniu wartości dla akcjonariuszy*, Dom Wydawniczy ABC, Warsaw 2000, pp. 132-138.

Respect Index

Since the 1990s the number of indices (commonly referred to as benchmarks) have grown significantly. Their main objective is to describe economic situation of companies meeting particular requirements of Corporate Social Responsibility (CSR). Financial institutions adopting these instruments are usually driven by two motives. Firstly, the indices are developed in order to establish a benchmark for companies involved in CSR activities. Secondly, they are aimed to be a reference for investors who demonstrate strong ESG (i.e. Environmental, Social, Governance) practices in their investment decisions.

The first CSR indices were created in the USA. Dow Jones is considered to be the pioneer in this field as it started to publish Sustainability Index (SI) in September 1999. In the year 2000, the Calvert fund started to publish CSR index, and then in 2001 an English company FTSE published FTSE4Good Index. CSR indices, apart from their main role, i.e. providing information about the current economic situation of companies from a given sector, are becoming a basis for portfolios of investment funds. The fact that there are more and more funds investing in CSR portfolios results in the growth of interest in companies involved in these indices. On the other hand, it also leads to an increasing interest in belonging to these indices. Thus, it can be concluded that not only the development of CSR led to the creation of indices and dedicated investment funds, but nowadays CSR indices encourage companies to adopt ESG practices in their business activity.[3]

The current concept of the Respect Index project is a continuation of the activities undertaken by the Warsaw Stock Exchange in 2009 that resulted in the creation of the first index of socially responsible companies in the Central and Western Europe. The Respect Index aims to identify the companies managed in a responsible and sustainable manner. Moreover, it emphasizes investment attractiveness of companies characterized by, among others, reporting quality, the level of relations among investors and information governance. The liquidity aspect is one of the criteria taken into consideration by the Respect Index and, similarly to other indices, it represents a real reference for professional investors. The project is carried out by the WSE in cooperation with external partners. Its main objective is to carry out a cyclic audit targeted at Polish companies listed on the WSE Main List, aiming to update the composition of the Respect Index. Constituents making up the Respect Index – as a result of the verification of the degree of applying the established criteria – are listed companies maintaining the best standards of management in terms of corporate governance, information governance and investor relations, as well as those operating in accordance with environmental, social and personnel criteria.

Corporate Social Responsibility Indices Worldwide

Dow Jones Sustainability Index Series (DJSI) was launched in September 1999 by Dow Jones, STOXX Limited and SAM Group – Sustainable Asset Management. Since then, more than a dozen indices have been introduced for the world, for different regions and industries. The DJSI methodology is based on the positive selection and it aims to identify the so-called *best in class* companies. The main criterion considered during the selection of companies for indices is the analysis of three factors, i.e. economy, environmental protection and social responsibility.[4] Apart from Dow Jones Sustainability Index Series, there can be found the following instruments worldwide:

1) Calvert Social Index (CSI),
2) FTSE4GOOD Series,
3) FTSE Johannesburg Stock Exchange Socially Responsible Index (JSE SRI),

[3] www.odpowiedzialni.gpw.pl/indeksy_csr_na_swiecie, access on 28 August 2015
[4] More on DJSI: www.sustainability-index.com

4) Sao Paolo Stock Exchange Corporate Sustainability Index (ISE),

5) KLD Research & Analytics.

Calvert Social Index (CSI) is the Calvert investment fund index calculated from March 2000 which measures the economic situation of American companies referred to as socially responsible. The selection of companies for the index is performed on the basis of the analysis of their products (the kind of goods produced), environmental issues (protection and pollution prevention), workplace (conforming to the rules and norms) and honesty.[5]

FTSE4GOOD Series was launched by the London Stock Exchange and the Financial Times in July 2001. Currently, the index is calculated for the whole world, for selected markets and regions. The choice of companies for the indices is based both on the negative selection, which means that companies producing weapons, drugs or those that disobey the rules of social equality are excluded, and on the positive selection, which means that companies working for the environmental protection, building positive relations, maintaining and developing human rights and those fighting corruption are supported. These indices are the only indices enjoying a special status recognized by the UNICEF.[6]

FTSE Johannesburg Stock Exchange Socially Responsible Index (JSE SRI) was launched in May 2004 by the Johannesburg Stock Exchange in cooperation with EIRIS, FTSE4GOOD - FTSE International Ltd. and KPMG. The main aim of the authors of the index was to introduce a benchmark for investors and to support and promote responsible management in the South African region. Johannesburg Stock Exchange Socially Responsible Index was the first financial instrument of this type introduced in the emerging markets. The main selection criterion - apart from running a socially responsible business - is the respect for human rights.[7]

Sao Paolo Stock Exchange Corporate Sustainability Index (ISE) was started by BOVESPA, Sao Paolo Stock Exchange in cooperation with the Centre for Sustainability Studies of *Fundação Getulio Varga* (CES-FGV) and International Finance Corporation (IFC) in December 2005. The authors' intention was to introduce a benchmark for investors interested in responsible investment as well as the promotion of CSR practices among Brazilian companies. The methodology is based on the positive selection consistent with with ESG criteria.[8]

The KLD Index - introduced in October 2007 by the KLD Research & Analytics - is a benchmark for three geographical areas, i.e. North America, Europe, Asia and the Pacific based on ESG criteria. KLD index includes companies from different sectors operating according to the rules of sustainable development. The inclusion requirements are based on the analysis of five main categories, i.e. environment, society, employees and supply chain, customers, management and ethics.[9]

Respect Index - Inclusion Process Stages

The inclusion process for the Respect Index involves the analysis of the companies listed on the Warsaw Stock Exchange - excluding NewConnect market - foreign companies and dual-listed companies. The inclusion process is divided into three stages. The first two stages are carried out independently without the participation of companies, solely on the basis of publicly available information. During the third stage of the inclusion process there are direct visits at company premises and it requires the consent to participate in the project. After the initial classification of companies in terms of meeting the liquidity criterion, the subject of an audit are practices of companies in corporate governance,

[5] More on CSI: www.calvert.com/sri-index.html

[6] More on FTSE4GOOD indices: www.ftse.com/Indices/FTSE4Good_Index_Series/index.jsp

[7] More on JSE SRI: www.jse.co.za/About-Us/SRI/Introduction to SRI Index.aspx

[8] More on ISE: www.bmfbovespa.com.br/Indices/download/ISE_ing.pdf KLD Global Sustainability Series (GSI)

[9] More on KLD GSI: www.kld.com/indexes/gsindex/index.html

information governance and investor relations as well as pro-environmental and social activities addressed to employees.[10]

The first stage aims to identify a group of companies characterized by the highest liquidity, i.e. those included in the following indices:

1) WIG20
2) mWIG40
3) SWIG80.

The composition of all the three indices is updated quarterly (on the third Friday of March - annual revision; on the third Friday of June, September, December - quarterly adjustment. The Respect Index composition is updated half-yearly, i.e. the first stage of new editions takes into consideration companies included in WIG20, mWIG40, SWIG80, following the revision in September and in March of a given year.

The second stage is based on the evaluation of practices in corporate governance, information governance and relations with investors. The evaluation is carried out by the WSE in cooperation with *The Polish Association of Listed Companies* on the basis of publicly available reports published by companies and their websites.[11]

The classification criteria for the index are as follows:

1) the burden of sanctions imposed by *the Polish Financial Supervision Authority* or the Warsaw Stock Exchange in relation to fulfilling reporting duties (presence of penalties disqualifies a company).
2) impeccable reporting on corporate and information governance:
– quality of current reports,
– adjustment of previously published reports,
– number of adjustments and their weight.

During the verification of the first two criteria of the second stage, namely the sanctions imposed by *the Polish Financial Supervision Authority* and the quality of fulfilling reporting duties, the six-month period backwards is taken into consideration, i.e.

– in the spring edition - the first quarter of a given year and the fourth quarter of the previous year,
– in the autumn edition - the second and third quarter of a given year.

3) hosting a website consistent with the requirements imposed by the WSE - assessment of websites in terms of quality of communication with investors, its speed and effectiveness in:

a) providing adequate replies to queries regarding relations with investors via website,
b) publication on website:

- basic corporate documents (statutes and regulations of a company governing bodies etc.),
- professional resumes of members of company governing body,
- current and periodic reports,
- current reports on the activities of supervisory board,
- information on shareholding structure,
- calendar of events,
- basic financial ratios of a company,
- placing content browser on the website,
- providing links to other capital market institutions (e.g. *the Polish Financial Supervision Authority*, the WSE or *the Polish Association of Listed Companies*),
- using modern tools of communication with investors,
- English version of the website.

[10] http://www.odpowiedzialni.gpw.pl/kryteria_oceny_spolek, access on 28 August 2015
[11] http://www.odpowiedzialni.gpw.pl/kryteria_oceny_spolek, access on 28 June 2015

The Polish Association of Listed Companies analyzes the content of websites and their functionality in terms of investor relations at the time of an audit, i.e.:

a) in the spring edition - in April of a given year,

b) in the autumn edition - in November.

The third stage aims to assess the level of complexity of activities undertaken by companies and addressed to their stakeholders; these activities are the manifestation of a broadly understood social corporate responsibility. This assessment is carried out on the basis of questionnaires completed by companies and their further verification performed by a Project Partner – Deloitte.

The main criteria used in the inclusion process belong to the three following categories of factors from the areas of environment, social issues and economy. Environmental factors relate to environmental management, reducing environmental impact, biodiversity, environmental aspects of products and services. Social factors include health and safety, human resource management, relations with suppliers, communication with stakeholders, social reporting. Economic factors focus on the evaluation of strategic management, code of conduct, risk management and malpractice risk management, internal audit and control system as well as the relations with customers.[12]

The Analysis of the Results Obtained by the Companies from the Respect Index

The Respect Index has been calculated by the WSE since 19 November 2009. The Index includes socially responsible companies listed on the WSE Main Market, i.e. those whose position in the ranking of indices is not lower than 150. The base date for the index is 31 December 2009. The first value of the Respect Index was 1000 points. It is an income-based index and thus when it is calculated it considers prices of its shares, dividend yields and pre-emptive rights income. There were merely 24 companies included in the Respect Index out of the 476 companies listed on the Warsaw Stock Exchange as of 28 August 2015, which accounts for 5% of all the companies listed on the WSE. The table 1 presents the companies from the Respect Index as of 12 June 2015 with the number of shares in the portfolio, a share in turnover, the impact on the index change, the change of share price, the value of share price as of 12 June 2015.

Table 1: The Respect Index composition as of 12 June 2015.

Item no.	Name	Number of shares (million pcs)	Share in portfolio (%)	Share in turnover (%)	Impact on index change (%)	Change of share price (%)	Value of share price (PLN)
1	APATOR	26	0.95	0.1137	-0.0231	-2.43	38.61
2	BANK MILLENNIUM	605	3.93	0.5564	-0.0175	-0.44	6.72
3	BOGDANKA	340	2.03	4.4678	-0.1292	-6.36	61.80
4	BPH	10	0.40	0.1011	-0.0047	-1.18	42.00
5	BUDIMEX	10	1.73	0.4560	+0.0091	+0.53	171.25

[12] http://www.odpowiedzialni.gpw.pl/kryteria_oceny_spolek access on 28 August 2015

6	BZ WBK	30	9.54	2.1145	-0.1216	-1.28	325.20
7	ELEKTROBUDOWA	5	0.62	0.0723	+0.0122	+1.96	135.10
8	ENERGA	201	4.39	1.5949	-0.0930	-2.12	22.61
9	GPW	27	1.29	0.2413	-0.0132	-1.03	49.20
10	GRUPA AZOTY	41	3.15	0.3981	+0.0368	+1.17	79.72
11	GRUPA LOTOS	87	2.45	0.5449	-0.0075	-0.31	29.30
12	HANDLOWY	33	3.25	0.6633	-0.0266	-0.82	103.00
13	ING BANK SLASKI	33	4.34	0.5751	+0.0000	+0.00	138.00
14	JASTRZEBSKA SPOLKA WEGLOWA	53	0.63	1.0135	-0.0178	-2.81	12.45
15	KGHM POLSKA MIEDZ SA	84	9.21	35.8138	-0.0888	-0.96	113.00
16	KOGENERACJA	7	0.48	0.0094	+0.0141	+2.92	66.92
17	ORANGE POLSKA	647	5.68	5.9988	-0.0187	-0.33	9.08
18	PELION	7	0.49	0.2210	+0.0070	+1.43	68.99
19	PGE	493	9.07	9.5115	-0.1313	-1.45	19.05
20	PGNIG	1628	10.59	7.3188	-0.0314	-0.30	6.73
21	PKN ORLEN	187	12.43	10.3932	-0.1127	-0.91	68.80
22	PZU	21	8.76	16.5502	-0.0402	-0.46	434.00
23	RAWLPLUG	134	0.10	0.0002	+0.0024	+2.44	7.99
24	TAURON POLSKA ENERGIA	1043	4.51	1.2703	-0.0597	-1.32	4.47

Source: own elaboration based on www.gpw.pl

The analysis of the data presented in Table 1 indicates that the companies from the energy sector (i.e. Tauron Polska Energia, PKN Orlen, PGNiG, PGE, KGHM Polska Miedź SA, Jastrzębska Spółka Węglowa, Energa, Elektrobudowa, Bogdanka) and from the financial sector (BPH, BZ WBK, Handlowy, ING Bank Śląski, PZU) had the largest share in the Respect Index. The most considerable impact on the value of the Respect Index had a turnover of companies, such as KGHM Miedź, PZU, PKN Orlen, PGE and Orange. 17 companies had a negative impact on the index change, and only 8 companies raised the value of the index.

The Table 2 presents the companies from the Respect Index as of 21 August 2015 including the number of shares in the index, market value of shares, a share in index, a share and rights to share in turnover.

Table 2: The Respect Index composition as of 21 August 2015.

Item no.	Name	Number of shares (million pcs)	Market value of shares (million PLN)	Share in portfolio (%)	Share and rights to share in turnover (%)
1	PKNORLEN	154	12937	13.34	18.19
2	PGNIG	1628	10909	11.25	2.96
3	PZU	24	10115	10.43	7.37
4	BZWBK	30	8717	8.99	1.60
5	PGE	529	8355	8.62	4.79
6	KGHM	94	7 914	8.16	11.57
7	ORANGEPL	647	4984	5.14	2.01
8	INGBSK	33	4228	4.36	0.07
9	ENERGA	201	4002	4.13	1.16
10	TAURONPE	1044	3652	3.77	3.60
11	MILLENNIUM	605	3450	3.56	1.02
12	GRUPAAZOTY	41	3429	3.54	0.47
13	HANDLOWY	33	2833	2.92	0.42
14	LOTOS	87	2697	2.78	1.07
15	BUDIMEX	10	1996	2,06	0.27
16	BOGDANKA	34	1807	1.86	0.40
17	GPW	27	1294	1.34	0.14
18	APATOR	26	799	0.82	0.18
19	JSW	53	657	0.68	0.07
20	ELBUDOWA	5	645	0.67	0.32
21	PELION	7	510	0.53	0.00
22	KOGENERA	7	507	0.52	0.00
23	BANKBPH	10	391	0,40	0.00
24	RAWLPLUG	13	109	0,11	0.00
		---	96 948	100	57.68

Source: own elaboration based on www.gpw.pl

The analysis of the data presented in Table 2 reveals that over a three-month period the portfolio of the companies from the Respect Index did not change. The market value of shares of companies making up the Respect Index accounts for almost 100m PLN. The companies determining the value of the index come from the energy and banking sectors, which results from the share of stocks of these companies in the portfolio forming the index. However, PKN Orlen, KGHM, PZU, TAURON i PGNiG were the dominant companies in the index, having the highest share and rights to share in turnover. Five companies from the energy and financial sector influenced the value of other indices, especially that the companies belong to WIG20.

The Table 3 presents the value of indices as of 21 August 2015 described by the value of three ratios: price to earnings (P/E), price to book value (P/BV) and dividend yields.

Table 3: The value of indices as of 21 August 2015

Indices	Indicators		
	P/E	P/BV	DIVIDEND YIELD
WIG 20 M	27.77	1.46	2.20
mWIG40	17.92	1.11	1.80
sWIG80	13.91	1.24	3.50
WIG30	13.91	1.24	3.50
WIG	14.99	1.02	2.40
WIG DIV	11.49	1.16	5.40
WIG CEE	22.97	1.07	4.90
WIG POLAND	14.74	1.25	3.10
WIG UKRAINE	-1.00	1.00	0.00
WIG BANKI	13.47	0.93	1.50
WIG BUDOWNICTWO	17.52	1.86	2.10
WIG CHEMIA	18.10	1.81	2.30
WIG DEVELPOERZY	-1.00	0.81	0.50
WIG ENERGA	9.57	0.76	6.50
WIG INFORMATYKA	19.46	1.40	2.90
WIG MEDIA	38.49	1.92	0.70
WIG PALIWA	24.77	1.18	2.50
WIG SPOŻYWCZY	-1.00	1.40	0.90
WIG SUROWCE	9.86	0.56	5.00
WIG TELEKOMUNIKACJA	41.20	0.87	6.50
RESPECT	**12.82**	**1.10**	**4.00**
INWESTOR MS	29.72	1,23	1,90
TB SP INDEX	0.00	0,00	0,00

P/E - market price of 1 share to net earnings per one share
P/BV - market price of one share to book value of one share
DIVIDEND YIELD - dividend per 1 share to market price of one share
Source: own elaboration based on www.gpw.pl

The analysis of the Respect Index compared to other indices in terms of P/E indicates that the value of the index is not beneficial for investors holding the shares that form the portfolio of this index. The P/E ratio is generally interpreted that the cheaper the shares, the lower the value of the ratio. Compared to other indices, the value of the Respect Index at the level of 12.82 belongs to this part of the classification of indices that are priced the lowest. WIG Telekomunikacyjny (41.20), WIG MEDIA (38,49), WIG Inwestor (29.92), WIG20 (27.77) and WIG CEE 22.97 were characterized by the indices with the highest values. The low value of the Respect Index results from the low value of indices, such as sWIG80 (13.81), mWIG40 (17.92), WIG Energa (9.57), WIGSUROWCE (9.86); the companies forming these indices determine the value of the Respect Index portfolio.

The value of P/BV ratio higher than 1 denotes that the market price of 1 share exceeds the equivalent of shareholders' equity per 1 share, which indicates that the capital market positively assesses the ability of a company to generate profits and predicts an increase in its value in the future. The companies from the Respect Index are positively evaluated by the capital market because the value of the index is 1.10.

In this case the ratio of the market price to book value is not very high, but it is the result of low indices, such as WIG Energa (0.76), WIGSUROWCE (0.56) and WIG Banki (0.93).

The higher the value of dividend yield per 1 share to market price of one share, the higher the profit from the invested capital for a shareholder. The dividend yield in the case of the Respect Index is relatively high; its value is exceeded by only six other indices, such as WIG DIV, WIG CEE, WIG Poland, WIG Energa, WIG Surowce and WIG Telekomunikacyjny. The profitability value of the index is quite high.

Conclusion

The analysis of the Respect Index value reveals that the fact that such an index exists is greatly favourable for investors as it allows them to invest in companies characterized by social responsibility, and moreover it enables them to establish good and lasting relations, based on mutual respect and understanding of expectations, with broadly understood business environment, considering environmental protection. It enables companies to achieve a modern aim of any operating activity of enterprises, i.e. satisfying the needs of all stakeholders, not only shareholders, creditors, management, employees, customers and suppliers but also the society.

The number of listed companies that are included in the Respect Index should increase in the future and this process will be aided by the EU directive which is planned to take effect in 2017. As a result of its implementation, listed companies, banks and investment funds (employing more than 500 people, having balance sheet total higher than 20m Euros or a net turnover above 40m Euros) will have to report on the so-called non-financial data. Large listed companies (exceeding two out of the three aforementioned thresholds) will have to report on their equality and diversity policy in management and supervisory boards (i.e. why and how many people they employ of particular sex, ethnicity, education etc.) According to a consulting company Deloitte, the obligation to report on non-financial data will be imposed on approximately 300 largest companies and financial institutions in Poland; most of these companies are not prepared to fulfill this obligation.

In Poland only about 40 companies report on non-financial data in various forms, however the data are not comparable. It concerns mainly the companies from the Respect Index - the index of socially responsible companies. Only five companies do it in the form of an annual report integrated with financial data in accordance with IIRC's reporting guidelines (International Integrated Reporting Council). So far, there have been 150 non-financial reports in 26 countries. The Respect Index was treated mainly as an element of creating the image of companies and the Warsaw Stock Exchange itself. The investors were not interested in its composition, and certainly did not make investment decisions on the basis of the index. Foreign investors, on the other hand, found non-financial data of Polish companies crucial. In some countries of the European Union, as well as in the United States, Canada, the Republic of South Africa and Japan there is an obligation to report on non-financial data. 78% of investors in Europe state that the current level of disclosing non-financial information is insufficient to assess investment risk13.

