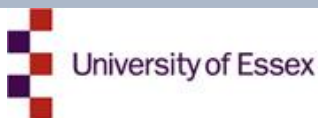


ENTREPRENEURSHIP AND SUSTAINABILITY ISSUES

3(2)
2015



RISEBA





Dear readers,

It's my pleasure to introduce to you a new, already the 10th issue of international scientific journal devoted to entrepreneurship and sustainability issues. What is peculiar about the journal that it mirrors contemporary concerns and highlights issues, which despite being widely discussed, remain under our attention and concern. Those issues embrace wide range of questions, starting from such as efficiency of clusters, finishing with literacy issues, which still remain urgent in our contemporary world.

I truly believe that consolidated efforts of academia and entrepreneurs will let us increase efficiency of both, academic and business oriented efforts, and would ultimately lead us to more humanistic and affluent future in all countries and regions of our small world. Let us continue sharing, discussing and searching for the best solutions for our common sustainable future.

With best regards,

A handwritten signature in dark ink, appearing to read 'Leonardo Piccinetti'.

LEONARDO PICCINETTI

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CLUSTER EFFICIENCY STUDY THROUGH BENCHMARKING

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Abstract. This study was carried out in order to compare the most successful, in a certain extent, clusters in Lithuania. Benchmarking approach was employed as the most precise technique of data analysis in given conditions. There were several methods employed in a study, such as an interview for the initial stage of data collection, questionnaire survey as well as multi-criteria analysis in later stages and benchmarking for the final stage of the study as to generalize the results. The research has shown that multi-criteria and benchmarking methods are helpful in determining cluster performance. There might be some inaccuracies regarding the results as there were several questions with information not available for the cluster managers. A great number of elements included in the questionnaire survey may have led to some discrepancy. Benchmarking can help companies in cluster to evaluate their performance in comparison to others and seek for better results. The most successful clusters in Lithuania were studied to be a role model. Benchmarking is a practice which can help clusters to measure their performance as there is no systematic evaluation of cluster excellence in Lithuania.

Keywords: cluster efficiency, benchmarking, case analysis

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1. Introduction

It is common that both, academic and policy fields draw a lot of attention to industrial clusters. Clusters are widely known as geographic agglomerations of economic activities that operate in the same or interconnected sectors and the most prominence in recent literature is put on the study of the main features of a cluster, which are exploration capacity, networking intensity and external resources (Expósito-Lange *et al.* 2015). It is characteristic to clusters to sustain productivity growth of firms in specific regions or create new businesses in larger sectors of a particular nation. Industrial clusters perform as instruments in strengthening the innovative capabilities of firms, industries and even nations. The main feature of the cluster, which exposes itself in the long run is that companies within cluster increase their competence of an organization and achieve a competitive advantage in global markets (Park *et al.* 2012; Prause 2014; Tvaronavičienė *et al.* 2014; Tvaronavičienė, Černevičiūtė 2015). Competitiveness is one

of the main issues that small and medium enterprises are aiming at and cluster helps companies to achieve better results as one of concern is that isolation, rather than size, is the key obstacle preventing from understanding how to compete in the wider market (Connell *et al.* 2013).

Dynamic environments have changed competition among companies as it has increased and knowledge that can be created within organizations became the source of competitive advantage instead of material resources (Martínez 2012; Tvaronavičienė, Černevičiūtė 2015). Many study positions themselves in the interest of the effect of clustering either on the level of individual companies or on the common level of regions or nations. Competitiveness has been a core of co-operation of companies since the 1990s and a large number of cluster organizations have been formed as public-private partnerships which aimed at promoting the growth and competitiveness of clusters (Bileišis 2012; Balkienė 2013; Singh 2013; Figurska 2014; Vasiliūnaitė 2014; Prause 2014; Tvaronavičienė, Černevičiūtė 2015). The concept of collective efficiency can be used in order to help in understanding how companies in cluster achieve higher performance or benefit from co-operation. As well as that, compliance with national standards can add a competitive edge for many producers and service providers (Nadvi 1999; Tvaronavičienė, Černevičiūtė 2015). Scholars claim another feature, that helps a company to become more competitive is embeddedness in an industrial cluster the degree of which determines how high innovative or market performance of a company will be. Embeddedness is believed to be one of the strengths of an industry cluster – a successful form of industrial organization. Being one of the main theoretical concepts, local embeddedness means that clusters of economic activity can provide a solid basis for local and regional economic growth (Giuliani 2013; Prause 2014; Tvaronavičienė, Černevičiūtė 2015). Companies initiate clusters aiming at benefits which they expect from co-operation with others. Competition is one of them and it is one of the reasons why cluster efficiency is important.

This article aims at proving the efficiency of cluster in comparison to other clusters by benchmarking. Benchmarking databases and services are available on the internet which let companies share performance information and get feedback with the possibility to compare their data with other companies. Such instrument enables clusters to improve organizational learning and the collective efficiency of a cluster. By collecting data from companies of four different clusters, regarding cluster activity, resources and processes, the comparison has been made and further described. The attempt was to use benchmarking in order to see the performance and competitiveness of the clusters.

The purpose of this study is to apply benchmarking in order to examine cluster efficiency among other clusters. This research analyses the data collected from four different clusters in Lithuania regarding cluster activity, resources and processes. Benchmarking is a good practice in business among organizations to improve performance and competitiveness, but it is rarely used to check cluster parameters in Lithuania. The article is insufficient as some data which was needed in comparison to others was not available. Benchmarking can also be bias as the comparison is based on author's personal opinion as well as expert evaluation of factors was not equal in empirical assessment of expertise. Moreover, the missing data might change the final results. At the beginning of the research clusters in Lithuania were identified and several satisfying certain features were selected for further examination. The chosen clusters were not limited by a geographic area or scope. The attempt was to compare chosen clusters which are considered the most successful in order to verify their efficiency.

The article is structured as follows. Section 2 describes the research design, study procedure and the methods that were used in each stage in data collection or analysis. Section 3 presents some descriptive statistics on Lithuanian clusters and their features. Section 4 illustrates the results of cluster efficiency study through benchmarking. Finally, Section 5 incorporates the concluding remarks.

2. Data and methodology

In order to get all the necessary information and to be precise at further analysis and comparison, several stages of data collection have followed. Different methodology was applied to each stage so that the best results could be

achieved. Such a sequence was chosen for the complexity of a research which obligates to incorporate as many participants as possible.

At the initial stage an interview with the coordinator of cluster development in Lithuania was arranged. The main aim of the meeting was to get information from a person who is participating in the life of cluster from the beginning of it about the successful clusters in Lithuania. As it is complicated to measure how successful cluster is some features were named as obligatory which characterize cluster and show how good it is at accomplishing goals, if the companies are working together for a common purpose. Measurements such as cluster activity, resources and processes must be taken into account. There is no systematic evaluation of cluster excellence in Lithuania, although there are some clusters which have employed financial aid not only for EU funds but also private institutions. It was decided to consider that cluster is successful if it has been operating for longer than two years, receives funding either from EU funds or private institutions and the results of cluster activity are satisfactory. The interlocutor has named seven clusters of such nature. As there is no official rating system in Lithuania, none of these can be identified as the most successful or effective as well as there could be more clusters selected of comparatively equal performance.

The second stage covered data collection from the clusters which were regarded as successful in the above mentioned conditions for case analysis. A questionnaire survey which was composed of evaluative matrix of processes and open questions regarding the statistics of cluster resources and activity was submitted for the cluster managers. The feedback reached 57% as four out of seven clusters have provided the answers. Others responded as well, although they could not provide the bigger part of answers as some of information was considered as confidential or not available at a particular moment and the collection of it from cluster members would have taken too long.

The following stage involved the same clusters which have responded to the questionnaire survey. The managers were asked to give evaluations for indicators of cluster efficiency according to their importance so that a multi-criteria analysis could be carried out. A multi-criteria analysis was chosen for it serves in making a comparative assessment among heterogeneous measures.