The modern aim of a business activity of companies is to satisfy the needs of all stakeholders. Pursuing such a long-term aim by companies, irrespective of their legal form, will enable them to exist on the market for a long time. The Respect Index is a tool for measuring a modern aim of enterprises - it will be a benchmark for listed companies enabling them to assess the fulfillment of a modern aim of a business activity.

[13] M. Krukowska, *Kilkaset firm czeka rewolucja w raportowaniu*, „Forbes" 26 May 2015. www.forbes.pl

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Artur Sajnóg
University of Lodz, Poland

CHANGES IN THE SIZE AND STRUCTURE OF EQUITY AS A RESULT OF THE SHARE CAPITAL INCREASE OF LISTED COMPANIES

Summary

The main objective of the study is defining the role and significance of changes in the size and structure of equity as a result of share capital increase of listed companies, with particular attention to forming of the self-financing capital. To achieve the goal of the study there has been formulated a hypothesis, which state that changes in the efficiency of companies that increase the share capital are related largely to changes in size and structure equity, in particular the increasing share of self-financing capital. The research comprised joint-stock companies listed on the Warsaw Stock Exchange and included in WIG-30 Index.

* * *

Introduction

In the theory and practice of strategic financial management of the company the issues of shaping the efficiency of the company through the process of increasing the share capital play an important role and have a great significance not only for share issuers. The importance of increasing the share capital is expressed in the creation of long-term conditions for the growth of innovation and competitiveness, the maintenance and/or improvement of financial condition of the company and the restructuring of its activities. The direct result of the increasing the share capital is primarily change in the value and structure of equity which nevertheless does not always result in the increase of the efficiency improvement.

The important issue in the strategy of share capital increase is the problem of optimal choice of financing sources. This dilemma concerns the way of firm's expansion financing, the use of internal or external equity. In the literature and practice of companies that operate on well-developed financial markets, it is noted that the main source of financing their current business activities and development are the retained earnings, which means internal equity[1]. The self-financing capital and the capitalization

[1] A. Duliniec, *Struktura i koszt kapitału w przedsiębiorstwie*, WN PWN, Warszawa 2001, pp. 36-37, S.A. Ross, R.W. Westerfield, J. Jaffe, *Corporate Finance*, Irwin, Chicago 1996, p. 379, R.A. Brealey, S.C. Myers, A.J. Marcus,

of earnings after taxes (EAT retention) is a very important internal source of financing. It seems to confirm the Pecking Order Theory.

The main objective of the study is defining the role and significance of changes in the size and structure of equity as a result of share capital increase of listed companies, with particular attention to forming of the self-financing capital. To achieve the goal of the study there has been formulated a hypothesis, which state that changes in the efficiency of companies that increase the share capital are related largely to changes in size and structure equity, in particular the increasing share of self-financing capital.

The research comprised joint-stock companies listed on the Warsaw Stock Exchange and included in WIG-30 Index. The analysis covered financial statements from 30 companies qualified for both indices on 01.12.2015[2]. A ten-year research period, e.g. between 2005-2014, was chosen for conducting the attempted analysis. Empirical data for the study was obtained from the Notoria Serwis S.A. database, as well as from the stock market websites.

The analysis of company which increase the share capital will indicate whether and to what extent substantial changes in size and capital structure imply changes in business strategy, aiming to provide a more stability of company on the result of the retention of net profit. The analysis of sources of assets financing after the increasing of share capital may lead to the conclusions that there is an increase in value of self-financing capital, in which the main component are the retained earnings, which can be also spent on investment, buy back or the company's future losses.

The process of share capital increase may determine the decision, when the net profit retention policy creates the basis of growth of company's effectiveness. The key role of retained earnings in the creation of this effectiveness stems from the fact that it shapes the possibilities for financing the company, due to its reinvestment increases the interest of shareholders, which allows the multiplication of the owners' capital, and ultimately causes a long-term growth of company's effectiveness. The process of net profit's retention can be seen as an expression of conservative financial policy, strengthening the company that does not see the investment opportunities for capital gains in a short run, which may contribute to adverse changes in the efficiency of the company. However in the long term, the goal of increase of nominal capital can also be to enhance the company's credibility.

Functions, objectives and effects increase the share capital of joint stock companies

The equity management is understood as a process of raising, accumulating and using the company's own financial sources. Against this background you can indicate the share capital increase, reduction in the share capital value and retention of net profit.

In discussing the issue of share capital increase in a joint-stock company, the literature describes two major types that need to be mentioned[3]:

a) effective increase, connected with introducing new means to a company in the form of cash or in-kind contributions, and
b) nominal increase, that relies on using a company's own resources (see Table 1).

Fundamentals of Corporate Finance, McGraw-Hill, New York 1995, pp. 400-401.

[2] The final analysis contained 25 companies that increased the share capital in analysed period.

[3] *Commercial Companies Code* (*C.C.C.*), Act of 15 September 2000*,* Journal of Laws from 2000, no 94, p. 1037, as amended and G. Wöhe, J. Bilstein, D. Ernst, J. Häcker, *Grundzüge der Unternehmensfinanzierung*, VahlenVerlag, München 2011, p. 82.

Table 1: Forms and methods of share capital increase in a joint-stock company

Forms	**Methods**
Effective increase of share capital	Ordinary increase of share capital
	Conditional increase of share capital
	Increase on the basis of authorized share capital
Nominal increase of share capital	Increase from company resources

Source: own study on the basis of: *Commercial Companies Code* [*C.C.C.*] and G. Wöhe, J. Bilstein, D. Ernst, J. Häcker, *Grundzüge der Unternehmensfinanzierung*, VahlenVerlag, München 2011, p. 82.

Taking into consideration the Polish legal regulations, one can point out four methods for increasing share capital in a joint-stock company:
1) ordinary share capital increase,
2) conditional share capital increase,
3) increase on the basis of authorized share capital,
4) increase from the company's resources[4].

It is worth emphasizing the fact that oridinary share capital increase, pursuant to Art. 431 CCC, can be made by the issuance of new shares or by increasing the par value of outstanding shares.

The study of literature indicate that in the process of shaping the share capital value the stock companies take into account the strategic objectives related mainly to the share capital increase, especially in the effective form[5]. A new issue of shares is recognised as the commonly used method of increasing the share capital, which beside the increase in the nominal value of the shares, is a form of normal share capital increase[6]. When increasing the share capital by raising nominal value of shares, all previous shareholders must agree to the adequate contributions to capital. Thus, the use of this method may be difficult due to organizational reasons and in practice it is rarely used[7]. The share capital increase done by the capitalization of reserves (nominal increase, from the company's funds) is undoubtedly carried out only on „a paper**"**. As a result, no increase in the book value of the company takes place.

The functions of increased share capital arise from both the general functions performed by this capital as well as those that may refer to expanding or maintaining a company's economic activity. As far as the former are concerned, it should be pointed that increased share capital strengthens mostly the legal, economic and guarantee function of capital[8]. Moreover, increased capital can perform

[4] *C.C.C.*, art. 430-454.

[5] A. Sajnóg, *Share Capital Increase Strategies And The Efficiency Of Listed Companies – A Polish-German Comparative Analytical Study*, „Comparative Economic Research. Central and Eastern Europe" 2014, Vol. 17, No. 2, pp. 163-164.

[6] Referring to the legal regulations we can talk about three methods of effective share capital increase in joint-stock company: a normal share capital increase, a conditional share capital increase and an increase based on target capital. In turn, normal share capital increase takes place by the issuing the new shares or increasing the nominal value of current shares. See: *C.C.C.*, art. 430-454.

[7] J. Ickiewicz, *Pozyskiwanie, koszt i struktura kapitału w przedsiębiorstwach*, Wydawnictwo Szkoły Głównej Handlowej, Warszawa 2004, p. 98.

[8] Compare: A. Sajnóg, J. Duraj, *Funkcja gwarancyjna kapitału zakładowego publicznych spółek giełdowych*, [in:] D. Zarzecki (ed.), *Zarządzanie finansami. Wycena przedsiębiorstw, zarządzanie wartością, zarządzanie ryzykiem*,

other, additional functions, e.g. development, restructuring, stimulation, credit, and stabilization and marketing functions[9].

The formulated research hypothesis concentrates on function of the share capital, which is centered around providing the relative stability of fixed and safe sources of finance of the company. The implementation of this function may result in the numerous positive effects for the owners and creditors of the company, as well as changes in the efficiency of the company as a result of taken and implemented investments. The successful and efficient execution of the share capital function is determined by many factors, among which may be mentioned: the risk and cost of capital, the place and role of share capital in the company's financing, as well as the economic efficiency of the company. These factors in various ways affect the scale, methods and directions of changes of the share capital value. They can cause the need to increase the share capital, maintain it at the specified level or reduce its value. All changes in the value of share capital have a strategic nature for the company, its creditors and the other stakeholders. They may affect the company's ability to raise debt capital and its transformation into the equity and the implementation of capital investment, real investment, intangible assets investment and human and social capital.

It seems apparent that the aim of effectively increasing share capital is the desire to obtain means for the implementation of economic plans. The ordinary increase of share capital is most often applied in order to receive additional financial means which may be required for financing investments, reorganization and rationalization actions, as well as increasing the guarantee base. In the light of our conducted empirical study, the goals of ordinary increases of share capital focus mainly on capital and material investments which result from a specific strategy of company development that includes mostly expansion of a company's activity or acquiring another enterprise. Moreover, companies aiming to strengthen guarantee-stabilization functions most often mention: covering liabilities, improvement of liquidity, regaining financial stability[10].

Most often it is pointed out that the main reason for increasing of share capital is the wish to raise additional capital by the company[11]. Although this reason is not questioned in the literature, there can be seen significant differences in the indicated ways of allocation of the raised capital. Extensive research in this area is carried out by Pagano et al. They conclude that companies do not go public to finance subsequent investment and further growth, but rather to rebalance their accounts after a period of high investment and dynamic development[12].

The direct result of the increasing of share capital is primarily an increase in the book value of the share capital and the changes in the equity structure, which nevertheless does not always result in the increase of the market value. The result of the increasing of share capital and the changes in the size and structure of equity may in fact be expected or unexpected increases or decreases in the value of the company's capital, especially in the short and long term. Moreover, a number of various external and internal factors determine the efficiency of the company in the long term. They have the character of variables that - in varying degrees - depend on the company.

Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, Szczecin 2013, pp. 287-293; J. Ostaszewski, T. Cicirko, *Finanse spółki akcyjnej*, Wydawnictwo Difin, Warszawa 2005, p. 93; B. Woźniak-Sobczak, *Funkcje kapitału w strategicznym zarządzaniu przedsiębiorstwem*, Wydawnictwo Akademii Ekonomicznej w Katowicach, Katowice 2005, pp. 2-35.

[9] A. Sajnóg, *Funkcje i cele podwyższania kapitału zakładowego w spółkach akcyjnych*, [in:] J. Duraj (ed.), *Przedsiębiorstwo na rynku kapitałowym*, „Acta Universitatis Lodziensis. Folia Oeconomica" 2013, No. 272, pp. 59-63.

[10] Compare: A. Sajnóg, *Funkcje i cele….*, *op. cit.*, pp. 73-75.

[11] See: D. Cumming, *The Oxford Handbook of Entrepreneurial Finance*, Oxford University, New York 2012, pp. 468-469; J. R. Ritter, I. Welch, *A Review of IPO Activity, Pricing and Allocations*, „The Journal of Finance" 2002, Vol. LVII, No. 4, pp. 1796-1799.

[12] M. Pagano, F. Panetta, L. Zingales, *Why Do Companies Go Public? A Empirical Analysis*, „The Journal of Finance" 1998, Vol. LIII, No. 1, p. 61.

This issue is particularly important in the context of research results showing that in many cases the significant declines in operating performance occur after firms go public. Moreover, the research show that the rates of return on the shares of companies conducting public offerings are unusually high in the short term[13], but in the long term these rates are lower than the average market return[14]. While the underpricing phenomenon is not disputed in the literature, the negative impact of the public offerings on the market value of companies is more often questioned. The overpricing of shares in the long term is seen as a matter of methodology, and its occurrence depends on the solutions adopted in the estimation of rates of returns[15]**.** The empirical studies of changes in financial situation and efficiency of companies, in which the divestment process of private equity funds have been accomplished by the initial public offering on Warsaw Stock Exchange, indicate the adverse effects of these actions[16].

The results of empirical studies

Due to the need for a systematic approach to assess the impact of changes in size and structure of equity on the efficiency of the companies, the verification of the hypothesis in this article imply the need to highlight a few key research areas. The study will therefore include the following four stages, in which specific objectives will be expressed as a series of four research questions:

1) How does the size and structure of equity change after a increasing the share capital in joint stock companies?
2) What impact do changes in the size and structure of equity on the dynamic of financial results in listed companies that increase the share capital?
3) To what extent changes in the size of the share capital and its share in equity cause changes the use of self-financing capital in expansion of issuers?
4) What are relationships between the changes in the structure of the share capital and the net profit retention policy of company which increase the share capital?

Such a specific range of considerations of efficiency a multifaceted treatment in the description, the analysis and the interpretation. The analysis of increasing of share capital in connection with efficiency creation of listed companies requires the use of wide range of measures (see Table 2).

This wide analysis of the relationship between those examined economic categories is intended to answer the key question: whether and to what extent are the share capital increase securities reflected in changes in economic efficiency of enterprises? Moreover, its task is to assess the factors affecting the efficiency of companies, including shaping the capital structure, changes in ownership structure and the effect of financial support. Obtaining answers to such questions provide a basis to evaluate the possibility of raising new equity from external sources, for example in form of seasoned issuance of shares.

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[13] A. Ljungqvist, *IPO underpricing*, [in:] B.E. Eckbo (ed.), *Handbook of Corporate Finance: Empirical Corporate Finance.* Vol. A, Chapter 7, 2006; D. Sukacz, *Pierwsze oferty publiczne na rynkach kapitałowych.* CeDeWu.pl, Warszawa 2005.

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[15] P.A. Gompers, J. Lerner, *The really long-run performance of initial public offerings: the pre-Nasdaq evidence*, „Journal of Finance" 2003, Vol. 58, pp. 1355-1392.

[16] T. Sosnowski, *Efektywność wykorzystania kapitału własnego w spółkach portfelowych funduszy private equity objętych procesami dezinwestycji metodą IPO*, [in:] *Prace z zakresu ekonomiki i zarządzania przedsiębiorstwem,* J. Duraj (ed.), „Acta Universitatis Lodziensis. Folia Oeconomica" 2012, No. 272, pp. 127-150.

Table 2: Examples of measurement used for evaluation of the changes in size and structure of equity as a result of the share capital increase

Research questions	Measurement
How does the size and structure of equity change after a increasing the share capital in joint stock companies?	Analysis of: ΔE, ΔSC and ΔSC/E
What impact do changes in the size and structure of equity on the dynamic of financial results in listed companies that increase the share capital?	Analysis of: ΔEBIT, ΔEAT and ΔER
To what extent changes in the size of the share capital and its share in equity cause changes the use of self-financing capital in expansion of issuers?	Correlation between: ΔSC and ΔER
What are relationships between the changes in the structure of the share capital and the net profit retention policy of company which increase the share capital?	Correlation between: ΔSC/E and ΔER/EAT

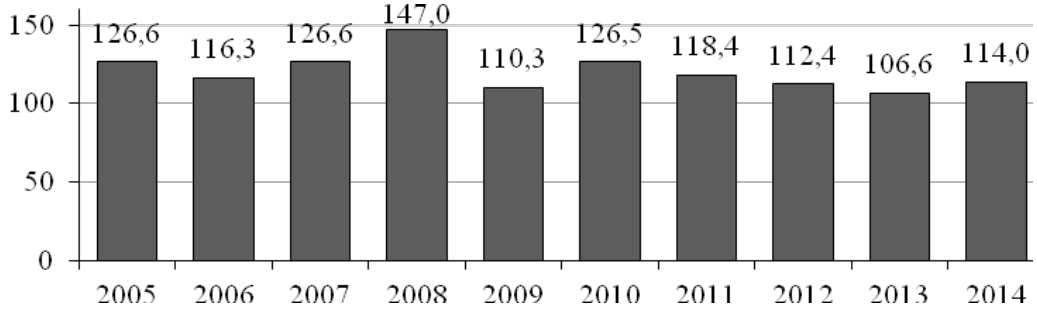
Symbols: Δ – Dynamic, E – Equity, SC – Share Capital, EBIT – Earnings Before Interest and Taxes, EAT – Earnings After Taxes, ER – Earnings Retained.

Source: own study.

The results of the study on the changes in size and structure of equity in listed companies from the WIG-30 Index

The results of the empirical studies undertaken confirmed the changes in the book value of equity in joint-stock companies in the period between 2005-2014. This is indicated by calculated average ratios of equity capital dynamics.

Figure 1: Mean values of ratios of equity value dynamics in companies from WIG-30 Index between 2005-2014 (previous year = 100)



Source: own study on the basis of data from the Notoria Serwis S.A. database.

The figures presented in Figure 1 show that in the examined decade the biggest positive changes of equity value in companies in the WIG-30 Index occurred in 2008, when the equity of examined

Table 3: The basic statistics of share capital value in companies from WIG-30 Index between 2005-2014

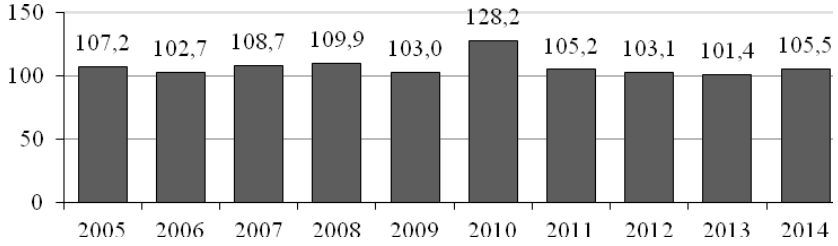
Companies	Mean	Median	Standard deviation	Coefficient of variation
Alior	109,31	105,03	12,82	11,72
Asseco Poland	118,19	100,02	34,04	28,80
Azoty	122,70	100,00	31,45	25,63
Bogdanka	100,85	100,00	12,91	12,80
Boryszew	182,81	100,00	216,47	118,42
BZ WBK	103,37	100,00	7,96	7,70
CCC	**100,00**	**100,00**	**0,00**	**0,00**
Cyfrowy Polsat	114,50	100,00	30,00	26,20
Enea	102,36	100,00	6,66	6,51
Energa	97,00	100,00	5,20	5,36
Eurocash	100,83	100,37	1,07	1,06
GTC	106,59	100,24	14,26	13,37
Handlowy	**100,00**	**100,00**	**0,00**	**0,00**
ING	**100,00**	**100,00**	**0,00**	**0,00**
JSW	100,60	100,00	1,83	1,82
Kernel	110,05	100,62	16,63	15,11
KGHM	**100,00**	**100,00**	**0,00**	**0,00**
Lotos	110,10	100,00	18,11	16,45
LPP	100,73	100,00	1,18	1,17
mBank	104,54	100,09	13,09	12,52
Orange	99,36	100,00	1,04	1,05
Pekao	105,74	100,02	18,01	17,03
PGE	103,67	100,00	6,86	6,61
PGNiG	101,80	100,00	5,69	5,59
PKN Orlen	109,79	100,00	30,93	28,18
PKO BP	102,50	100,00	7,91	7,71
PKP Cargo	95,00	100,83	13,40	14,11
PZU	**100,00**	**100,00**	**0,00**	**0,00**
Synthos	105,49	100,00	17,36	16,46
Tauron	95,78	100,00	18,34	19,15

Companies in bold included in the table didn't increase the share capital between 2004-2015.
Source: own study on the basis of data from the Notoria Serwis S.A. database.

companies increased on average by 47% in relation to the previous year. Less visible changes in the value of this capital were observed between 2009-2013. The lowest calculated average values of this capital dynamics showed only a 6-10% increase of equity book value in relation to the previous year.

While assessing the role and importance of share capital in the growth of efficiency of enterprise what must be stressed is shaping of this value in the analysed companies. On the basis of empirical research of examined companies it must be stated that generally, in the analysed decade average values of this capital dynamics showed increase of its book value in relation to the previous year (see Figure 2). The highest changes in the value of share capital value were observed in 2010. The calculated mean values of this capital dynamics showed a nearly 30% increase of this capital value in relation to the previous year.

Figure 2: Mean values of ratios of share capital value dynamics in companies from WIG-30 Index between 2005-2014 (previous year = 100)

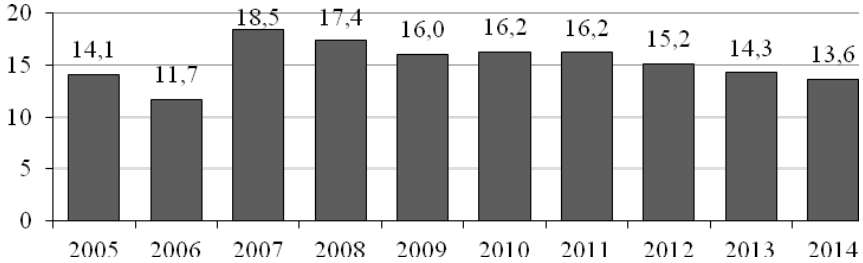


Source: own study on the basis of data from the Notoria Serwis S.A. database.

The detailed analysis of financial statements of examined companies indicated that not all entities decided to undertake any changes in the size of share capital, which is reflected in the calculated basic statistics such as mean, median, standard deviation and coefficient of variation (see Table 3). Such a neutral strategy of share capital shaping was used by five companies: CCC, Handlowy, ING, KGHM and PZU. They have been excluded from further studies on the impact of changes in size and structure of equity on efficiency of companies that increase the share capital.

The results of our research presented in Figure 3 confirm that the proportion of share capital in equity in companies form WIG-30 Index declined generally between 2005-2014. This is supported by calculated mean values of ratios of share capital's proportion in equity. Moreover, two research sub-periods were observed (between 2005-2006 and 2007-2014), in which the examined relations showed a declining trend.

Figure 3: Mean values of ratios of proportion of share capital in equity in companies form WIG-30 Index between 2005-2014



Source: own study on the basis of data from the Notoria Serwis S.A. database.

The analysis of company which increase the share capital indicate on changes in equity structure, which imply changes in business strategy, aiming to provide a more stability of company on the result of the assets financing by resource capital including self-financing capital and retained earnings. The most liberally policy of self-financing were observed in 2006, so before the period of economic downturn. During the first years of crisis was observed the expression of conservative financial policy, associated with increase of share capital value in relation to equity. It was the reflection of guarantee function of equity.

The analysis of relations between changes in share capital and self-financing capital in companies from WIG-30 Index

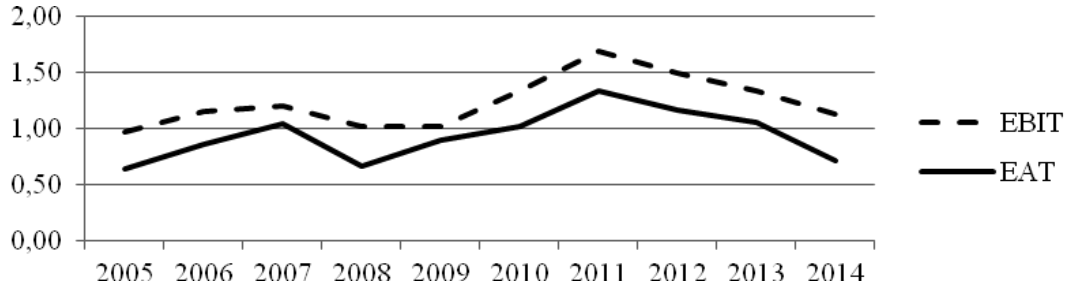
The evaluation of relations between changes in share capital and self-financing capital was conducted using the following aspects:

a) the value and dynamics of financial results (included retained earnings),
b) the relations between the dynamics of the book value of the share capital and retained earnings dynamics,
c) the relations between the dynamics of proportion of share capital in equity and the dynamics of the retained earnings ratio (relation of retained earnings in a given year to a net profit in the previous year).

The research method used to verify the existence of dependencies between changes in this values of the examined companies was the regression analysis conducted by means of Spearman's rank correlation coefficient.

On the basis of conducted empirical research it must be pointed that the calculated mean values of financial results (EBIT – Earnings Before Interest and Taxes and EAT – Earnings After Taxes) in companies form WIG-30 Index was definitely different (see Figure 4).

Figure 4: Changes of financial results in companies form WIG-30 Index between 2005-2014



Source: own study on the basis of data from the Notoria Serwis S.A. database.

The detailed analysis of profitability entities in the analysed decade allows one to differentiate three sub-periods:

1) the period between 2005-2007, in which calculated financial results showed a positive trend,
2) the period between 2008-2009, in which companies achieved definitely lower financial results in relation to previous years, and
3) the period between 2010-2014 which was characterized by a higher profitability than in the previous sub-period; however the changes were diversified in character (see Figure 4).

The most problems in achieving profitability, which were observed in the period between 2008-2009 resulted from the extent the negative effect of the collapse in capital markets and the global recession at this time.

The observation of changes in the balance sheet data allows one to claim that companies from WIG-30 Index generally recorded higher and higher values of self-financing capital, as evidenced by, among others, calculated fairly high mean value of retained earnings, especially between 2010-2014 (see Table 4).

Table 4: Mean values of Earnings Before Interest Taxes, Earnings After Taxes, Earnings Retained and their dynamics in listed companies form WIG-30 Index between 2005-2014

Measures		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
EBIT	data in billions of PLN	0,97	1,15	1,20	1,01	1,01	1,33	1,69	1,50	1,33	1,13
EAT		0,64	0,86	1,04	0,66	0,90	1,01	1,34	1,17	1,05	0,71
ER		2,95	3,49	3,20	3,07	3,07	3,35	4,51	4,74	4,96	4,91
EBIT dynamics	data in %	-	118,27	104,27	84,50	99,87	131,70	126,84	88,35	89,25	84,37
EAT dynamics		-	134,44	120,31	63,29	136,78	112,58	131,98	87,20	90,39	67,71
ER dynamics		-	118,43	91,73	95,80	99,92	109,37	134,30	105,32	104,63	98,82

Source: own study on the basis of data from the Notoria Serwis S.A. database.

In spite of the fact that the financial results (Earnings Before Interest and Taxes and Earnings After Taxes) showed a similar tendency between 2005-2014, it must be stressed that Earnings Retained dynamics pointed at visible differences. It can suggest diverse dependencies between changes of share capital and self-financing capital.

The conducted empirical research showed that the analysed companies were characterized by a diversity of dependencies between changes in strategies of share capital shaping and self-financing capital of the analysed entities (see Table 5). Nevertheless, it must be stressed that the calculated Spearman's rank correlation coefficients confirm in most instances a positive character of dependence between the share capital and self-financing dynamics, although it is of diversified strength. In most instances the strength of the relationship between the examined variables was clear but fairly low[17]. In none of the companies the correlation coefficient was observed, which might suggest a statistically significant dependence between analysed variables.

[17] The strength of dependence between analysed variables was determined at the following assumptions:
- if coefficient is below 0,2 – there is no relation between analysed variables,
- if it falls within the range (0,2–0,4) – the dependence is clear but low,
- if it falls within the range (0,4–0,7) – the dependence is moderate,
- if it falls within the range (0,7–0,9) – the dependence is significant,
- it is above 0,9 – the dependence is very strong,

Compare: S. Ostasiewicz, Z. Rusnak, U. Siedlecka, *Statystyka. Elementy teorii i zadania*, Wydawnictwo Akademii Ekonomicznej im. Oskara Langego we Wrocławiu, Wrocław 2003, p. 311.

Table 5: Spearman's rank correlation coefficients between the dynamics of share capital and the retained earnings dynamics and between the proportion of share capital in equity and the retained earnings ratio in companies from WIG-30 Index between 2005-2014

Companies	Δ SC vs Δ ER	Δ SC/E vs Δ ER/EAT
Alior	-0,74	0,50
Asseco Poland	0,06	0,18
Azoty	0,44	-0,04
Bogdanka	-0,14	-0,36
Boryszew	0,32	0,00
BZ WBK	0,14	0,03
Cyfrowy Polsat	-0,09	-0,54
Enea	-0,61	0,49
Energa	0,50	0,40
Eurocash	0,40	-1,00
GTC	0,05	-0,50
JSW	0,34	**0,90**
Kernel	0,66	0,19
Lotos	0,28	-0,50
LPP	0,33	0,15
mBank	0,58	-0,08
Orange	0,35	-0,37
Pekao	0,45	0,05
PGE	0,29	-0,61
PGNiG	-0,06	-0,10
PKN Orlen	-0,37	0,05
PKO BP	-0,52	0,27
PKP Cargo	-0,20	-0,50
Synthos	-0,17	0,55
Tauron	0,16	-0,33

The values in bold included in the table are statistically significant correlation coefficients.
Source: own study on the basis of Notoria Serwis S.A.

On the basis of presented findings it can be observed that turn almost as many companies had values of correlation coefficients, which proved as well positive as a negative dependence between changes in proportion of share capital in equity and the retained earnings ratio (see Table 5). One companies deserve a special attention – JSW, in which correlation coefficient amounted 0,9, moreover, the dependencies between them proved to be statistically significant. In none of the other companies the correlation coefficient was observed, which might suggest a significant dependence between analysed variables.

Conclusion

The share capital increase is inextricably linked to the implementation of various strategic objectives of stock companies and their shareholders. The decision to undertake an this process is an extremely important step on the development path of the company, significantly changing its economic efficiency. On the one hand, the company gains access to new sources of capital, enabling development of the new investment projects, which are aimed at multiplying its value. On the other hand, provides favorable conditions for the changes in the equity structure, in particular after the self-financing capital and retained earnings. The multiplicity and complexity of the grounds for the share capital increase gives the rise to seek answers to the question about the effects of changes in size and structure of equity in companies quoted in stock exchange.

The conducted empirical research, whose aim was to confirm the hypothesis, that changes in the efficiency of companies that increase the share capital are related largely to changes in size and structure equity, in particular the increasing share of self-financing capital, allows to state that the analysed relations were of a different character. The analysis of correlation coefficients indicated that changes in share capital were accompanied by positive effects in the share capital dynamics of the examined companies. More diversified situation was observed in relation to structure of equity, presented as the coefficients of proportion of share capital in equity and the retained earnings ratio (relation of retained earnings in a given year to a net profit in the previous year). On the basis of the examined decade it can be supposed that a long-term strategy of changes in share capital can be accompanied by a more positive than negative companies reaction, which is related with the providing relative stability of fixed and safe sources of finance of the company, especially with self-financing capital.

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Jerzy Gajdka
University of Lodz, Poland

Piotr Pietraszewski
University of Lodz, Poland

CORPORATE EARNINGS AND STOCK RETURNS: EVIDENCE FROM THE WARSAW STOCK EXCHANGE

Summary

In the paper the problem of relations between EPS growth and stock returns is discussed. According to the data from international capital markets, neither fast economic growth nor fast EPS growth can guarantee high stock returns for investors. There are several explanations of why it is so, but stock valuation seems to play a critical role. While companies' growth prospects are important for investors, much more important is the price they pay for this growth. The issue is presented in the context of international and Polish capital markets. Our study of a sample of WIG30 companies showed positive correlations between the EPS growth and stock returns both in the long run and in three-year sub-periods.

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Introduction

The finance literature widely covers relations between the real economy and the performance of financial markets. One of them is the stock market the importance of which attracts special attention from researchers studying the relations. Despite a large number of studies and publications investigating how the performance of stock markets and the situation in the wider economy are related to each other, a common view on the nature of the relations has not been reached yet. While it is intuitively believed that the expanding economy boosts the stock market and makes stock prices and returns rise, the mechanism is by no means obvious. Many studies have demonstrated that the rate of GDP growth and stock returns are not correlated at all or that the correlation is negative. This issue is discussed in both the international literature and Polish literature. In particular, Ritter has shown that the long-run correlation between returns on the domestic stock market and the rate of GDP growth is negative[1]. In a study of 19

[1] J. Ritter., *Is Economic Growth Good for Investors*, "Journal of Applied Corporate Finance", 2012, vol. 24, no. 3, pp. 8 -18.

developed markets he conducted, the correlation coefficient between these two variables was a negative 0.39. However, a widely accepted explanation of why the stock market and the economic situation are not correlated, or negatively correlated in some cases, has not been worked out yet. One possibility is that investors overrate companies' growth prospects and consequently overvalue their stocks. If such inflated expectations are not met despite good performance of companies, investors' stock returns will not be considerable because of high prices they paid for them. The aim of this article is to investigate this phenomenon in the international context and present the preliminary results of research into the capital market in Poland.

The economic situation and the performance of the stock market

In both economic theory and economic practice, different views are held on the nature of relations between the economic situation and returns on the stock exchange. The relations have been studied by a number of researchers[2], but common conclusions have not been reached so it is still uncertain whether it is the performance of the stock exchange that influences the wider economy or the other way round, whether the two domains affect each other, or whether there is no statistically significant correlation between indicators describing the stock market and the "real economy". There are also doubts about the direction of this relation, i.e. whether a period of economic upturn increases stock returns or whether rising stock returns boost the economy. While some authors agree that there is some intuitive rationale behind the belief in the profitability of investing in the stock markets of fast-growing economies, empirical studies have failed to provide evidence that it is really so. In Ritter's study, the correlation coefficient between the rate of GDP growth and the rate of stock returns in 19 developed countries between 1900 and 2011 was a negative 0.39 at p-value =0.10. It was also negative (-0.41 at p-value =0.13) for 15 emerging markets in the years 1988-2011. Its value of -0.04 noted for the first group of countries in the years 1970-2011 was not statistically significant (p-value =0.87)[3]. The study of Central and East European countries conducted by Gajdka and Pietraszewski showed, however, a positive correlation between the rate of stock returns and the performance of regional economies[4].

Different arguments are presented to explain why the performance of the economy and of the stock exchange is not positively related to each other. According to Siegel, some reason can be advancing globalisation that gives a stronger role to multinational corporations in the economies of particular countries[5]. A case in point is the Finnish economy, where a prominent player is the Nokia Corporation distributing most of its products in the international markets. Quite naturally, they determine its financial

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[2] See ex.: A. Demirguc- Kunt, R. Levine, *Stock markets, corporate finance and economic growth. An Overview,* "World Bank Review", 1996, vol. 10, no. 2; R.K. Filler et. al., *Do Stock Markets Promote Economic Growth*, 'William Davidson Institute Working Paper Series', 1999, No. 267B; B. Malkiel, *A random walk down Wall Street*, W.W. Norton&Company, New York 1999; M. Binswanger, *Stock Market Booms and Real Economic Activity: Is this Time Different?*, „International Review of Economics & Finance", 2000, vol. 9, no. 4; M. Binswanger, *Stock Returns and Economic Activity in the G-7 Countries: Did the Relationship Change during the 1980s?*, „Quarterly Review of Economics and Finance", 2004, vol. 44, no. 2; C. Hassapis, S. Kalyvitis, *Investigating the Links between Growth and Stock Price Changes with Empirical Evidence from the G-7 Economies*, „Quarterly Review of Economics and Finance", 2002, vol. 42, no. 3; Sawhney et. al., *Long-run Relationship Between Economic Growth and Stock Returns: An Empirical Investigation on Canada and the United States*, „Journal of Economics" 2006 vol. 54, no. 6; B. Wyżnikiewicz et. al, *Silna giełda siłą gospodarki*, Instytut Badań nad Gospodarką Rynkową, Warszawa 2005; J. Brzeszczyński et al., *Koniunktura giełdowa a zmiany w realnej sferze gospodarki w Polsce*, „Przegląd Organizacji", 2009, vol. 7-8; J. Ritter., *op. cit.*; B. Cornell, *Economic Growth and Equity Investing*, 'Financial Analyst Journal', 2010, vol. 66; J. Gajdka, P. Pietraszewski, *Wzrost gospodarczy a ceny akcji*, „Zeszyty Naukowe Uniwersytetu Szczecińskiego", 2014, vol. 804.

[3] J. Ritter, *op. cit.*

[4] J. Gajdka, P. Pietraszewski, *op. cit.*, pp. 399–408.

[5] J. J. Siegel, *Stocks for the long run*, McGraw-Hill (fourth edition), 2002.

results much more strongly than the domestic market does. Demirguc-Kunt and Levin argue that the ease of selling stocks on the stock market weakens corporate governance and thereby may slow down corporate growth[6]. They also indicate that when stock returns, then, because of the income and substitution effects, the rate of savings may go down, decelerating the rate of economic growth. Another explanation of the weak correlation between the performance of the economy and stock returns builds on the fact that in practically all countries of the world the managers of public companies are forced to demonstrate that their organisations are expanding even if their market value was to fall as a result. Therefore, managers decide to commit corporate resources to projects with negative NPV, including the acquisition of other organizations. Ritter illustrates the situation using the case of Japanese companies that allocated their resources to projects regardless of whether or not they were attractive from the business perspective rather than paying dividends[7].

Lastly, the non-correlation between the rate of economic growth and the rate of stock returns may be caused, particularly in periods of fast growth, by investors' overly optimistic estimates regarding the growth of the economy that lead to the overvaluation of stocks and consequently to low rates of return in the future. Ritter used this mechanism to explain why, despite the spectacular real rate of GDP growth in China between 1993 and 2011 amounting to an average of 9.1% p.a., the geometric average annual rate of return on the Chinese stock market was -5.5% (in local currency). Estrada additionally observed that many investors believed in the profitability of investing in fast-growing companies and in the high rates of return they can bring[8]. The benefits of this approach are not likely to be reaped, though, if the prices paid for stocks are too high. This reasoning will underpin the discussion in the next section the article.

The rate of growth of company's earnings and the rate of stock returns

As mentioned, there is a view that investing in a fast-growing economy is a way of achieving high rates of stock returns. Likewise, it is almost certain for many investors that investing in companies that have the potential of substantially increasing their future earnings is also a way of earning high returns. Estrada finds a major flaw in this approach. The argument he uses in support of his position is that the "growth prospects" contained in stock prices are permanently overpaid by investors[9]. The most spectacular example of this has been the Internet bubble during which stock prices yielded price-to-earnings (P/E) multiples of 100, 200, or more. Most P/E ratios were so high because of investors overestimating companies' growth prospects. Being so high, the ratios could only go down in the medium or long run. In this situation, the only reason for buying these stocks could be the hope that after a time some "naïve" willing to pay even higher prices for them will be found.

Trying to explain the problem more precisely, Estrada indicates that a rate of return on a share that does not pay dividends can be determined for a given period from the following formula:

$$R = (1+g_c)\,[1+\Delta\,(P/E)] - 1, \tag{1}$$

where:

R – a rate of return on a share in the selected period,

g_c – a rate of change in earnings per share (EPS) in the period,

Δ (P/E) – a rate of change in P/E in the period.

According to formula 1, an increase in EPS raises the rate of return, unless the increase is offset by a change in valuation that brings the P/E ratio down.

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[6] A. Demirguc- Kunt, R. Levine, *op.ci*.,p. 230.

[7] J. Ritter, *op. cit.*

[8] J. Estrada, *Blinded by Growth*, "Journal of Applied Corporate Finance", 2012, vol.24, no. 3, pp. 19 - 25.

[9] *Op. cit.*

There are many examples illustrating how the formula operates in the real life. Estrada chose the case of Google stocks. Their characteristics between January 2006 and June 2010 are presented in table 1.

Table 1: Stock prices, EPS, P/E and the rates of return on Google stocks between 2006 and 2010

	1 Jan. 2006	**Growth ***	**Annualized growth**	**30 June 2010**
Price	$ 414.9	7.3 %	1.6 %*	$ 445.0
EPS	$ 5.02	358.8 %	40.3 %	$ 23.03
P/E	82.6	-76.6 %	-27.6 %	19.3

* Google did not pay dividends in the selected years, so the growth rate of stock prices can be taken to represent stock returns.

Source: based on J. Estrada, *op. cit.*, p. 22.

The data show that in the years under consideration Google's earnings were rising fast, at a rate exceeding 40% a year. Yet, investors' rates of return were merely 1.6% annually. The data for Amazon stocks that Estrada used to make his point were similar, showing that Google was by no means unique. The average annualised rate of EPS growth for Amazon stocks between July 2004 and December 2008 was 20.4%, while the average rate of return was negative 1.3% annually. Why did such good performance of the company translate into such mediocre returns for its investors? To answer this question, let us calculate the rate of return on Google stock using formula 1:

$$R = (1+3.588)(1-0.766)-1 = 0.073\ (7.3)\%.$$

In the period under consideration, the negative effect of stock valuation on the rate of returns (bringing the P/E down) reduced considerably the positive effect of increasing earnings. Because Google withheld dividends in this period, investors' returns were very modest despite high earnings generated by the corporation. To sum up the discussion, let us now look into the global index for developed markets and emerging markets between January 1995 and December 1999 and January 2000 and December 2004. The characteristics of the index are presented in table 2.

Table 2: The stock index characteristics for developed countries and emerging markets between January 1995 and December 1999 and between January 2000 and December 2004

		Rate of growth		***Rate of returns accounting for dividends***
	1 Jan. 1995		***31 Dec. 1999***	
Index	564.3	120.4%	1243.5	140.7%
EPS	$27.4	48.8%	$40.8	X
P/E	20.8	48.1%	30.5	X
	1 Jan. 2000		***31 Dec. 2004***	
Index	1243.5	-12.8%	1187.4	-3.8%
EPS	$42.8	50.7%	63.14	X
P/E	30.5	-42.0%	17.7	X

Source: based on J. Estrada, *op. cit.*, p. 23.