In the last stage the data was structured and a multi-criteria analysis carried out to prove the efficiency of the clusters. The results were compared through benchmarking.

Benchmarking was chosen as the most reasonable method of data analysis to serve the purpose of this article. As a process benchmarking, this method serves to compare the three main dimensions which reveal cluster efficiency: cluster activity, resources and processes. The clusters were selected paying attention to their performance regardless of the industry sector as for generic benchmarking. As to agree with the principles for benchmarking (Carpinetti 2008), some restrictions were applied to this article. In order to verify legal aspects of the study, statistical data are given in the normalized value and the clusters are not identified. All the benchmarking partners will receive the same type of information for perceiving mutual benefits. Benchmarking data will be communicated outside for study purpose as it was prior agreed with benchmarking partners.

To sum up, after comprising all the steps that have been taken moving towards the results of this study, generic benchmarking process has been followed. At first cluster efficiency was determined as a subject of this benchmarking study. Then a coordinator of cluster development in Lithuania as a consultant for choosing the partners was approached. Later seven clusters were identified as the partners of the study four of which participated in the process of benchmarking. Further step was to collect and analyse data using questionnaire survey and multi-criteria analysis methods to serve the purpose. Finally, the results were implemented and monitored.

3. Descriptive statistics

Clusters tend to strengthen companies by helping them to improve their performance and competitiveness. As well as that, clusters are formed in order to find new technologies, qualified personnel, investments in scientific research. Clusters enable companies to cooperate, reduce expenses for knowledge or technologies, help to create

more possibilities to study or distribute expenses for risk management, scientific research and development, promote flexibility, help to reduce the period of time for presenting a new product or process to the market. Recently there are less than 50 cluster initiatives in Lithuania. Some of them are still at the initial formation stage, or is a group of companies that gathered together seeking only for EU SF aid. From all the identified clusters in Lithuania only a forth is formed naturally, through long term co-operation in development of new products or services, by common work aiming at bigger part of market and increasing competitiveness of cluster companies.

The majority of clusters are initiated at the service sector. The number of initiatives founded there is considerably greater than in industry sector. Services, changing client's physical or mental qualities (especially health and cultural industry) and information services are the dominant in cluster initiatives. Chemistry industry and food and beverage industry are the most interesting for companies to cooperate and create clusters in manufacturing industry. Just a few or none of the clusters are initiated in textile and clothing industry, wood and furniture industry and metal, machinery and equipment manufacturing industry (Figure 1).

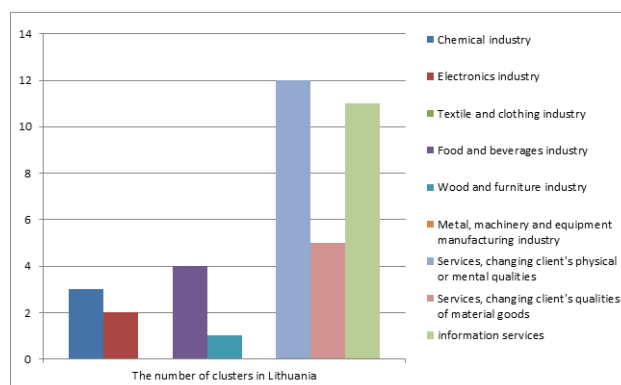


Fig. 1 The number of clusters in Lithuania by sector

Clusters in Lithuania are initiated in economically strongest cities (Vilnius, Klaipeda, Kaunas, Alytus) where the concentration of operating entities and employed population is the highest. There are micro-clusters in smaller regions as well where the specifics of activity are characteristic of that region (Birzai, Druskininkai, Kedainiai, Mazeikiai, Ignalina, etc.).

Clusters in Lithuania mostly participate in international projects (Baltic Sea Region 2007-2013, EUREKA Eurostars, EU SF initiated projects, etc.), other EU initiatives helping to create knowledge and innovation area, develop commercial cooperation with foreign partners.

The main strengths of clusters in Lithuania are activity friendly environment (relatively cheap and qualified workforce, convenient location in terms of logistics, developed logistics structure, a high level of technological base).