As the data show, in both periods investors' returns exceeded capital gains from index changes, because the dividends companies paid were included in the indices. It is also easy to see that the rates of return are significantly different between the two periods, despite similar increases in EPS. While in the years 1995-1999 the rate of return accounting for dividends was 140.7% and earnings per share rose by 48.8%, the 2001-2004 rate of return was a negative 3.8% in spite of earnings per share rising by 50.3%, i.e. more than in the first period.

Where do the differences come from? An explanation can be sought in stock price variations in the capital market. In the years when the market was expanding, the P/E ratio was growing by an average of 8.2% a year, so rates of return were high. In the second period, the market was bearish. The P/E ratio was falling by 10.3% a year, bringing rates of return down to negative numbers.

That the prices of company's stock do not always rise as its earnings grow is partly due to the fact that for shareholders to have extra gains from rising stock prices the growing earnings must generate appropriate rates of return. In other words, investors' stocks decrease in value when the company's earnings grow below the cost of equity. The forecasted rates of growth of companies are certainly important to investors, but the estimation of how much they pay for the likely growth of company's earnings is a significant factor too. Everything else equal, the more they pay for this growth, the lower rate of return they will earn. Consequently, even if the rate of EPS growth is high the return of return may be negative if the price paid for stocks was too high in relation to the company's potential for increasing its earnings, i.e. if „the rate of growth was overpaid". Estrada calls investors falling into this trap „blinded by growth".

Growth of corporate earnings and stock returns in Poland – the case of WIG30 companies

As already mentioned, in the financial markets of developed countries rates of return are not always positively correlated with companies' earnings. However, Gajdka and Pietraszewski have found in their study of Central and East European countries (see above) a positive correlation between economic growth and stock prices[10]. It might therefore be interesting to take a closer look at how the growth rates of companies' earnings and the rates of return on their stocks are related to each other in Poland. In the section below, the preliminary analysis of this problem is presented. The sample consisted of stocks that made up the WIG30 index at the end of 2013. The analysis spanned years 2005-2013 divided into three subperiods: 2005-2007, 2008-2010 and 2011-2013 and its purpose was to establish whether an EPS increase and the rates of return were correlated with each other.

For a company to be included into the analysis its stocks had to be quoted in all years of the subperiod under consideration. This prerequisite was met by 29, 23 and 20 companies in the subperiods of 2011-2013, 2008-2010 and 2005-2007, respectively[11]. Earnings per share were obtained from the Bankier.pl website and stock prices as well as the rates of return accounting for dividends - from the stock exchange yearbooks.

Table 3 shows changes in EPS, changes in the P/E ratio and the rates of return over a three-year period between the end of 2010 and 2013 for WIG30 stocks at the end of 2013[12].

[10] J. Gajdka, P. Pietraszewski, *op. cit.*

[11] We omit Alior Bank stocks that were quoted at the WSE from December 2012.

[12] The JSW stocks were included into the subperiod of 2011-2013, although they were not quoted from the beginning of 2011. In the JSW case, the rates of EPS growth and P/E growth as well as price change and stock returns accounting for dividends were counted for the period 2012 - 2013.

Table 3: Rates of return, rates of EPS change and rates of P/E change between the end of 2010 and 2013 for WIG30 stocks at the end of 2013

Stock	*EPS growth** (%)	*P/E growth*** (%)	*Price change* (%)	*Rate of stock return accounting for dividends**** (%)
PKOBP	0,4	-9,4	-9,1	4,9
PZU	35,0	-6,5	26,3	55,6
PEKAO	10,2	-9,0	0,3	14,3
KGHM	-35,8	6,2	-31,8	-0,8
PKNORLEN	-92,6	1107,5	-10,5	-7,5
PGE	32,1	-46,8	-29,8	-15,7
BZWBK	58,9	13,5	80,4	98,6
PGNIG	-21,9	84,6	44,3	51,6
LPP	199,8	38,7	315,7	376,6
MBANK	87,6	-12,3	64,5	69,2
ORANGEPL	180,0	-78,6	-40,1	-23,7
TAURONPE	52,4	-56,4	-33,5	-15,7
BOGDANKA	43,4	-20,2	14,4	25,0
EUROCASH	69,5	8,2	83,4	89,2
INGBSK	-87,2	-0,7	-87,3	49,0
ASSECOPOL	-30,9	25,5	-13,3	17,9
HANDLOWY	28,9	-12,9	12,3	31,6
CYFRPLSAT	53,2	-21,7	20,0	20,0
GRUPAAZOTY	-31,7	180,1	91,2	116,4
JSW	-96,2	1564,8	-36,8	-30,7
SYNTHOS	-12,5	103,6	78,2	124,9
CCC	6,3	61,4	71,5	85,3
TVN	-557,6	x	-14,0	-6,6
LOTOS	-94,2	1583,3	-2,5	-2,5
KERNEL	-5,1	-46,2	-48,9	-48,9
ENEA	13,1	-49,2	-42,6	-37,7
GTC	-356,3	x	-69,6	-66,4
NETIA	-80,4	416,6	1,3	1,3
BORYSZEW	0,0	-75,0	-75,0	-52,1

* Calculated by the authors using Bankier.pl data and the following formula: rate of EPS growth over the years 2011-2013 = (EPS_{2013} – EPS_{2010})/ absolute value (EPS_{2010}).

** Calculated by the authors with the following formula: rate of P/E growth over the years 2011-2013 = (P/E at the end of 2013 / (P//E at the end of 2010) -1. The end-of-year P/E ratios were calculated with usage of Bankier.pl data on EPS and end-of-year stock prices.

*** Calculated by the authors with the data from Stock Exchange Yearbooks 2012, 2013, 2014. In the calculations, rates of return (r_t) accounting for dividends paid in years t = 2011, 2012 and 2013 were used. The rate of return over the years 2011-2013 was obtained from the formula $r_{2011\text{-}2013} = (1+ r_{2011})(1+r_{2012})(1+r_{2013}) - 1$

Source: own calculations

It is not possible based on the data in table 3 to draw definite conclusions about the correlation between rising EPS and rates of return.Although the highest rate of EPS growth for LPP (199,8 %) translates into also the highest rate of return (376,6 %), the second-highest EPS growth for ORANGEPL (180 %)is accompanied with a negative return of -23,7 %. It is because a positive impact of rising EPS on returns was outweighed by a sharp decline in P/E, from 204,4 to 43,7 between the end months of 2010 and 2013. On the other extreme, there are some companies like GRUPAAZOTY or PGNIG that achieved considerable rates of return despite falling EPS. It was thanks to a high increase in valuation, i.e. their P/E ratios.

Overall, however, the correlation between the rate of return and the rate of EPS growth was positive in the analysed subperiod (0.40 at p=0.03), meaning that the variations in P/E did not drastically disturb the relationship between changes in companies' earnings and the rates of return on their stocks. In the earlier subperiods, the correlations between the analysed variables were also positive and even higher then in the last subperiod (see table 4).

Table 4:The correlations between the rate of EPS growth and the rate of return for WIG30 companies

Period	***2005–2007***	***2008 - 2010***	***2011 – 2013***	***2005-2013***
Correlations between EPS growth and the rate of return*	0.64 (0.00)	0.61 (0.00)	0.40 (0.03)	0.80 (0.00)

* the numbers in the brackets are p-values

Source: own calculations

According to table 4, the correlation coefficient estimated for the whole period 2005-2013 for companies quoted over that period and making up the WIG30 index at the end of 2013 is also positive and noticeably higher then in any of the subperiods (0.80 at p=0.00) which indicates that the relationship between these two categories is particularly strong in the long run[13]. With these results, it is not possible to confirm the hypothesis that in the analysed years most investors buying the selected WIG30 stocks were „blinded by growth". At least, however, overly optimistic or pessimistic judgements about companies' growth potential did not lead to such overpricing or underpricing of their stocks that could significantly disturb the fundamental relationship between EPS growth and the rates of return. That is particularly true in the long run. This fact speaks well of the analysed companies and shows that in their case the gap between the real sphere of the economy and the performance of their stocks was at most moderate.

Conclusion

The question about how the performance of listed companies and the rates of return earned on their stocks are related to each other is crucial to investors analysing financial markets. Investors "intuitively" believe that the economically sound and profitable companies are interesting targets for investment, but studies provide evidence that in the real life it is not always so. One reason for this is that investors get „blinded by growth", i.e. overrate companies' potential for increasing their earnings and pay too much

[13] In our previous paper we presented the results of a similar analysis for smaller group of companies listed on WSE and those results were less clear. Although the correlation coefficients between EPS growth and stock returns were also positive, in some subperiods they were not statistically significant. The current analysis for a larger group of companies lets us confirm and strengthen previous conclusions. See: J. Gajdka, P. Pietraszewski, *Wzrost zysków spółki a stopy zwrotu z akcji*, „Zeszyty Naukowe Uniwersytetu Szczecińskiego", 2015, vol. 855, pp. 93 – 102.

for their stocks to benefit from high rates of return, even if the companies perform well in the future. This mechanism is an important aspect of the informational efficiency of the capital market and certainly needs to be investigated further.

The analysis of this problem presented in the paper focuses on the Polish capital market and a sample of stocks issued by companies that made up WIG30 at the end of 2013. Its tentative results for years 2005-2013 do not indicate that the bulk of investors who bought the stocks then were blinded by growth, because companies' earnings and the rates of return were not permanently at odds from each other. The results provide quite solid evidence that, at least in the long run, stock prices were generally driven by fundamentals, i.e. increases in EPS and the rates of return were positively correlated with each other. These preliminary observations call for more detailed studies to be conducted in the future, with a larger sample of stocks and using more advanced techniques of research. The problem investigated in the paper can be important in analysing stock markets, particularly in the fundamental analysis of stocks.

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Tomasz Sosnowski
University of Lodz, Poland

THE INFLUENCE OF THE COMPANY'S FINANCIAL STANDING ON THE FORM OF THE INITIAL PUBLIC OFFERING

Summary

This paper empirically investigates the links between the firm's financial standing before the first listing of its shares on the stock exchange and the structure of shares offered to stock market investors in the company's initial public offering. I find evidence that the sale of secondary shares by the original shareholders in initial the public offering is more likely in the case of firms with good financial situation before the first listing of its shares on the stock exchange. The empirical studies have been carried out on a sample of 195 companies whose shares were listed on the main market of the Warsaw Stock Exchange for the first time between 2005 and 2012.

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Introduction

The decision to introduce the company's shares for the first time to public trading is an extremely important step on the path of strategic business development and it may be founded on different motives. On the one hand the public capital market , through the issue of new shares, provides companies the ability to raise additional capital that is necessary for financing current business activities or future investment projects. On the other hand, the initial public offering gives individuals and other initial investors the opportunity to sell their shares, allowing them the reduction of capital involvement in the company. It is true that the company's and its shareholders' action in this field can be motivated by many factors, but without any doubts, the financial standing of the company can play an important role.

The main goal of this paper is to identify and evaluate the links between the firm's financial standing before the first listing of its shares on the stock exchange and the structure of shares offered to stock market investors in the company's initial public offering. The need for research in this area is dictated by the presence of the research gap in studies devoted to the issues of the practical implementation of the going public strategy. In fact, the mainstream research is the analysis of phenomena observed after the initial public offering of the company, especially anomalies associated with underpricing of shares in the short- and overpricing of shares in the long-term, as well as the often observed deterioration in the financial condition of the company after the first selling of its stock on an open exchange.

In order to achieve the goal of the research the main hypothesis has been formulated and it states that the reporting of the firm's good financial situation before the first listing of its shares on the stock exchange favours the sale of shares by existing shareholders of the company in an initial public offering. This research hypothesis is supported by the presumption that the initial owners of the company will be more likely to reduce their holdings when the sale of securities held by them in the investment portfolio will be possible at a higher price, which will contribute to the increase of their wealth. Undoubtedly, providing information for the stock market investors on good financial standing of the firm and its favourable prospects in the future contribute to the higher market valuation of the company in the initial public offering.

Initial public offering and its different forms

The first listing of shares on the stock exchange is usually considered as one of the most important events in the history of many enterprises. At that time, the company joins the elite group of firms whose further development will take place in the environment of the public securities market. The floating of the company on the stock market, taking place when it achieves a certain stage of development, can be regarded as a natural phase of the firm's life cycle[1]. The company's going public allows it to access the new source of capital, creates potential for further effective business activities and makes the enterprise especially important for the development of the national economy and society. This step also initiates the number of processes associated with the changes in the firm's ownership structure. The following ownership restructuring connected with the transformation in the structure of the company's equity can be characterized by varying dynamics and effects and can provide the impulse to trigger changes in other areas of the enterprise restructuring[2].

For many years, the initial public offering is an issue which focuses the attention of a very large group of researchers and in the science literature of economics and finance you can find many papers on this subject. Unfortunately, in many studies the terms *initial public offering* and *stock exchange debut* are treated as synonyms[3], which can cause problems in the interpretation of this phenomenon from the perspective of the corporate finance strategic management.

From the legal point of view, the term initial public offering is clearly defined in the Act of 29 July 2005 on Public Offering, Conditions Governing the Introduction of Financial Instruments to Organised Trading, and Public Companies. In this piece of legislation it is indicated that the public offering shall be a communication in any form and by any means, addressed to at least 100 people or to an unspecified addressee, which contains sufficient information on the securities to be offered and the terms and conditions of their acquisition so as to enable an investor to decide to purchase these securities[4]. However, as an initial public offering one shall mean the first public offering of specific securities[5].

However, from the business management point of view it should be indicated on the diverse forms of the initial public offering. In a situation when the company's debut on the stock market is related to the issuance of new shares for the first time through the public securities market there is the first public subscription. At that time the company offers to stock investors the so called primary shares and the proceeds from their sales increase the financial resources of the company. One should note the

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[1] See Ritter J.R., Welch I., *A Review of IPO Activity, Pricing and Allocations*, „The Journal of Finance" 2002, Vol. LVII, No. 4., p. 1822.

[2] C. Suszyński, Restrukturyzacja przedsiębiorstw. Proces zarządzania zmianami, PWE, Warszawa 1999, p. 181-182.

[3] P. Siwek, *Praktyka pierwszych ofert publicznych w Polsce*, CeDeWu.pl, Warszawa 2005, p. 12-13.

[4] Art. 3, p. 3 *ACT of 29 July 2005 on Public Offering, Conditions Governing the Introduction of Financial Instruments to Organised Trading, and Public Companies* (Dz. U. of 23 September 2005)

[5] Art. 4, p. 5, *ACT of 29 July 2005 on Public Offering, Conditions Governing the Introduction of Financial Instruments to Organised Trading, and Public Companies* (Dz. U. of 23 September 2005)

important role of the capital market, especially the stock exchange, in the increase of both the share and supplementary capital of the firm as a result of the effective first public issuance of shares by the new stock company. Through the issuance of the new shares the company accumulates capital and the surplus of the issue price of shares over their nominal value is for them - after covering the costs of the issue - the source of growth of their supplementary capital[6]. Although the access to new sources of capital is most often indicated as the main reason for going public[7], the results of research on the following use of capital raised from the stock exchange indicate that an important premise of issuance of the new shares by the company is to rebalance its accounts after a period of high investment and dynamic growth[8], seeking thereby to reduction of the firm's risk and thus increasing its financial security. The received in this way proceeds are generally used to repay the existing debt[9]. Additionally, changes in the firm's capital structure reduce the costs and decrease the concentration of the bank credit[10]. The strategy of strengthening the capital base of the enterprise through the sale of new shares on an open exchange results in the increase of equity and helps to reduce the risk of bankruptcy[11].

Considering the form of an initial public offering from the perspective of the existing shareholders of the company wishing to go public it should be emphasized that the initial public offering is also considered as the first public sale of shares. This form consists of the sale of outstanding shares by initial shareholders, so cold secondary shares, but for the first time through the stock exchange[12]. With this transaction, investors who have invested capital in the earlier stages of the firm development can carry out the divestment process, which involves the sale of securities held in the investment portfolio and the execution of the expected capital gain. In other words the initial public offering allows initial owners to cut back the involvement in the company and exit from their investment. This reason for initial public offering is particularly important for private equity funds[13] and other groups of investors eager to exit from the investment, e.g. in the case of the privatization processes of the State Treasury's assets[14]. Furthermore, it can be seen as a mechanism to diversify the initial shareholders' portfolio and improve its liquidity.

In order to summarize the above considerations it should be noted that the initial public offering can be an issue of new shares for the first time through the public market - the first subscription - and the sale of the outstanding shares by the present shareholders, but the first time through the public market - the first sale[15]. In the market initial public offering practice, there may be sold either only primary shares or only secondary shares, as well as a combination of both. The structure of the shares sold to stock

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[6] Art. 396, § 2, *The Act of 15 September 2000, Commercial Companies Code.*

[7] See *The Oxford Handbook of Entrepreneurial Finance,* D. Cumming (edt.), Oxford University Press, New York 2012, p. 468–469; W. Kim, M.S. Weisbach, *Do firms go public to raise capital?*, NBER Working Paper Series, Working Paper 11197, http://www.nber.org/papers/w11197; J.R. Ritter, I. Welch I., *op. cit.*, p. 1796-1799.

[8] M. Pagano, F. Panetta, L. Zingales, *Why do companies go public? An empirical analysis*, „Journal of Finance" 1998, Vol. 53, p. 61.

[9] See W.H. Mikkelson, M.M. Partch, K. Shah, *Ownership and operating performance of companies that go public*, „Financial Economics" 1997, Vol. 44, p. 281-307; C.J. Auret, J.H.C. Britten, *Post-issue operating performance of firms listing on the JSE*, „Investment Analysts Journal" 2008, No. 68, p. 21-30.

[10] M. Pagano, F. Panetta, L. Zingales, *op. cit.*,p. 29.

[11] A. Duliniec, *Struktura i koszt kapitału w przedsiębiorstwie*, Wydawnictwo Naukowe PWN, Warszawa 1998, p. 25

[12] P. Siwek, *op. cit.*, p. 12–13.

[13] E. Barnes, E. Cahill, Y. Mccarthy, *Grandstanding in the U.K.Venture capital industry,* „Journal of Alternative Investments" 2003, Vol. 6 (3), p. 60–80.; L.A. Jeng, P.C. Wells, *The determinants of venture capital funding: Evidence across countries*, „Journal of Corporate Finance" 2000, Vol. 6, p. 241–289; B.S. Black, R.J. Gilson, *Venture capital and the structure of capital markets: Banks versus stock markets*, „Journal of Financial Economics" 1998, Vol. 47, p. 243–277.

[14] S-D. Choi, I. Lee, W.L. Megginson, *Do privatization IPOs outperform in the long run?*, „Financial Management" 2010, Vol. 39, p. 153–185.

[15] P. Siwek, *op. cit.*, p. 12–13.

market investors, based upon the primary and secondary portion, actually distinguishes subgroups of firms with different objectives for listing and motives for going public[16].

Methodology of the research

The empirical studies aim to identify and characterize the links between the financial standing of the company before the initial public offering and the form of its implementation. For this purpose there has been the use of the main financial ratios relating to the financial situation of the analysed companies, which relates to profitability (the return on sales ROS, the return on equity ROE and the return on assets ROA) accounting liquidity (the current liquidity ratio CR) and financial debt (the equity to fixed assets ratio E/FA, the debt ratio DR, the debt service coverage ratio DSCR and the debt to EBITDA ratio D/EBITDA).

In order to recognise more completely the financial standing of companies, which are going to go public and to identify the possibly occurring similarities between them, the cluster analysis has been used[17]. By using this method, it was possible to divide the investigated companies to groups where inside each of the separate groups the firms included were similar, but different separate groups were the least similar to each other. After the previous standardization of data and the analysis of the correlation between the analyzed characteristics of the financial situation, the clustering of companies in a relatively homogeneous classes has been conducted by Ward's Method and the similarities between units have been expressed by the Euclidean distance.

The empirical studies have been carried out on a sample of companies whose shares were listed on the main market of the Warsaw Stock Exchange for the first time between 2005 and 2012. There are 291 IPOs during this period in total. Then, from the research sample I exclude 44 foreign companies, take out 11 firms because their IPO does not include the sale of primary or secondary shares, delete 29 companies previously listed on NewConnect or MST-CeTo. In addition, due to the nature of business I also eliminate 3 banks and 1 insurance company, as well as 8 firms for which obtaining the necessary figures required for the research is not possible. After applying these filters, there are 195 IPOs left in the sample. The figures necessary to carry out empirical research come from the unconsolidated financial statements available in the *Notoria Service* database. The information on the type of shares sold in IPO, e.g. primary and secondary shares are hand-collected from the Register of financial instruments maintained by the Polish Financial Supervision Authority.

Results of empirical studies

The achieved results of empirical research on the relationship between the form of initial public offering and the financial condition of the companies before the first listing on the Warsaw Stock Exchange relate to two areas of the problem analysis. In the first part they relate to the recognition and assessment of financial ratios describing the financial situation of the investigated companies before initial public offering, as well as the identification of groups of firms with similar characteristics. The second part focuses on the identification of forms of the initial public offerings used in business practice and the search for compounds with the financial standing of the new listed companies.

The analysis of the observed values of financial ratios concerning profitability, liquidity and financial liabilities of the surveyed companies indicates that the strategy of the business development through the public security market is undertaken by enterprises with a very diversified financial condition (see Table 1).

[16] N. Huyghebaert, C. Van Hulle, *Structuring the IPO: Empirical evidence on the portions of primary and secondary Shares*, „Journal of Corporate Finance" 2006, Vol. 12, p. 318.

[17] Calculations have been performed with STATISTICA programme.

Table 1: The financial standing of the companies at the end of the year before the first listing on the Warsaw Stock Exchange

Specification	Mean	Std. dev.	Min	Q1	Median	Q3	Max
ROS	-0,5523	8,8393	-121,0419	0,0308	0,0656	0,1246	8,0719
ROE	0,2736	0,3282	-0,2249	0,0937	0,2191	0,3722	3,0751
ROA	0,1167	0,1203	-0,1024	0,0411	0,0870	0,1584	0,8170
CR	2,2505	4,5785	0,0268	1,0913	1,4345	2,2293	60,5000
E/FA	3,3929	21,5092	0,1315	0,7895	1,1167	1,9073	296,4444
DR	0,5047	0,2163	0,0058	0,3335	0,5581	0,6730	0,9110
DSCR	91,8078	891,9365	-210,6321	4,0143	9,5398	26,3146	12318,0000
D/EBITDA	4,6380	14,6241	-66,7124	1,6077	3,3002	5,5086	116,5812

ROS=Net profit/Revenues from sales of products, goods and materials; ROE=Net profit/Shareholders' equity; ROA= Net profit/Total assets; CR= Current assets/Short-term liabilities; E/FA=Shareholders' equity/Fixed assets; DR=Liabilities and reserves/Total assets; DSCR=(Earnings before Interest, Taxes, Depreciation+Amortization)/Financial expenses; D/EBITDA= Liabilities and reserves/(Earnings before Interest, Taxes, Depreciation+Amortization).

Source: the author's own study based on *Notoria Service Sp. z o.o.*

The presented in table 1 figures characterizing the financial situation of the companies prior to their debut on the stock exchange indicate that the vast majority of the analyzed firms have been profitable at the level of sales as well as equity and total assets. Although the average value of return on sales is negative, it is the result of the presence of outliers. The companies are also characterized by the significant variation of the CR ratio, describing the ability of the firm's ability to pay off its short-term liabilities with its current assets, but in most cases its level is close to the accepted standard. Its average value is at 2.25 and the median of 1.43. Moreover, the analysis of sources of funding shows that before the initial public offering, the majority of companies use mainly the equity to finance their business activities. You can point out that the observed levels of the E/FA, DR and D/EBITDA ratios indicate the high financial independence of the analyzed companies.

Because there is a considerable variation in the financial standing of firms willing to go public, it was necessary to apply certain methods of data mining in order to obtain homogeneous groups of subjects which facilitates the separation of their essential characteristics. The cluster analysis, which has been used to search for similarities between the studied companies, was preceded by the correlation study between the considered variables (see Table 2).

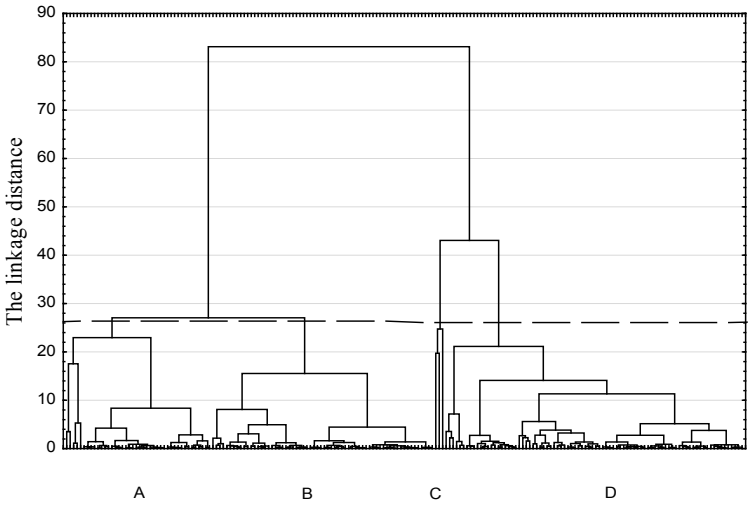
Table 2: The correlation matrix of indicators characterizing the financial condition of the investigated companies.

Specification	ROS	ROE	ROA	CR	E/FA	DR	DSCR	D/ EBITDA
ROS	1,0000							
ROE	0,5126*	1,0000						
ROA	0,7023*	0,8719*	1,0000					
CR	0,4383*	0,1187	0,3977*	1,0000				
E/FA	0,1899*	0,2098*	0,3628*	0,6319*	1,0000			
DR	-0,3105*	0,2727*	-0,1535*	-0,5695*	-0,3355*	1,0000		
DSCR	0,4867*	0,4693*	0,5984*	0,2991*	0,4086*	-0,2509*	1,0000	
D/EBITDA	-0,3274*	-0,2031*	-0,4638*	-0,4270*	-0,2644*	0,5246*	-0,3648*	1,0000

*statistical significance at the 0.1 level
Source: the author's own study

The analysis of the links existing between the characteristics of the financial standing indicates the presence of compounds with varying direction and strength. The results presented in Table 2 show that most of the observed correlation is characterized by a poor or moderate force. A strong correlation is observed between ROA and the ROE, as well as ROS. To keep the correctness of the used research methods, the ROA variable has been excluded from further research. Thereafter, the ratios for each company have been standardized and clustering carried out by Ward's Method allowed extracting a relatively homogeneous group of firms (see Figure 1).

Figure 1: The results of clustering of the analyzed companies - tree diagram



Source: the author's own study

The dendrogram in Figure 1 shows that at the linkage distance of 25 there are clearly distinguished 4 groups of objects, which are designated by the letters A, B, C and D. Cluster D is the most numerous

and includes 86 companies. Due to the small size of C group (only 3 companies), which makes it impossible to draw any constructive conclusions, this cluster is omitted in the following discussion. The separate groups of firms are considerably different from each other from the point of view of the applied in research financial ratios (see Table 3).

In comparison to other groups cluster A has been formed by companies that have the highest return on equity and the highest share of liabilities in the structure of capital. Moreover, enterprises assigned to this group have relatively lower levels of the current liquidity ratio. The companies assigned to clusters B and D are characterized by lower profitability. However, for companies form group B the lowest average values of E/FA and DR ratios, as well as the highest value of D/EBITDA ratio in comparison to other groups are observed. Cluster D includes companies with a relatively high level of CR, DSCR and E/FA ratios, which reflects the important role of their own sources of capital in the financing structure.

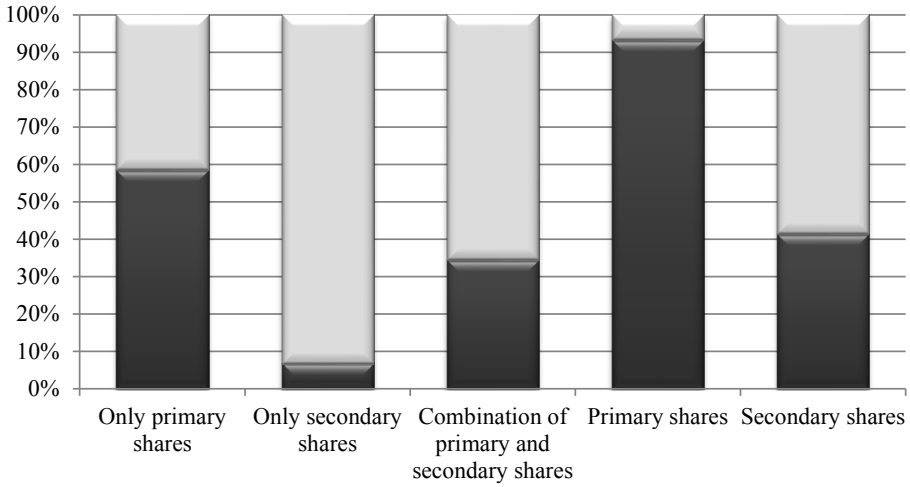
Table 3: Descriptive statistics of the ratios characterizing the financial standing of the analyzed companies according to the results of cluster analysis.

Specification	Mean	Std. dev.	Min	Q1	Median	Q3	Max
	Cluster A						
ROS	0,2839	1,2343	-0,0959	0,0472	0,0743	0,1178	8,0719
ROE	0,6071	0,5004	-0,0649	0,3798	0,4883	0,5889	3,0751
CR	1,3032	0,5792	0,1745	1,0588	1,1711	1,4739	3,2142
E/FA	1,4432	1,3618	0,1315	0,6592	0,9742	1,5502	6,1537
DR	0,6839	0,1162	0,2886	0,6159	0,6850	0,7558	0,9110
DSCR	23,7171	29,8700	0,1345	7,4259	11,4933	32,8814	152,1111
D/EBITDA	7,7921	20,6237	0,5390	2,0686	3,1168	4,4184	116,5812
	Cluster B						
ROS	0,0770	0,1616	-0,1630	0,0170	0,0388	0,0793	1,1117
ROE	0,1624	0,0921	-0,1547	0,1007	0,1794	0,2310	0,2945
CR	1,3220	0,6925	0,2709	1,0262	1,2321	1,4335	5,8345
E/FA	1,3387	1,1953	0,3025	0,6581	0,8481	1,4968	5,9986
DR	0,6573	0,0987	0,4991	0,5861	0,6329	0,7282	0,9047
DSCR	12,4102	28,8942	0,5818	3,2271	4,8659	9,8154	185,7996
D/EBITDA	9,9710	9,2723	2,8659	4,5284	6,0857	10,9254	46,3684
	Cluster D						
ROS	-0,0214	1,4903	-11,8767	0,0536	0,0865	0,1745	5,0806
ROE	0,1935	0,2080	-0,2249	0,0589	0,1391	0,2980	0,8210
CR	2,7154	2,2742	0,0268	1,5441	2,2293	3,0821	14,0127
E/FA	2,4446	4,0391	0,4398	0,9567	1,2901	2,1808	28,3985
DR	0,3155	0,1357	0,0058	0,2421	0,3266	0,3966	0,7632
DSCR	40,7920	96,3332	-210,6321	3,7155	15,3736	37,3565	474,0870
D/EBITDA	-0,5595	12,5821	-66,7124	0,7239	1,6492	2,8592	25,6366

Source: the author's own study based on *Notoria Service Sp. z o.o.*

The analysis of the adopted strategy of initial public offering indicates that the decision to go public on the Warsaw Stock Exchange is connected with the wish to implement a variety of purposes of both the companies and their owners. On the basis of the information presented in Figure 2 it can be concluded that the main reason for initial public offering in Poland is the desire to raise additional capital for the company (see Figure 2).

Figure 2: Public offerings of shares according to the floatation structure.



Source: the author's own study based on Register of financial instruments, Polish Financial Supervision Authority.

Taking into account the structure of shares offered to the stock market investors in the initial public offerings, the Warsaw Stock Exchange is not significantly different from the stock markets in other European countries [18]. More than 90% of initial public offerings on the Warsaw Stock Exchange in the period from 2004 to 2012 was associated with the issuance of new shares, which change directly into strengthening their capital base. It should be emphasized that in almost 60% of cases the stock market investors can only acquire the primary shares, which indicates the importance of the stock market for the lasting strengthening of the capital capacity of Polish enterprises.

Furthermore, the information presented in Figure 2 also indicates that the initial public offering is used by the existing shareholders to reduce their capital involvement in the company and to realize the expected capital gain. In more than 40% of companies the initial shareholders implement the divestment process by selling the securities held in their investment portfolio. However, the practice of selling secondary shares in the initial public offering shows that usually this sale is combined with the issuance of new shares by the company. Initial public offerings consisting exclusively on the sale of shares by existing shareholders on the Polish stock market are relatively rare and represent only 7% of all observation.

Taking into account the results of the clustering analysis and the information on the form of initial public offering, one can point at the existence of certain regularities expressed by the fact that, in group A, the sale of secondary shares to stock market investors can be more frequently observed, while in cluster B the offering of primary shares is dominating (see Table 4).

[18] See W. Kim, M.S. Weisbach, *op. cit*., p. 302-303.

Table 4: Different types of the initial public offering according to the results of the cluster analysis

Specification		Primary	Secondary	Combined	Only primary	Only secondary
Cluster A	Mean	0,9048	0,5476	0,4524	0,4524	0,0952
	Std. dev.	0,2971	0,5038	0,5038	0,5038	0,2971
Cluster B	Mean	0,9839	0,3710	0,3548	0,6290	0,0161
	Std. dev.	0,1270	0,4870	0,4824	0,4870	0,1270
Cluster D	Mean	0,9048	0,3810	0,2857	0,6190	0,0952
	Std. dev.	0,2953	0,4885	0,4545	0,4885	0,2953
The Kruskal–Wallis test	H statistics	4,0186	3,9183	3,4537	3,9183	4,0186
	p-value	0,1341	0,1410	0,1778	0,1410	0,1341

Source: the author's own study

On the basis of the information presented in Table 4 it can be indicated that in the companies characterized by the highest share of debt in the financing structure and a relatively high return on equity (cluster A) the existing shareholders relatively more often take the decision to reduce their capital involvement in the company and sell the owned shares. Meanwhile, in cluster B, that is in companies with lower sales and equity profitability, lower E/FA as well as DSCR ratios, the sale of primary shares is more frequently observed. In this area the obtained results are consistent with the Pecking Order Theory. Among the three groups of companies with a diversified financial condition, the sale of secondary shares by existing shareholders in the initial public offering is the least likely. However, in the case of companies belonging to cluster D the strategy of combined offer is relatively rarely implemented.

Conclusion

The stock exchange is an important place for companies and their shareholders. From the company's and its managers' point of view, the stock market is a source of the new capital that can be used to achieve certain business objectives. However, for existing shareholders the decision to go public opens the possibility for the substantial transformation of the ownership structure and restructuring their investment portfolio.

The presented in this paper results of empirical studies on the links between the financial situation of new stock companies and the form of the initial public offering indicate the accuracy of the assumptions contained in the research hypothesis. The initial public offerings of companies with better financial standing and higher use of debt in the capital structure in comparison to other firms are often involved in the sale of secondary shares. In the case of enterprises with a relatively weaker financial condition the issuance of new shares and their first listing on the stock exchange should be seen as a strategy of increasing the company's financial security by the sustained increase of reserves, especially capital reserves, in the capital structure.

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Aleksandra Pieloch-Babiarz
University of Lodz, Poland

NEOCLASSICAL AND BEHAVIORAL DETERMINANTS OF DIVIDEND PAYOUT POLICY

Summary

The primary aim of this paper is to find an answer to the research question about the main neoclassical and behavioral factors determining the level of dividend payment in the joint stock companies listed on a capital market. In order to achieve the purpose of the article, there was formulated general research hypothesis stating that the level of dividend payment depends on many diverse in their nature financial and non-financial factors of realization of dividend policy This hypothesis was operationalized by means of seven auxiliary hypotheses.

An empirical verification of the research hypothesis was carried out with the use of the multiple regression function, the methodology of dividend premium, the basic descriptive statistics, the coefficient of determination, the Pearson's coefficient of correlation and the tests verifying the equality of two independent samples.

The empirical studies were carried out on the companies from the electromechanical industry sector. The results of research did not allow for clear identification of the factors determining the level of dividend payment beyond such factors as the amount of earnings and tangible assets, which implies the need for further in-depth research in this area.

* * *

Introduction

A distribution of the net profit is a strategic decision for every company. This decision conditions the existence, development and competitiveness of the enterprise. However, the dividend policy remains the scientific problem that is still not fully examined and explained. This situation prompts to the further gradual searching for the solution of dividend puzzle. Therefore, the dividend payment policy is so widely discussed not only within the neoclassical theory of finance, but it is also attempted to be explained by behavioral finance.

The primary aim of this paper is to find an answer to the research question about the main neoclassical and behavioral factors determining the level of dividend payment in the joint stock companies listed on a capital market. In order to achieve the purpose of the article, there was formulated general research

hypothesis stating that the level of dividend payment depends on many diverse in their nature financial and non-financial factors of realization of dividend policy. This hypothesis was operationalized by means of seven auxiliary hypotheses[1]. The formulated purpose of the article and the presented hypotheses are oriented, in their intention, to a fuller understanding of the essence of various dividend theories as well as the different determinants of the level of dividend payment.

Chosen neoclassical and behavioral theories of dividend

Within the framework of neoclassical corporate finance, there are distinguished three main approaches to dividend payout policy. These are[2]:

a) neutral approach, which is represented by Miller and Modigliani. These authors, creating a dividend irrelevance theory, showed that the dividend policy has no impact on a market value of the company, and investors are indifferent whether they receive income in the form of dividend or capital gains. According to this theory, the market value of the company is affect only by the enterprise investment[3];

b) pro-dividend approach represented by Gordon[4] and Lintner[5]. By creating a bird in the hand theory, those authors showed that dividend has a positive effect on the market value of the company because the capital market investors prefer the dividend payments to the uncertain potential capital gains in the future;

c) anti-dividend approach, whose representatives argue that the dividend payment has a negative impact on the market value of the company. The reasons for such situation is perceived in a different taxation of dividend and capital gains. If dividend is taxed at a higher tax rate than capital gains, the shareholders prefer to leave the net profit in the company[6].

Among the neoclassical theory of finance that relate to dividend payout policy we should mention free cash flow theory[7]. This theory assumes that if a company has available funds and no profitable investment projects, free cash should be paid out in a form of dividend in order to maximize the shareholders' wealth and prevent the company from wasting money by investing it in the unprofitable investment projects. This theory claims that higher free cash flow should lead to higher dividend payments[8].

Another theory – which is important from the point of view of the factors influencing the dividend payout policy – is an agency theory. The financial literature widely support the role played by debt and dividends as agency-cost control mechanism, by solving the conflict of interest between the shareholders and managers[9]. Within the framework of deliberations on agency theory, it is suggested that the debt and dividend may be somehow related. On the one hand, it is said that high leverage makes dividend less

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[1] The auxiliary hypotheses are presented in subsection 3.

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[3] M. H. Miller, F. Modigliani, *Dividend Policy, Growth, and the Valuation of Shares*, "The Journal of Business" 1961, vol. 34, no. 4, p. 411-433.

[4] M. J. Gordon, *Dividends, Earnings, and Stock Prices*, "The Review of Economics and Statistics" 1959, vol. 41, no. 2, p. 99-105.

[5] J. Lintner, *Dividends, Earnings, Leverage, Stock Prices and Supply of Capital to Corporation*, "Review of Economics and Statistics" 1962, vol. 44, no. 3, p. 243-269.

[6] R. H. Litzenberger, K. Ramaswamy, *The Effects of Personal Taxes and Dividends on Capital Asset Prices: Theory and Empirical Evidence*, "Journal of Financial Economics" 1979, vol. 7, no. 2, p. 163-195.

[7] M. Jensen, *Agency costs of free cash flow, corporate finance and takeovers,* "American Economic Review" 1986, vol. 76, p. 323-329.

[8] M. Holder, F. Langrehr, L. Hexter, *Dividend Policy Determinants. An Investigation of the Influences of Stakeholders Theory*, "Financial Management" 1998, vol. 27, no. 3, p. 72-82.

[9] M. Jensen, *op. cit.,* p. 323-329.

valuable, and vice versa[10]. On the other hand, some authors point to the complementary use of those different mechanisms[11].

Analyzing the dividend theories and presented therein determinants of dividend payments, we should pay particular attention to the relationship between the net profit and the level of dividend payout. In the literature, it has been proven that changes in the level of dividend payment are strongly correlated with the past and current levels of net profit. Moreover, it is argued that managers of companies need to explain application of a particular dividend policy on the basis of simple and observable indicators, particularly the level of earnings[12].

A company's size is also considered among the determinants of dividend policy. The majority of scientists agree that larger companies pay higher dividends. This positive relationship between the company's size and dividend payout ratio is justified by several arguments. Firstly, the larger companies enjoy the better access to the capital market and are less financially constrained, which allows them to pay higher dividends[13]. Secondly, larger companies are usually mature enterprises with limited growth opportunities. As a result, they pay higher dividends to avoid an overinvestment[14]. What is more, it is argued that dividend payout policy can be influenced by the nature of company's assets. Dividend payments are found to be positively related to the assets tangibility on the basis that greater tangibility of company's assets facilitates its access to the capital markets. The companies with higher tangible assets can generally access the market for long-term debt because of existence of collateral and subsequent ability to secure debt[15].

Among the factors determining the level of dividend payment, there should be also included those associated with signaling theory, information asymmetry theory as well as the issue of undervaluation of company's shares. These theories are based on the assumption that dividend should be treated as one of the financial tools used by the board of directors to signal a certain information about the company to its stakeholders, especially the owners or potential investors. The dividend payment may be a signal informing about a good financial condition of the company or undervaluation of its shares on the capital market[16]. Furthermore, when analyzing the factors affecting the level of dividend payment, we should mention also those associated with the life cycle of a company[17] and the clientele effect[18].