4. The cluster efficiency analysis

Multi-criteria methods are used for both theoretical and practical tasks since they are universal and enable to carry out a quantitative study for any complex phenomenon with many indices (Ginevičius 2008). The multi-criteria SAW (Simple Additive Weighting) method was applied to process the results. The research has shown that D is the most effective cluster. It was noticed that it has the best resources. Cluster A goes second and it was seen as superior in area of activities. Thence, cluster B shows the best results through processes and goes third. Finally, cluster C stays far behind the leading clusters, as almost all the factors have the smallest values (Table 1).

Table 1 Total of values

	A	B	C	D
Resources	0,196	0,182	0,084	0,427
Activity	0,331	0,198	0,251	0,217
Processes	0,268	0,382	0,034	0,250
Total	0,80	0,76	0,37	0,89

Such results encourage continuing on comparing the data that were suggested by the managers of clusters. The research itself suggests that all three groups of measurements, which are resources, processes and activity, should be discussed separately and the performance should be compared. Table 2 provides standardized values of the measurements as well as weights assigned by experts.

Table 2 Standardized values and weights

	A	B	C	D	Weight
Number of cluster coordinating members	0,188	0,125	0,063	0,625	0,136
Number of cluster members - companies, R&D subjects, supporting organizations	0,175	0,349	0,270	0,206	0,140
Number of R&D personnel	0,000	0,273	0,000	0,727	0,117
University graduates working at cluster companies	0,000	0,000	0,000	0,000	0,112
Common cluster projects in two years	0,625	0,031	0,281	0,063	0,126
Financed common cluster projects in two years with cluster initiatives co-financing	0,500	0,000	0,000	0,500	0,112
External financing for cluster initiatives in two years	0,038	0,393	0,000	0,569	0,121
Total sum of cluster members' investments for cluster initiatives in two years	0,046	0,241	0,014	0,698	0,136
Common supply and order scheme	0,227	0,364	0,182	0,227	0,049
Common distribution channels	0,320	0,280	0,160	0,240	0,046
Common cluster members' tenders for external clients	0,409	0,182	0,182	0,227	0,050
Exchange of common market information between cluster members	0,357	0,179	0,321	0,143	0,052
Cluster advertisement (leaflets, media)	0,357	0,179	0,286	0,179	0,052
Common participation in exhibitions and fairs	0,417	0,042	0,333	0,208	0,055
Lobbying	0,040	0,400	0,320	0,240	0,049
Common internet site	0,294	0,294	0,235	0,176	0,049
Visual identification (common logo, brand)	0,357	0,107	0,321	0,214	0,045
Contacts and image of cluster in mass media	0,294	0,294	0,235	0,176	0,052
Regular meetings of cluster members	0,323	0,226	0,290	0,161	0,053
Cluster integration events	0,286	0,250	0,286	0,179	0,050
Common communication platform	0,417	0,125	0,250	0,208	0,050
Common cluster publications (buclets, newsletters, etc.)	0,333	0,185	0,296	0,185	0,049
Co-operation while creating new products or technologies	0,409	0,136	0,182	0,273	0,050
Co-operation while creating innovations (organizational, marketing, etc.)	0,375	0,125	0,250	0,250	0,050
Common training, workshops, conferences, internships	0,409	0,136	0,182	0,273	0,052
Common data base	0,316	0,158	0,211	0,316	0,048
Informal sharing of knowledge and experience	0,267	0,267	0,267	0,200	0,049
Trasference of technologies	0,412	0,059	0,235	0,294	0,048
Increase of cluster members' employees in two years	0,811	0,000	0,189	0,000	0,068
Number of internal cluster training participants in two years	0,417	0,500	0,000	0,083	0,059
Number of cluster organized common training in two years	0,242	0,712	0,000	0,045	0,061
Number of qualification upgraded employees in two years	0,893	0,107	0,000	0,000	0,071
Increase of direct employment in cluster innovative activities	0,176	0,824	0,000	0,000	0,066
Part of R&D expences in common expences in two years	0,130	0,870	0,000	0,000	0,061
Number of common submitted/funded EU SF projects in two years	0,000	0,000	0,000	1,000	0,051
Number of common international R&D projects, funded not from EU SF, in two years	0,000	0,000	0,000	1,000	0,054
Products/goods of cluster, sold in internal market	0,750	0,200	0,100	0,050	0,051
Products/goods of cluster, sold in external market	0,222	0,356	0,400	0,422	0,078
New cluster members in two years	0,158	0,579	0,158	0,105	0,073
Start-up in cluster	0,000	0,000	0,000	1,000	0,034
Foreign markets where members of cluster works	0,000	0,000	0,000	0,000	0,066
Part of export in total cluster sales	0,222	0,356	0,400	0,422	0,076
Number of official co-operation agreements with foreign entities	0,071	0,714	0,000	0,214	0,063
Participation in international exhibitions and sales offices in two years	0,035	0,614	0,140	0,211	0,068