Among the behavioral theories of dividend, an important role is played by a catering theory of dividend. It is a follow-up and an extension to the issues concerning the propensity to pay dividend proposed by Fama and French[19]. This theory assumes that stock market investors behave irrationally, which means that they make investment decisions on the basis of belonging of the company to one of two categories of the enterprises. Such categories are established only on the basis of the criterion of dividend payments. In contrast, managers behave in a rational way. They analyze the activities and reactions of stock exchange investors and on this basis adjust the dividend payout policy to the owners'

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[10] F. H. Easterbrook, *Two Agency-Cost Explanations of Dividends*, "American Economic Review" 1984, vol. 74, no. 4, p. 650-659.

[11] More: M. Jensen, *op. cit.*., p. 323-329.

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needs. According to catering theory of dividend, managers pay out dividend in the years when the capital market highly values dividend companies and discontinue dividend payments during the years when so-called dividend premium decreases or is negative.

The catering theory of dividend has been confirmed mainly on the US market[20] and the UK market[21]. It has not found a confirmation on the Japanese market[22] and chosen developed European markets[23]. Research in the field of the catering theory of dividend were also conducted on the Warsaw Stock Exchange. However, they did not give the unequivocal results. The analysis carried out by Gajdka has not confirmed the presence of catering on the Warsaw trading floor[24]. The study conducted by Kowerski showed that the dividend premium has positive, but not very strong impact on dividend payout policy. This author stated that an existence of dividend premium is one of many factors determining the decisions on dividend payment[25]. The results of preliminary studies carried out by Pieloch-Babiarz on a group of companies from the electromechanical industry sector suggested that the managers can make decisions in accordance with the catering approach[26].

The catering theory of dividend is gradually developed and replenished by the additional factors that may determine the behavior of investors and managers, such as:

a) a level of dividend payment – with an increase of dividend premium managers increase the amount of dividend payment. Otherwise, they replace the dividend with the share repurchases[27],
b) a size of the company, a possibility of enterprise's development and a profitability of the company – propensity to pay dividend depends mostly on these factors. To a lesser extent, it depends on the height of dividend premium[28],
c) an investment risk – this factor causes that even the low dividend payments may attract these investors who treat the dividend-paying companies as relatively less risky[29],
d) a capital market situation – the payment of dividend in the periods of slump can reduce the perception of a shareholder's loss. The dividend has then a higher subjective value than that one paid at the same level, but during the growth of market quotations, when the investors have the opportunities to achieve capital gains[30].

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[27] W. Li, E. Lie, *Dividend Changes and Catering Incentives*, „Journal of Financial Economics" 2006, no. 80, p. 293. The preliminary studies conducted on the Warsaw Stock Exchange showed that – according to the catering theory of dividend – in the years of a relatively high dividend premium, shareholders pay attention only to the fact of dividend payment, not its amount. In contrast, in the years of low dividend premium the amount of dividend payment can affect the behavior of investors and formation of market value of the company. See: A. Pieloch-Babiarz, *Reakcja rynku kapitałowego na wypłatę dywidendy inicjalnej w świetle cateringowej teorii dywidendy*, „Studia Ekonomiczne" Uniwersytetu Ekonomicznego w Katowicach, Katowice, in print.

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[29] J. Gajdka, *op. cit.,* p. 143.

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Among the other behavioral approaches to dividend payment we find, for instance: behavioral life cycle, mental accounting, self-control, perspective theory and behavioral signaling[31].

Methodology of scientific research

The empirical studies had been conducted on a group of 42 companies operating in the electromechanical industry sector. Those companies were listed on the Warsaw Stock Exchange in the period between 2001-2014. Due to chosen methodology of research, some of calculations had to be conducted in the year 2000. Data were derived from the *Stock Exchange Yearbooks*, *Notoria Service* and *GPWInfoStrefa* platform. In the first stage of analysis, research sample was characterized. The particular attention was paid to propensity to pay dividend, stability of dividend policy and two dividend payment ratios, i.e.: dividend per share (*DPS*) and dividend payout ratio (*DPR*).

The empirical verification of research hypothesis was carried out with the use of multiple regression function model which is an attempt to find the most important factors determining the level of the dividend payment. Among them, there are mainly neoclassical determinants. Basing on the most important neoclassical theories of corporate finance, the general research hypothesis was operationalized by formulating the following auxiliary hypotheses:

a) H1 – with an increase in the amount of net operating cash flow we observe an increase in the level of dividend payment,
b) H2 – the more liquid is the company the higher part of net profit is allocated to dividend payment,
c) H3 – an increase in indebtedness reduces the level of dividend payments,
d) H4 – more profitable companies pay out higher dividends,
e) H5 – in the large enterprises greater part of net profit is intended for the dividend payment,
f) H6 – with an increase of share undervaluation we observe an increase in the level of dividend payment.

Moreover, the model includes behavioral factor. Its involved in the study is related to the catering theory of dividend. The division of research period into the years of high and low dividend premium allowed to formulate the last auxiliary hypothesis – H7, which states as follows: in the years of high dividend premium the companies pay out a lower dividend. Such a formulation of auxiliary hypotheses is a direct result of the following financial theories: free cash flow theory, signaling theory, information asymmetry theory and catering theory of dividend. In addition, we took into consideration the business debts, company's profitability, its size and share undervaluation.

The multiple regression function has the following form:

$$DPR_{i,t+1} = \alpha_{i,t+1} + \beta_1 CF_{i,t} + \beta_2 CR_{i,t} + \beta_3 QR_{i,t} + \beta_4 DR_{i,t} + \beta_5 D/EBITDA_{i,t} + \beta_6 ROE_{i,t} + \beta_7 ROA_{i,t} + \beta_8 lnTA_{i,t} + \beta_9 TANG_{i,t} + \beta_{10} P/BVPS_{i,t} + \beta_{11} P/EPS_{i,t} + \beta_{12} DIVPREM_{i,t} + \varepsilon_{i,t+1}$$

where:

$\alpha_{i,t+1}, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9, \beta_{10}, \beta_{11}, \beta_{12}$ – structural parameters of the model,
$\varepsilon_{i,t+1}$ – random component.

The dependent variable is dividend payout ratio ($DPR_{i,t+1}$) expressed by the formula:

$$DPR_{i,t+1} = \frac{DPS_{i,t+1}}{EPS_{i,t}}$$

where:

$DPS_{i,t+1}$ – dividend per share of company i in year t+1,
EPS_t – earnings per share of company i at the end of year t.

[31] Szerzej: J. Gajdka, *op. cit.*, p. 125-162.

The explanatory variable used for the verification of the auxiliary hypothesis H1 is expressed by the following formula:

$$CF_{i,t} = \frac{OCF_{i,t}}{TA_{i,t}}$$

where:

$OCF_{i,t}$ – net operating cash flow of company i at the end of year t,

$TA_{i,t}$ – total assets of company i at the end of year t.

To verify the auxiliary hypothesis H2 we used two financial liquidity ratios, i.e.: current ratio ($CR_{i,t}$) and quick ratio ($QR_{i,t}$) given by the formulas:

$$CR_{i,t} = \frac{CA_{i,t}}{CL_{i,t}} \quad \textbf{and} \quad QR_{i,t} = \frac{CA_{i,t} - I_{i,t}}{CL_{i,t}}$$

where:

$CA_{i,t}$ – current assets of company i at the end of year t,

$CL_{i,t}$ – current liabilities of company i at the end of year t,

$I_{i,t}$ – inventories of company i at the end of year t.

The auxiliary hypothesis H3 was verified using two variables, i.e.: $D/EBITDA_{i,t}$ (which is the relationship of debt to operating profit before interest and taxes, depreciation and amortization of company i at the end of year t) and debt ratio ($DR_{i,t}$) expressed by the formula:

$$DR_{i,t} = \frac{D_{i,t}}{TA_{i,t}}$$

where:

$D_{i,t}$ – debt of company i at the end of year t.

To verify the auxiliary hypothesis H4 we used return on equity ($ROE_{i,t}$) and return on assets ($ROA_{i,t}$) ratios, which are determined by the following formulas:

$$ROE_{i,t} = \frac{NPr_{i,t}}{E_{i,t}} \quad \textbf{and} \quad ROA_{i,t} = \frac{NPr_{i,t}}{TA_{i,t}}$$

where:

$NPr_{i,t}$ – net profit of company i at the end of year t,

$E_{i,t}$ – equity of company i at the end of year t.

Hypothesis H5 was verified with the use of explanatory variable $lnTA_{i,t}$ (the natural logarithm of total assets) and variable $TANG_{i,t}$ given by the formula:

$$TANG_{i,t} = \frac{TAA_{i,t}}{TA_{i,t}}$$

where:

$TAA_{i,t}$ – tangible assets of company i at the end of year t.

The verification of hypothesis H6 was conducted using variable $P/BVPS_{i,t}$ (price-to-book value per share of company i at the end of year t) and variable $P/EPS_{i,t}$ (price-to-earnings per share of company i at the end of year t).

In order to verify the auxiliary hypothesis H7, the dividend premium was implemented. The dividend premium is defined as the difference in the average price-to-book ratios of dividend payers and nonpayers. The dividend premium was calculated using the formula for equal-weighted dividend premium. The formula for equal-weighted dividend premium in year t is as follows[32]:

[32] Compare: J. Gajdka, *op. cit*., p. 152, M. Kowerski, *op. cit*., p. 182, A. Pieloch-Babiarz, *Catering…, op. cit.*, p. 185.

$$EWp_t^{D-ND} = \frac{1}{NP_t}\sum_{i=1}^{NP_t}\left(EW\left[\frac{p}{BVPS}\right]\right)_{i,t} - \frac{1}{NN_t}\sum_{n=1}^{NN_t}\left(EW\left[\frac{p}{BVPS}\right]\right)_{n,t}$$

where:

EWp_t^{D-ND} – equal-weighted dividend premium at the end of year *t*,

$\left(EW\left[\frac{p}{BVPS}\right]\right)_{i,t}$ – the value of price-to-book ratio at the end of year *t* for *i* payer,

$\left(EW\left[\frac{p}{BVPS}\right]\right)_{n,t}$ – the value of price-to-book ratio at the end of year *t* for *n* nonpayer,

NP_t – the number of payers in year *t*,

NP_t – the number of nonpayers in year *t*.

Next, we determined the median for the dividend premium and divided the research period into the years of relatively high and relatively low dividend premium. The years of relatively high dividend premium are those years for which the dividend premium was higher than the median. Otherwise, it was the time of relatively low dividend premium. Assuming that the dividend payment decisions are based on the historical data, it was supposed that the level of dividend premium in one year affects the dividend payment decision in the following year. An explanatory variable $DIVPREM_{i,t}$ is a dummy variable, where:

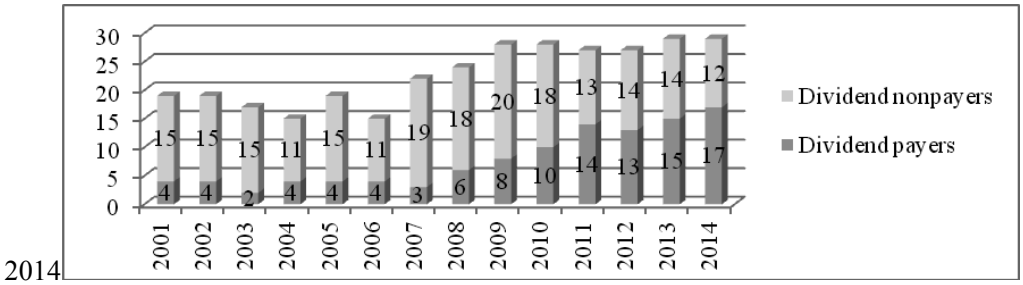
$$DIVPREM_{i,t} = \begin{cases} 1 \textbf{ if } dividend\ premium\ was\ higer\ than\ median \\ 0 \textbf{ if } dividend\ premium\ was\ lower\ or\ equal\ to\ median \end{cases}$$

The verification of hypothesis H7 was expanded to include an analysis of the basic descriptive statistics of dividend payout ratios in the period of relatively high and low valuations of dividend-paying companies. In addition, we also verified the hypothesis of equality of means of DPS and DPR in two independent samples using Fisher-Snedecor test, t-Student test and t-Student test with Cochran-Cox adjustment. In the study, we also used the coefficient of determination (R^2) and Pearson's coefficient of correlation r_{yx}.

General characteristics of the dividend payout policy conducted by the companies from the electromechanical industry sector in the years 2001-2014

In the majority of years of the analyzed period, among companies operating in the electromechanical industry sector dominated those enterprises whose shareholders did not participate in the distribution of net profit in the form of dividend. Only in the three years, i.e. in 2011, 2013 and 2014, we observed more dividend payers than nonpayers. It was respectively 14, 15 and 17 companies, which accounted for 51,85%, 53,27% and 58,62% of all companies annually. The number of dividend-paying companies began to grow in the second half of the analytical period. In the years 2008-2014 the number of companies that paid dividend increased nearly three times (from 6 companies in 2008 to 17 in 2014). The majority of companies paid out the dividend in the last year of analysis (17 cases), and the least of them paid dividend in 2003 – only 2 companies (see Figure 1).

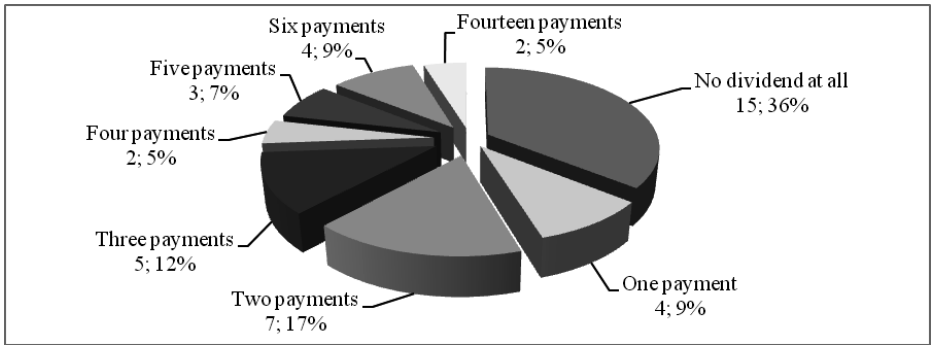
Figure 1: The propensity to pay dividend in electromechanical industry sector in the period between 2001-2014



Source: own study on the basis of *Notoria Serwis* and *GPWInfostrefa* platform.

In majority of years, dividend nonpayers dominated. In the chosen study period, we observed only 15 enterprises (36% of the surveyed companies), which conducted the long-standing policy of zero dividend payout ratio[33]. It must be noted that most of companies (approx. 2/3 of the population) paid out a dividend at least once in the period between 2001-2014. The owners of 17 companies, that operated in the electromechanical industry sector, participated in the distribution of net profit on a regular basis. In the case of 10 companies, dividend payment had an irregular character[34]. Only in two companies dividend payments were observed in each of the studied years. These companies were Apator SA and Hydrotor SA in which dividend payments occurred fourteen times, one by one. In terms of frequency of payments, the stable dividend policy was also observed in the other companies. Dividend was paid six times by four companies, five times by three companies, four times by two enterprises and three times by five firms. The most of companies paid dividends twice (seven enterprises) (see Figure 2).

Figure 2: The stability of dividend payment policy in the electromechanical companies listed on the Warsaw Stock Exchange in the period between 2001-2014



Source: own study on the basis of *Notoria Serwis* and *GPWInfostrefa* platform.

[33] For companies running a long-standing policy of zero dividend payout ratio we understand those firms which did not pay dividend in each of the analyzed years.

[34] As a regular dividend payment we adopted – in accordance with a methodology of WIGdiv calculation – these payment from net profit, which took place at least 3 times in 5 year period.

In the years 2001-2014, the analyzed companies paid a dividend per share on an average level equal to PLN 1,14. In half of the cases *DPS* was higher than PLN 0,44, in every fourth case it was lower than PLN 0,30 and in one case on four it was higher than PLN 1,44. The standard deviation stood at PLN 1,83. The highest average *DPS* values were observed in 2006 and amounted to PLN 2,59, and the median stood at PLN 2,43. While the lowest average value of the dividend per share was recorded in 2009. The average value of *DPS* amounted to PLN 0,48 and the median was equal to PLN 0,28 (see Table 1).

Table 1: Basic descriptive statistics of dividend payout indicators

Years	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
DPS – Dividend per share															
$\bar{x}$	1,06	0,84	0,95	1,26	1,72	2,59	1,13	0,94	0,48	0,61	0,72	1,00	1,48	1,53	1,14
M_e	0,90	0,50	0,95	1,07	1,72	2,43	1,00	0,30	0,28	0,38	0,40	0,40	0,35	0,42	0,44
Q_1	0,48	0,36	0,68	0,42	1,11	1,78	0,73	0,12	0,14	0,30	0,27	0,20	0,30	0,29	0,30
Q_3	1,48	0,98	1,23	1,90	2,34	3,24	1,46	2,10	0,45	0,93	0,66	0,75	0,86	1,13	1,44
S_e	0,80	0,85	0,78	1,03	0,92	1,63	0,74	1,09	0,59	0,53	0,87	1,70	2,84	3,04	1,83
DPR – Dividend payout ratio															
$\bar{x}$	0,58	0,63	0,74	0,42	0,38	0,53	0,62	0,60	0,55	0,57	0,78	0,55	0,61	0,72	0,61
M_e	0,56	0,61	0,74	0,48	0,41	0,48	0,48	0,60	0,45	0,52	0,58	0,60	0,58	0,67	0,53
Q_1	0,44	0,52	0,58	0,39	0,33	0,46	0,47	0,47	0,25	0,44	0,48	0,34	0,44	0,33	0,39
Q_3	0,56	0,73	0,90	0,51	0,46	0,57	0,70	0,73	0,62	0,66	0,90	0,70	0,84	0,85	0,73
S_e	0,30	0,32	0,45	0,19	0,11	0,11	0,26	0,26	0,43	0,19	0,46	0,24	0,25	0,48	0,33

Source: own study on the basis of *Notoria Serwis* and *GPWInfostrefa* platform.

An analysis of dividend payout ratio showed that during the research period the companies paid out on average 61% of net profit. Every second electromechanical company paid at least 53% of positive net financial result, while one in four paid maximally 39% of net profit. A quarter of companies paid more than 73% of net profit for the last financial year. The highest average *DPR* was observed in 2011 (78%) and the lowest in 2005 (38%) (see Table 1).

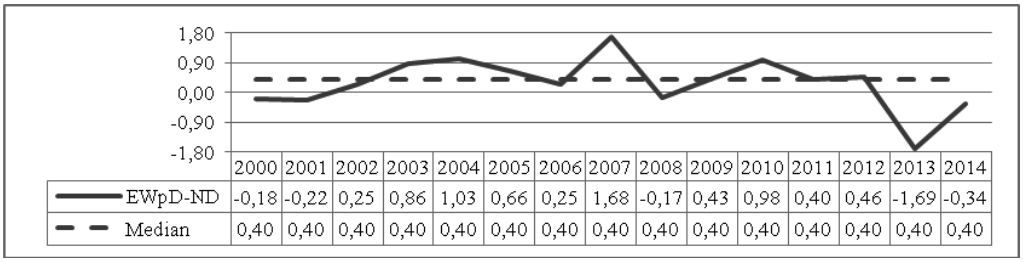
The results of empirical research on the impact of chosen neoclassical and behavioral factors on the level of dividend payment

The dividend premium was positive in the majority of analyzed years. This means that the capital market was pricing dividend payers higher than nonpayers. The highest dividend premium was observed in 2007 ($EWp^{D\text{-}ND}$ stood at 1,68). The lowest equal-weighted dividend premium occurred in 2013. It was equal to -1,69. The average annual value of $EWp^{D\text{-}ND}$ in the years 2000-2014 amounted to 0,29. The median of dividend premium stood at 0,40. By adopting the median value as a reference level of the dividend premium, which is used by the companies in the process of deciding to pay (i.e. to initiate or to

continue dividend payments) or not to pay dividend (including dividend omissions), the research period was divided into years of relatively high and relatively low valuation of dividend payers. For the year of relatively high valuation of dividend payers we considered that year in which the dividend premium was at least equal to the median. Otherwise, that year was considered to be the year of relatively low valuation of dividend payers.

Consistent with the catering approach, the decision to pay dividend is made in the company on the basis of the amount of dividend premium for a previous year. For the years of relatively high dividend premium were considered the following years: 2003, 2004, 2005, 2007, 2009, 2010 and 2012. This means that the companies should be more likely to pay dividend in years: 2004-2006, 2008, 2010-2011 and 2013 (see Figure 3).

Figure 3: The values of equal-weighted dividend premium and its median in the period between 2000-2014



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
EWpD-ND	-0,18	-0,22	0,25	0,86	1,03	0,66	0,25	1,68	-0,17	0,43	0,98	0,40	0,46	-1,69	-0,34
Median	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40

Source: own study on the basis of *Stock Exchange Yearbooks* and *Notoria Serwis*.

The verification of parameters of multiple regression function was carried out on the basis of statistics of t-Student test. The probability of making an error of the first kind was assumed to be equal to 5%. The study showed that the value of a statistic of t-Student test was included in the critical area in the case of the parameters standing only at three variables, i.e. $ROE_{i,t}$, $ROA_{i,t}$ and $TANG_{i,t}$. The positive values of β_6, β_7 and β_9 – standing respectively at these variables – indicate one-way changes between return on equity, return on total assets, tangible assets and the amount of dividend payment. Along with the increase of net profit attributable to the equity and company's assets we observe an increase in the level of dividend payments. Moreover, with the increase of the tangible fixed assets, a larger part of net profit is paid in the form of dividend. At a chosen significance level, there is no basis to reject the other null hypothesis stipulating that the explanatory variables have significant influence on the formation of the dependent variable. What is more, it should be noted that the relationships between explanatory variables and the dependent variable expressed by a coefficient of determination are positive and weak (R^2 stood at 0,321). This situation seems to confirm a complexity of the issue of factors influencing the height of the dividend payment. Low values of the coefficient of determination may indicate a large diversity of determinants of dividend payments and also indicate the factors which were not included in this model (see Table 2).

It is worth noting that the Pearson's coefficients of correlation calculated for the dependencies between explanatory variables and the dependent variable were not high, which indicates a low correlation between the studied variables. The highest value of the coefficient r_{yx} was observed for the relationship between the explanatory variables $ROE_{i,t}$, $ROA_{i,t}$ and $TANG_{i,t}$ and the dependent variable. It amounted to, respectively, 0,270 – a weak correlation – and 0,386 and 0,362 – an average correlation.

Table 2: The direction and strength of impact of chosen determinants on the level of dividend payments carried out by companies from electromechanical industry sector

Explanatory variables	Value of the structural parameters of the model	Pearson's coefficient of correlation r_{yx}
$CF_{i,t}$	0,344	0,065
$CR_{i,t}$	0,077	0,171
$QR_{i,t}$	0,057	0,105
$ROE_{i,t}$	0,861*	0,270
$ROA_{i,t}$	1,417*	0,386
$DR_{i,t}$	-0,244	-0,066
$D/EBITDA_{i,t}$	-0,035	-0,173
$lnTA_{i,t}$	-0,143	-0,107
$TANG_{i,t}$	0,668*	0,362
$P/BVPS_{i,t}$	0,141	0,134
$P/EPS_{i,t}$	0,001	0,020
$DIVPREM_{i,t}$	-0,071	-0,032
R^2	0,321	x

* statistical significance at the level of $\alpha = 0,05$

Source: own study on the basis of *Stock Exchange Yearbooks* and *Notoria Serwis*.

Although the Pearson's coefficients of correlation testify to the weak strength of the relationship between the examined variables, one might want to look at the direction of the impact of chosen determinants on the height of the dividend payment. In each case, the direction of influence of various factors on the level of dividend payment, expressed by the Pearson's coefficient of correlation, coincided with the direction of impact expressed by the estimated structural parameters of the model. The positive values of coefficient r_{yx}, which shows an increase in dividend payout ratios together with an increase in the examined factors, were observed for the following explanatory variables: net operating cash flows, current ratio, quick ratio, return on equity, return on total assets, relationship between tangible assets and total assets, price-to-book value ratio, price-to-earnings per share. In contrast, negative values of Pearson's coefficient of correlation were observed in the case of: debt ratio, debt-to-earnings before interest, tax, depreciation and amortization ratio, size of the company and dividend premium (see Table 2).

The negative values of Pearson's coefficient of correlation, calculated in the case of dividend premium, as well as the negative value of the parameter standing at the explanatory variable $DIVPREM_{i,t}$, testify to the lower dividend payments in the years, in which the capital market valuated dividend-paying companies higher than the nonpayers. These results were also confirmed by a preliminary analysis of basic descriptive statistics of dividend payout indicators in the years relatively high and low dividend premium.

In the years of relatively high dividend premium the average values of dividend per share were lower than in the years of relatively low dividend premium. They amounted, respectively, to PLN 1,07 and PLN 1,14. In turn, the median values amounted, respectively, to PLN 0,42 and PLN 0,45 (see Table 3).

Table 3: The descriptive statistics of dividend payout indicators in the years of relatively high and low dividend premium

Descriptive statistics	Years of relatively high dividend premium	Years of relatively low dividend premium
DPS – Dividend per share		
$\bar{x}$	1,07	1,14
M_e	0,42	0,45
Q_1	0,30	0,29
Q_3	1,63	1,33
S_e	1,69	1,88
Min	0,04	0,05
Max	10,44	12,38
DPR – Dividend payout ratio		
$\bar{x}$	0,55	0,77
M_e	0,50	0,54
Q_1	0,40	0,41
Q_3	0,70	0,79
S_e	0,25	1,23
Min	0,15	0,19
Max	1,05	10,24

Source: own study on the basis of *Stock Exchange Yearbooks* and *Notoria Serwis*.

An analysis of dividend payout ratio showed that in the years of relatively higher dividend premium companies paid out on average 55% of net profit, while in the years when $EWp^{D\text{-}ND}$ was relatively low electromechanical companies paid out larger part of net profit – on average 77%. The median was also higher in the years of low dividend premium and amounted to 0,54. One quarter of the companies paid in these years less than 41% of net profit, and every fourth company more than 79%. In this case, the standard deviation was much higher and amounted to 1,23.

Table 4: The values of Fisher-Snedecor test, t-Student test and t-Student test with Cochran-Cox adjustment verifying the hypothesis of the equality of means of dividend payout indicators in the years of high and low dividend premium

Specification	Mean		Fisher – Snedecor test		t-Student test		t-Student test with Cochran-Cox adjustment	
	High premium	Low premium	F	F_α	t	t_α	t	t_α
DPS	1,07	1,14	1,232	1,559	0,199	1,983	x	x
DPR	0,55	0,77	24,309	1,576	x	x	1,219	1,979

Source: own study on the basis of *Stock Exchange Yearbooks* and *Notoria Serwis*.

Despite the fact that a preliminary analysis of the level of dividend payment indicates that in the years of the relatively high dividend premium the average dividend is lower than the dividend paid in the years of low dividend premium, at the significance level $\alpha = 0{,}05$ there is no reason to reject hypothesis H_0 stipulating that the amount of dividend payments do not vary depending on the years of high or low dividend premium. In the case of dividend per share ratio, at the selected level of significance, there is no basis to reject the null hypothesis of equality of variances ($F < F_\alpha$), and the amount of dividend paid per share is not different in the studied groups due to the catering aspects of dividend payment ($t < t_\alpha$). In turn, in the case of dividend payout ratio, at a significance level $\alpha = 0{,}05$, the hypothesis of equality of variances should be rejected in favor of the alternative hypothesis ($F > F_\alpha$). Also in this case, we have to say that companies that are paying dividend in the years of high and low dividend premium are no different in the terms of profit that they allocate to dividend payment ($t < t_\alpha$) (see Table 4).

Conclusion

The results of empirical studies conducted among the companies operating in electromechanical industry sector showed that with an increase in return on equity and return on total assets dividend payment also increases. Moreover, together with an increase in tangible fixed assets we observe that larger part of net profit is paid in the form of dividend. The results of the study were inconclusive to the other variables. The low value of the coefficient of determination testifies to the complexity of the research problem and implies the need for a continuation of that research.

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Michał Comporek
University of Lodz, Poland

DIVIDEND BENEFITS VERSUS STRATEGIES OF CURRENT ASSETS MANAGEMENT IMPLEMENTED BY INDUSTRIAL COMPANIES LISTED ON THE WARSAW STOCK EXCHANGE

Summary

The main aim of this paper is to examine the relationship between the realized dividend benefits and current assets management strategies implemented by listed industrial companies.

For the realization of the aim of this research, main hypothesis has been established, stating that between strategies of current assets management and dividends paid to shareholders of industrial enterprises, there is a generically diverse relationship. The nature of this relationship is positive in companies implementing an offensive strategy of current assets management, and negative in companies characterized by a defensive nature of current assets management scheme implemented.

Empirical studies were conducted among industrial public companies listed on the Stock Exchange in Warsaw between 2008-2012.

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Introduction

The preeminent aim of this dissertation is to specify relations between realized dividend benefits and current assets management strategies implemented by public stock companies operating in the field of widely understood industry. The aforementioned two issues are interconnected, as they reflect the existing multitude and diversity of company value determinants that may be identified both in terms of company financing sources and their resources. Dividend benefits are often considered to be an important and direct factor shaping the value of a company, but asset management is not a direct determinant of the said value. Such a state of affairs is caused by, among others, differences in character and the diversity of their roles in both operational and strategic company management systems.

Current assets management is mainly connected with maintaining the continuity and rhythmicity of production and sales processed while at the same time minimizing costs of goods sold and shaping financial liquidity of a business entity. At the same time, the process relates to shaping the financing

sources structure in such a way for it to maximize the revenue generated by a given company. From the point of view of the research matter, it is of significant importance, as dividend benefits highly depend on generated and shared net profit. The higher its valve, the highest return on investment and the higher the potential benefits for the owners from their contribution to shared capital[1].

It may be therefore stated that juxtaposing dividend benefits with current assets management strategies is a justified research method, as it aims at answering the following question: can dividend benefits depend on the undertakings performed by the company in the operational sphere of operation? The latter is unique in character, as it allows a business entity to create conditions beneficial for generating net profit in a constant manner.

While formulating a basic research hypothesis, it may be assumed that there is a diversified relation between current assets management strategies realized by industrial companies and dividends paid to shareholders. The said relation is positive in character – as specified by an introduced supplementary hypothesis – in companies realizing an offensive current assets management strategy, and negative for companies opting for a defensive one.

In order to verify the validity of the hypotheses presented above and to realize the aim of this dissertation, the author has taken advantage of data from empirical examinations made among public stock companies listed on Warsaw Stock Exchange between 2008 and 2012. An empirical verification of the adopted hypothesis has been made by means of: the analysis of annual financial statements made by stock companies accessed from the database of the Notoria Serwis Joint-Stock Company and the examination of the data from Yearbooks of Warsaw Stock Exchange.

Basic empirical examinations have been focused around the values of correlations calculated by means of Spearman's rank correlation coefficient (R). The latter has been used to measure the density and direction of correlation between: net current capital in current assets share index and chosen coefficients specifying the level of dividends paid by stock companies, such as: dividend per stock, dividend yield radio, and dividend payout index (in its both basic and modified version)[2].At the end of the research procedure, it has been checked, by means of Brown-Forsythe tests, if the type of implied current assets management strategies has a statistically relevant impact on shaping the coefficients specifying dividend benefits for the shareholders of industrial stock companies.

Notion and types of current assets management strategies implemented by industrial listed companies

Current assets management is a complex and multilayered process of acquiring, collecting, and utilizing current assets that aims at the realization of a myriad of operational and strategic goals set by a company. Even though the hybridization of presumptions of modern business entities functioning makes it rather hard to unequivocally and authoritatively specify the ultimate goal of a company[3], the major goals of an effective current assets management strategy is to keep the company operating and developing.

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[1] Sierpińska M., *Polityka dywidend w spółkach kapitałowych*, PWN, Warsaw – Cracow 1999, p. 11.

[2] According to J. Guilford, the following interpretation of calculated correlation coefficients (r) should be adopted:
- $r = 0$ – no correlation,
- $0 < |r| < 0{,}3$ – marginal correlation,
- $0{,}3 \leq |r| < 0{,}5$ – typical correlation,
- $0{,}5 \leq |r| < 0{,}7$ – high correlation,
- $0{,}7 \leq |r| < 0{,}9$ – very high correlation,
- $|r| \geq 0{,}9$ – almost full correlation,
- $|r| = 1$ – full correlation (Guilford J. P., *Podstawowe metody statystyczne w psychologii i pedagogice*. PWN, ed. II. Warsaw, 1964)

[3] Duraj J., *Podstawy ekonomiki przedsiębiorstwa*, PWE, Warsaw 2000, p. 54.

The minimization of costs of goods sold, the increase of level of incomes, and the increase of operational monetary flows may be considered three basic dimensions of a positive assessment of company's current assets management strategy. In the first case, the assessment is based on checking the relation of the costs of goods sold to the value of the current assets or net current capital. In the second scenario, the analysis of current assets management is based on the valuation of the relation between the value of sales-related incomes and the value of current assets or net current capital. In the third current assets management assessing scheme, one has to analyze the correlation between operational cash flows and the value of current assets or net current capital. The introduction of the abovementioned exogenous variables being the basis of assessment of current assets management, that is – the value of current assets and the value of net current capital - is caused by the necessity to highlight the role and importance of the volume and structure of current assets with regard to shaping production and marketing-related results, as well as to financial liquidity directly translating into the possibility to maintain continuous operation of a company.

To realize the task of the dissertation, current assets structure index has been used as an indicator of management strategy utilized by a given company. It is a relation of the net current capital to the value of current assets *(Wscan)*.The said index has the following form:

$$Wscan = \frac{CAN}{CA} = \frac{CA - CL}{CA} = 1 - CLqR^{-1}$$

where:
Wscan - current assets structure index,
CA – value of current assets,
CAN – value of working capital,
CL – value of current liabilities,
CLqR – company's current financial liquidity coefficient.

The current assets management strategy indicator formula precisely shows the individual components of current assets owned by the company after the repayment of current liabilities. At the same time, the formula informs about the presence of net current assets financed from long-term sources. The aforementioned current assets components can include reserves and liabilities only. Short-term investments, together with financial resources being their component, may be in their entirety used to finance the current operational activities of a given company.

In accordance with the set assumptions, defensive (conservative) current assets management strategies are characteristic for companies, the current assets structure index of which is at least 25 % higher than the mean calculated for all the industrial stock companies in a given sector. Offensive (aggressive) strategies apply to business entities, whose share of net current capital in current assets is at least 25% lower than the mean calculated for industrial stock companies for an analyzed period of time. The moderate (balanced) strategy is identified when the value of the current assets structure index deviates up to25% *in minus* and *in plus* from the sectorial mean of the value in question[4].

The proposed classification is in line with numerous concepts dealing with the identification of current assets management strategies that can be found in the literature of the subject. The major types of strategies identified are: defensive (conservative), offensive (aggressive), and moderate (balanced). The implementation of each of them leads to a number of consequences[5].

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[4] Basing on the discussed method of identification of current asset management strategies, for all the stock companies realizing dividend payments between 2008 and 2012, current assets management strategies have been ascribed. Analysis results are presented in Table 1.

[5] Szymański P., *Zarządzanie majątkiem obrotowym w procesie kreowania wartości przedsiębiorstwa*, Petros, Lodz 2007, p. 63-171; Słowik D., *Strategie zarządzania kapitałem obrotowym a rentowność wybranych przedsiębiorstw branży*

The predominant assumption of defensive strategies is to try to maintain a relatively high amount of current assets. Their excess may be taken advantage of to repay spontaneous liabilities when they are due, especially if there are not enough funds generated by the basic business activity. Business entities using the strategy in question prefer utilizing almost only fixed financing sources. Therefore, their current liabilities level is lower than the mean for the industry[6]. Due to the fact that the short-term liabilities are used to finance only a part of the varying current assets of the company, industrial companies taking advantage of the conservative strategy have a high share of net current capital in the value of current assets.

The major premise of offensive strategies is to limit the level of current assets of the company. Business entities willing to utilize aggressive asset management strategy keep a high level of short-term liabilities, maintaining the *Wscan* current assets structure index low. It causes the increase in the risk of operational activities of the company which in turn is directly connected to the lowered financial security. However, the implementation of an offensive strategy intensifies the chance to generate a higher level of return on investment, increasing the overall profitability of the firm in question[7].

It must be also pointed out that balanced strategies are situated somewhere in between those defensive and offensive ones.

Shaping dividend benefits levels versus realizing a chosen current assets management strategy

Within the scope of this paper, the following economic indicators are used to specify dividend benefits for industrial shareholders:

- DPS (*dividend per share)*, specifying the amount of income intended for dividends per share. It is calculated as follows:

$$dividend\ per\ share = \frac{total\ dividends}{number\ of\ shares} \ x\ 100$$

- DYR (*dividend yield ratio*), calculated as an annual dividend paid for common shares to shares market price in a given trading date ratio. The said indicator is of significant importance especially for so-called financial investors who aim at maximizing profitability at a given risk level[8]. Their focus is on generating current incomes rather than on making profit thanks to exchange differences[9]. The ratio in question has the following form:

$$dividend\ yield\ ratio = \frac{dividend\ per\ share}{share\ market\ price} \ x\ 100$$

- DPR_1 (*dividend payout ratio*) reflecting the share of dividend in the income after its taxation. The value of the ratio may be affected by a number of variables and the low value of payout rate should not always be considered as a negative factor. The discussed situation is in the majority of cases connected with setting aside generated income for the future realization of investment-related projects.

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budowlanej, /In:/ *Studia i Materiały. Miscellanea Oeconomicae*, No. 2/2010, Jan Kochanowski University in Kielce, Kielce 2010, p. 64-66; Wędzki D., *Strategie płynności finansowej przedsiębiorstwa*, Oficyna Ekonomiczna, Cracow 2003, p. 141.

[6] Szymański P., *op. cit.,* p. 79-80.

[7] Leahigh D. J., *Zarządzanie finansami*, PWE, Warsaw 1999, p. 109.

[8] Rojek T., *Stymulanty procesów zmian wartości przedsiębiorstw*. /In:/ *Zeszyty Naukowe Uniwersytetu Szczecińskiego No. 785. Finanse, rynki finansowe, ubezpieczenia No. 46*, University of Szczecin, Szczecin 2011, p. 613.

[9] Sierpińska M., *op. cit.*, p. 87.

Shareholders should be in such a case informed about the said plans and notified about the possibility of future economic outcomes to be reflected in the increase in the share value in the long run[10]. The formula used to calculate the discussed ratio is as follows:

$$dividend\ payout\ ratio_1 = \frac{dividend\ per\ share}{net\ income\ per\ share}\ x\ 100$$

- modified version of the dividend payout ratio (DPR_2), being the correlation between the dividend per share and shareholder's equity per share. The replacement of the net income with shareholder's equity is not a random choice. It turns out that situations where a company suffers a loss but dividends are paid from a reserve capital are commonplace[11]. Then, the indicator cannot be taken into account. On the other hand, income is rather a subjective category. It highly depends on the technique of its calculation adopted by a given company. Therefore, the choice of shareholder's equity category seems to be more objective and fixed in character. The formula then has the following form:

$$dividend\ payout\ ratio_2 = \frac{dividend\ per\ share}{shareholder's\ equity\ per\ share}\ x\ 100$$

Table 1 presents the values of chosen indicators specifying dividend level in industrial stock companies between 2008 and 2012. They are juxtaposed with *Wscan* current assets structure index calculated for companies paying dividends in an analyzed area of industry and with identified current assets management strategies.

Table 1: Dividend level indicators in relation to implemented current assets management strategies in industrial listed companies between 2008 and 2012.

Dividend payout year	Stock company	Current assets management strategy	Wscan index	Dividend payout coefficients			
				DPS	DYR	DPR_1	DPR_2
2008	AMBRA	balanced	0,347	0,4	12,7	0,063	2,450
	APATOR	offensive	-0,023	0,4	5,3	0,084	0,293
	BUDVARCEN	defensive	0,672	0,3	13,3	0,065	2,919
	CIECH	offensive	-0,872	2,07	8,8	0,185	-1,950
	DEBICA	offensive	0,243	2,1	5,5	0,041	0,322
	DECORA	offensive	-0,115	0,3	3,2	0,141	-25,496
	GRAJEWO	offensive	-2,466	2,86	42,2	0,307	3,201
	HYDROTOR	defensive	0,851	2,1	7,3	0,073	0,448
	IMPEXMET	offensive	-0,053	3,14	9,8	0,038	0,243
	KETY	offensive	-0,211	4,5	7,5	0,080	1,119
	KGHM	defensive	0,679	9	32	0,170	0,616

[10] Sierpińska M., *op. cit.,* p. 89.

[11] Adamczyk P., *Realizacja polityki dywidendy w wybranych spółkach z udziałem Skarbu Państwa*, /In:/ *Zeszyty Naukowe Uniwersytetu Szczecińskiego No. 766. Finanse, rynki finansowe, ubezpieczenia No. 62*, University of Szczecin, Szczecin 2013, p. 15; Kowerski M., *Nabycie akcji własnych jako forma wypłaty na rzecz akcjonariuszy*, /In:/ *Finansowy Kwartalnik Internetowy e-Finanse* 2011, Vol. 7, No. 4, 2011, p. 17.

Dividend payout year	Stock company	Current assets management strategy	Wscan index	Dividend payout coefficients			
				DPS	DYR	DPR_1	DPR_2
2008	KRUSZWICA	offensive	0,066	0,73	1,6	0,022	0,094
	LENA	defensive	0,613	0,04	2,9	0,015	0,657
	MENNICA	balanced	0,452	4	3,3	0,627	2,793
	MOJ	defensive	0,859	0,12	6,9	0,016	0,305
	NOWAGALA	balanced	0,416	1,1	3,9	0,032	0,999
	PGNIG	balanced	0,322	4,19	5,3	0,065	2,052
	PKNORLEN	offensive	-0,331	1,62	6,3	0,045	-0,441
	PULAWY	defensive	0,735	0,3	3,2	0,053	0,422
	RADPOL	offensive	-0,112	0,15	2,5	0,068	0,567
	SANOK	offensive	0,186	1	19	0,139	1,877
	SNIEZKA	offensive	0,190	1,1	4,3	0,079	0,340
	STALPROD	defensive	0,616	12	4	0,045	0,141
	STAPORKOW	defensive	0,555	0,45	4,9	0,063	0,542
	TERESA	defensive	0,795	0,6	3,8	0,065	0,298
	WAWEL	defensive	0,837	7	4,1	0,061	0,417
	WIELTON	balanced	0,354	2,22	9,5	0,079	0,368
	YAWAL	defensive	0,708	0,5	3,3	0,016	2,355
	ŻYWIEC	offensive	0,027	37	7,9	0,513	0,838
2009	APATOR	offensive	-0,046	0,45	2,2	0,091	0,534
	AZOTYTARNOW	defensive	0,534	1,02	6,9	0,095	-9,201
	BOGDANKA	defensive	0,690	3,86	3,7	0,076	0,684
	DEBICA	balanced	0,394	1,6	2,4	0,029	0,307
	DECORA	offensive	0,180	0,3	1,5	0,029	0,101
	ENERGOPLD	defensive	0,582	0,11	2,5	0,017	3,420
	FORTE	defensive	0,627	0,1	0,8	0,008	0,056
	HYDROTOR	defensive	0,894	1,8	5,5	0,061	0,639
	INTROL	defensive	0,885	0,52	11,6	0,177	1,044
	KGHM	defensive	0,585	11,68	11	0,225	0,920
	KOFOLA	offensive	-2,048	0,64	11,6	0,019	10,359
	KRUSZWICA	balanced	0,325	3	5	0,076	0,356
	LENTEX	defensive	0,647	1,3	5,6	0,485	15,678
	LUBAWA	defensive	0,863	0,03	3,4	0,058	3,081
	MENNICA	defensive	0,625	5	3,5	0,616	2,705
	MOJ	defensive	0,789	0,05	1,6	0,007	0,472
	NOVITA	balanced	0,399	1,7	6,1	0,062	0,718
	PGNIG	offensive	0,038	0,09	2,4	0,031	0,797
	PULAWY	defensive	0,757	4,5	5,5	0,053	2,421
	RADPOL	defensive	1,000	0,15	2,5	0,065	0,711
	RAFAKO	offensive	0,301	0,15	1,5	0,029	0,293
	RAFAMET	balanced	0,494	0,1	0,6	0,005	0,229
	REMAK	defensive	0,661	0,85	3,4	0,059	0,214
	SNIEZKA	offensive	0,267	1,35	3,4	0,090	0,445

Dividend payout year	Stock company	Current assets management strategy	Wscan index	Dividend payout coefficients			
				DPS	DYR	DPR_1	DPR_2
2009	STALPRODUKT	defensive	0,671	8	1,3	0,025	0,115
	STAPORKÓW	defensive	0,545	0,25	2	0,035	1,418
	WAWEL	defensive	0,848	10	4	0,080	0,466
	WIELTON	balanced	0,397	0,24	5,8	0,098	-2,269
2010	ZYWIEC	offensive	-0,337	38	7,9	0,557	1,116
	AMBRA	balanced	0,443	0,4	4,5	0,056	0,856
	APATOR	offensive	0,156	0,55	2,6	0,099	0,337
	DEBICA	offensive	0,295	4,5	6,9	0,081	0,760
	DECORA	offensive	0,139	0,3	1,6	0,027	0,579
	ESSYSTEM	defensive	0,671	0,1	1,8	0,032	0,437
	FASING	offensive	0,190	0,51	2,3	0,030	0,640
	FORTE	defensive	0,565	1	8,1	0,076	0,752
	HARPER	offensive	0,242	0,37	8,8	1,724	2,341
	HYDROTOR	defensive	0,890	1,25	3,8	0,441	0,594
	INDYKPOL	balanced	0,498	1,3	2	0,019	0,882
	INTROL	balanced	0,473	0,3	4,4	0,099	0,732
	KETY	offensive	-0,006	4	3,1	0,060	0,696
	KGHM	defensive	0,612	3	1,7	0,042	0,131
	KOFOLA	offensive	-1,085	0,96	2,8	0,028	0,998
	KRUSZWICA	offensive	0,287	0,3	4,6	0,023	0,372
	NOVITA	balanced	0,318	2,1	8,6	0,066	1,010
	PUŁAWY	defensive	0,651	8,15	9,6	0,095	4,384
	RADPOL	defensive	1,000	0,15	1,5	0,049	0,528
	RAFAKO	offensive	0,273	0,3	2,2	0,056	0,468
	RAFAMET	defensive	0,530	0,38	2,1	0,020	0,467
	REMAK	defensive	0,693	1,6	2,7	0,114	1,173
	SANOK	balanced	0,469	0,45	3,2	0,053	0,395
	SNIEŻKA	offensive	0,192	1,6	3,7	0,099	0,539
	SONEL	defensive	0,740	0,12	1,5	0,027	0,346
	STALPRODUKT	defensive	0,597	8	2,9	0,023	0,216
	TERESA	defensive	0,845	1,1	7,2	0,111	1,006
	WAWEL	defensive	0,606	10	2,4	0,068	0,310
	ŻYWIEC	offensive	-0,332	50	8,8	0,922	1,378
2011	ACE	balanced	0,444	0,29	6,9	0,159	2,949
	AMBRA	balanced	0,417	0,4	7,7	0,052	0,543
	AMICA	offensive	0,196	3	9,4	0,043	0,399
	APATOR	offensive	-0,018	0,35	3,4	0,054	0,235
	ARMATURA	offensive	-0,280	2,1	7,7	0,044	5,368
	BOGDANKA	offensive	0,166	1,4	1,3	0,022	0,217
	DEBICA	offensive	0,311	2,96	5,5	0,050	0,450
	DECORA	offensive	0,134	0,3	3,6	0,026	0,488
	ESSYSTEM	defensive	0,666	0,1	4	0,031	0,410
	FAMUR	offensive	0,065	0,62	21,6	0,662	3,014
	FASING	offensive	0,046	0,22	1,2	0,011	0,109

Dividend payout year	Stock company	Current assets management strategy	Wscan index	Dividend payout coefficients			
				DPS	DYR	DPR_1	DPR_2
2011	FORTE	offensive	0,673	0,75	7,9	0,059	0,819
	HYDROTOR	offensive	0,882	0,85	4,3	0,027	0,414
	IMPEXMETAL	balanced	0,387	0,2	5,7	0,052	0,710
	INDYKPOL	offensive	0,263	0,33	0,8	0,005	0,125
	INTROL	balanced	0,490	0,34	7,4	0,109	0,832
	KETY	offensive	-0,154	4	3,8	0,058	0,584
	KGHM	defensive	0,780	14,9	13,5	0,129	0,262
	KOFOLA	balanced	0,488	0,62	3,3	0,017	0,718
	KRUSZWICA	offensive	0,263	0,88	1,7	0,023	0,498
	LENA	defensive	0,654	0,1	4,6	0,030	0,331
	MEGARON	balanced	0,430	0,95	4,6	0,150	0,467
	MENNICA	offensive	0,251	0,26	2,2	0,041	0,348
	NOVITA	balanced	0,313	2,5	13,2	0,080	1,204
	ORZEŁ	defensive	0,850	0,61	3,2	0,039	0,284
	PBSFINANSE	defensive	0,902	0,2	16,9	0,433	-5,007
	PLASTBOX	balanced	0,427	0,2	1,8	0,099	3,395
	PUŁAWY	defensive	0,537	1	1,2	0,010	0,085
	RADPOL	defensive	1,000	0,18	12,1	0,050	0,325
	RAFAKO	offensive	0,053	0,57	7,3	0,102	0,723
	RAFAMET	balanced	0,513	0,38	2,1	0,019	0,241
	SANOK	balanced	0,399	0,54	4,5	0,058	0,384
	SECO	defensive	0,563	0,1	0,4	0,015	-0,143
	SELENA	offensive	0,268	0,32	6	0,021	0,162
	SNIEŻKA	offensive	0,105	1,7	7,3	0,118	11,369
	SONEL	defensive	0,729	0,33	8	0,071	0,729
	SOPHARMA	offensive	0,279	0,17	2,9	0,070	0,584
	STALPRODUKT	defensive	0,639	3,5	1,5	0,009	0,112
	TERESA	defensive	0,894	1,1	8,5	0,110	0,696
	WADEX	defensive	0,775	0,5	6,8	0,072	0,442
	WAWEL	offensive	0,084	10	2	0,057	0,263
	ŻYWIEC	offensive	-0,230	54	10,5	1,856	1,870
2012	ACAAUTOGAZ	defensive	0,778	2,38	9,7	0,268	0,910
	AMBRA	balanced	0,315	0,4	4,9	0,050	0,552
	APATOR	offensive	-0,321	0	2,3	0,146	0,414
	APLISENS	defensive	0,886	0,25	6,7	0,332	0,244
	ARMATURA	offensive	-0,462	0,2	16,4	0,098	-4,138
	BOGDANKA	offensive	-0,081	4	2,9	0,060	0,474
	DEBICA	offensive	0,298	3,29	5,4	0,052	0,486
	DECORA	offensive	0,291	0,3	3,5	0,026	1,305
	ENERGOINSTAL	balanced	0,383	0,25	1,7	0,037	0,424
	ESSYSTEM	defensive	0,597	0,1	4	0,031	1,108
	FASING	offensive	0,185	0,6	2,2	0,029	0,265
	FERRO	balanced	0,340	0,3	4,8	0,041	-1,506
	FORTE	defensive	0,606	0,75	5,8	0,053	0,559
	HYDROTOR	defensive	0,747	1,25	4,6	0,038	0,425

Dividend payout year	Stock company	Current assets management strategy	Wscan index	Dividend payout coefficients			
				DPS	DYR	DPR_1	DPR_2
2012	INDYKPOL	offensive	-0,009	0,48	1,3	0,007	-0,113
	INTROL	balanced	0,475	0,31	7	0,100	1,008
	IZOSTAL	balanced	0,417	0,17	2,3	0,036	0,274
	KETY	offensive	0,043	5	3,5	0,068	0,580
	KGHM	balanced	0,341	28,34	14,9	0,259	1,164
	KOFOLA	offensive	-7,731	0,89	3,2	0,024	1,982
	KRUSZWICA	offensive	0,306	0,98	3,5	0,026	3,426
	LENA	defensive	0,835	0,15	5	0,043	0,422
	MEGARON	balanced	0,508	1,18	3,5	0,169	0,644
	NOVITA	balanced	0,495	2,9	12,6	0,094	1,218
	NOWAGALA	offensive	0,295	0,07	3	0,022	-0,718
	ORZEŁ	defensive	0,885	0,75	4,8	0,049	1,149
	PUŁAWY	defensive	0,630	3,66	2,7	0,029	0,117
	RADPOL	defensive	1,000	0,47	5,9	0,135	1,006
	RAFAMET	balanced	0,462	0,44	2,5	0,021	0,421
	RELPOL	defensive	0,742	0,2	2,5	0,030	0,181
	SANOK	balanced	0,483	0,64	3,5	0,064	0,447
	SNIEŻKA	offensive	0,196	1,35	3,2	0,110	0,762
	SONEL	defensive	0,743	0,4	8,1	0,085	0,841
	SOPHARMA	offensive	0,280	0,15	2,9	0,058	0,581
	STAPORKÓW	defensive	0,553	0,55	2,7	0,063	0,855
	SYNTHOS	balanced	0,367	0,5	9,2	0,614	0,869
	TERESA	defensive	0,780	1,14	8,6	0,115	0,761
	WADEX	defensive	0,729	0,3	2,8	0,040	0,187
	WAWEL	offensive	0,098	11	1,4	0,053	0,247
	WIELTON	offensive	0,283	0,2	4,7	0,080	0,672
	ZETKAMA	offensive	0,244	1	2,4	0,053	0,354
	ZPUE	balanced	0,331	6,4	2,6	0,034	0,421
	ŻYWIEC	offensive	-0,779	28	6,6	0,825	0,852

Source: own study basing on data collected from *Notoria Service SA* database and *Yearbooks of Warsaw Stock Exchange.*

The analysis of empirical data has proved that in the case of companies realizing defensive management strategies between 2008 and 2012, medium relevance correlations are as follows:
- relation between *Wscan* current assets structure index and *DYR* ratio, and
- relation between *Wscan* current assets structure index and modified DPR_2 ratio (Table 2).

Variables occurring in the case of correlation between the specified values have been classified as positively correlated. The relevance of the said relations calculated by means of mean Spearman's rank correlation coefficient has been equal to 33% and 30,1%, respectively. The results of the relevance analysis have made it possible to formulate a hypothesis that for correlations between *Wscan* and *DYR*, as well as between *Wscan* and DPR_1, there are premises to reject the zero hypothesis and replace it with a hypothesis stating that there is a statistically relevant relation between the said values.

At the same time, the outcomes of the analysis of correlations occurring in companies implementing defensive current assets management strategies have made it possible to state that due to a low value of Spearman's rank correlation coefficient, there are only negligible relations between the following:
- *Wscan* current assets structure index and *DPS* coefficient and
- *Wscan* current assets structure index and DPR_1 ratio.

The relevance analysis outcomes for the abovementioned correlations have made it impossible to reject the zero hypothesis pointing to the lack of relations between the discussed values.

Table 2: Spearman's rank correlation coefficients for analyzed industrial listed companies implementing defensive current assets management strategies.

Relations between factors	R correlation coefficient	P-value[12]
Current assets structure index (*Wscan*) and dividend per share (*DPS*)	- 0,087	0,480
Current assets structure index (*Wscan*) and dividend yield ratio (*DYR*)	**0,330**[13]	**0,006**
Current assets structure index (*Wscan*) And dividend payout ratio (DPR_1)	0,068	0,582
Current assets structure index (*Wscan*) and modified dividend payout ratio (DPR_2)	**0,301**	**0,013**

Source: own study.

The analysis of empirical data has proved that in the case of companies realizing balanced management strategies, medium relevance correlations are as follows:
- relation between *Wscan* current assets structure index and *DPS* coefficient, and
- relation between *Wscan* current assets structure index and *DYR* ratio (Table 3).

The identified relations have been negatively correlated. Their relevance calculated by means of Spearman's rank correlation coefficient has been equal to 31,6% and 44,1%, respectively. The outcomes have shown that for the correlations between *Wscan* and *DPS,* as well as between *Wscan* and *DYR,* there are premises to reject the zero hypothesis and replace it with a hypothesis stating that there is a statistically relevant relation between the said values.

Among the companies implying the utilization of balanced management strategies, the following statistically negligible relations have been observed:
- relation between *Wscan* current assets structure index andDPR_1 ratio, and
- relation between *Wscan* current assets structure index and modified DPR_2 ratio.

The relevance analysis outcomes for the abovementioned correlations have made it impossible to reject the zero hypothesis pointing to the lack of relations between the discussed values.

[12] Examination carried out with the critical value being 0,05.
[13] Statistically significant correlations are presented in bold.

Table 3: Spearman's rank correlation coefficients for analyzed industrial listed companies implementing balanced current assets management strategies.

Relations between factors	R correlation coefficient	P-value
Current assets structure index (*Wscan*) and dividend per share (*DPS*)	**-0,316**	**0,050**
Current assets structure index (*Wscan*) and dividend yield ratio (*DYR*)	**-0,441**	**0,006**
Current assets structure index (*Wscan*) and dividend payout ratio (DPR_1)	0,016	0,923
Current assets structure index (*Wscan*) And modified dividend payout ratio (DPR_2)	-0,023	0,890

Source: own study.

The analysis of empirical data has proved that in the case of companies realizing offensive management strategies, medium relevance correlations are as follows:
- relation between *Wscan* current assets structure index and *DPS* coefficient, and
- relation between *Wscan* current assets structure index and modified DPR_2 ratio (Table 4).

In both cases, the correlation coefficient has been negative and equal to 34,1% and 30,6%, respectively. The results of the relevance analysis have made it possible to formulate a hypothesis that for correlations between *Wscan* and *DPS*, as well as between *Wscan* and DPR_1, there are premises to reject the zero hypothesis and replace it with a hypothesis stating that there is a statistically relevant relation between the said values.

The following have been included in the group of negligible relevance correlations:
- relation between *Wscan* current assets structure index and *DYR* ratio, and
- relation between *Wscan* current assets structure index and DPR_1 ratio.

The results of the relevance of Spearman's correlation coefficients have proved that in the case of the correlation between *Wscan* and *DYR,* there are premises to reject the zero hypothesis and replace it with a hypothesis stating that there is a statistically relevant relation between the said values.

Table 4: Spearman's rank correlation coefficients for analyzed industrial listed companies implementing offensive current assets management strategies.

Relations between factors	R correlation coefficient	P-value
Current assets structure index (*Wscan*) and dividend per share (*DPS*)	**-0,341**	**0,005**
Current assets structure index (*Wscan*) and dividend yield ratio (*DYR*)	**-0,273**	**0,027**
Current assets structure index (*Wscan*) and dividend payout ratio (DPR_1)	-0,135	0,280
Current assets structure index (*Wscan*) And modified dividend payout ratio (DPR_2)	**-0,306**	**0,013**

Source: own study.

In the further part of the examination, it has been checked if the type of implied current assets management strategies by all the analyzed stock companies realizing dividend payment between2008 and 2012 notably affected the value of dividend level.

Basing on asymptotic significance levels being the outcomes of carried out Brown-Forsythe tests, it can be stated, that in relations to all the correlations between the utilized management strategies and:
- *DPS* coefficient,
- *DYR* ratio,
- DPR_1 ratio, and
- modified DPR_2 ratio

there are no premises to reject the zero hypothesis indicating the lack of statistically significant relations between the analyzed variables (Table 5).

Table 5: Asymptotic significance being the result of carried out Brown-Forsythe tests.

Correlation	Management strategy and DPS	Management strategy and DYR	Management strategy and DPR_1	Management strategy and DPR_1
Asymptotic significance	0,085	0,986	0,145	0,872

Source: own study.

Conclusion

The major research hypothesis stating that there is a multilayered correlation between current assets management strategies realized by industrial stock companies and dividends paid to shareholders has been verified negatively.

On the other hand, among industrial companies implying various management strategies, there have been statistically significant correlations between *Wscan* current assets structure index and selected variables showing dividend levels in analyzed companies. However, the analysis of examination outcomes has shown that in companies using offensive management strategies, relations between current assets structure index and dividend benefits indicators have been negative in character. A positive correlation in that regard has been observed in relation to business entities focusing on defensive current assets management strategies.

It must be also pointed out that the presented research outcomes should not be subject to generalization, as they are only partial in nature. However, they are in line with the outcomes of practical examination on determinants of divided-oriented policy realized by industrial stock companies and assets management strategies.

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This publication is a scientific reflection on the contemporary conditionings and trends of the process of conducting business activity, shaping competition among enterprises, as well as searching for new management strategies and tools which in the face of permanent changes in the economic environment will enable to raise the effectiveness of management and meet the requirements of the contemporary market. The book presents the scientific output of various academic centres and can be included in the stream of deliberations over the activities aiming at the creation of new mechanisms and solutions in the area of contemporary enterprise management. The entirety of the deliberations presented in the publication is divided into the following four parts depicting theoretical, methodological and practical aspects of the presented problems:

- Competition Strategies and Business Models,
- Management Concepts and Their Applications,
- Instruments of Management in Contemporary Enterprise,
- Selected Aspects of the Effectiveness of the Polish Capital Market.

The publication came into existence on the basis of many years' cooperation of Department of Economics and Organization of Enterprises at Cracow University of Economics with representatives of various Polish and foreign scientific centres and individuals coming from economic practice.Within the framework of this cooperation are organized, among others, conferences, seminars and symposiums, which are a platform for exchanging ideas and views. Results of such cooperation are the following English–language books published by the Foundation of the Cracow University of Economics:

- Borowiecki R., Jaki A. (eds.) (2008), *Enterprises in the Face of 21st Century Challenges. Development – Management – Entrepreneurship,*
- Borowiecki R., Jaki A. (eds.) (2009), *Global and Regional Challenges for the 21st Century Economies,*
- Borowiecki R., Jaki A. (eds.) (2010), *Enterprises Facing New Economic Challenges, Management – Development – Restructuring,*
- Borowiecki R., Jaki A. (eds.) (2011), *Global and Regional Challenges of the 21st Century Economy. Studies from Economics and Management,*
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