Regarding resources, D cluster dominates as it has 4 highest values out of 8 parameters as well as one parameter is equal to A cluster. D cluster has the greatest number of personnel, namely R&D personnel takes 72,70 % and the number of cluster coordinating members takes 62,50 % of all analysed clusters. The same goes with financing as total sum of cluster members' investments in cluster initiatives in two years stand out taking 69,80 %, external financing for cluster initiatives in two years has 56,90 % and financed common cluster projects in two years with cluster initiative co-financing has 50% together with A cluster. Altogether, D cluster is at an advantage of resources.

The situation with activity is not that exclusive as none of the clusters take the dominant part in this measurement. Still, the best results are achieved by A cluster as 13 parameters out of 20 has the highest values in comparison to other clusters and 4 more are equal to those of B, C, or D cluster. The parameters that has the highest values are common distribution channels, common cluster members' tenders for external clients, exchange of common market information between cluster members, cluster advertisement (leaflets, media), common participation in exhibitions and fairs, visual identification (common logo, brand), regular meetings of cluster members, common communication platform, common cluster publications (buclets, newsletters, etc.), co-operation while creating new products or technologies, co-operation while creating innovations (organizational, marketing, etc.), common training, workshops, conferences, internships, transference of technologies. These parameters take from 32,00 % to 41,70 % in comparison to all the clusters. Other 4 share the same part as other clusters, which are common internet site, contacts and image of cluster in mass media – the same as B cluster, cluster integration events – shared with C cluster and common database has the same value as D cluster. Overall, A cluster achieved the best results through activity.

Processes are exploited mostly by B cluster. It takes 7 highest values out of 16 parameters. These are number of internal cluster training participants in two years, number of cluster organized common training in two years, increase of direct employment in cluster innovative activities, part of R&D expences in common expenses in two years, new cluster members in two years, number of official co-operation agreements with foreign entities, participation in international exhibitions and sales offices in two years. This section has a clear leader, bet A and D clusters have pointed high results in this area. These are participation in international exhibitions and sales offices in two years, number of qualification upgraded employees in two years and products/goods of cluster, sold in internal market for A cluster and Number of common submitted/funded EU SF projects in two years, number of common international R&D projects, funded not from EU SF, in two years, products/goods of cluster, sold in external market, start-up in cluster for D cluster. Even though above mentioned clusters have also high values in some of the processes, B cluster kept distance from them and took a leadership position with this parameter.

The gap between A, B, D and C clusters is evident. C cluster stays behind in resources and processes, but it tries to keep up with activity. It is worth noting that even though the received financing is low and the cluster number of personnel is smaller than in other clusters, C cluster is worth being compared to successful clusters in previously determined conditions. This cluster also stands behind in processes. Cluster members either do not participate in processes or do not provide information about participation. Hence, there were no participants in internal cluster training as common training was not arranged in two years, increase of direct employment in cluster innovative activities was not recorded, R&D expenses in common expenses in two years do not take any part, number of common submitted/funded EU SF projects or common international R&D projects, funded not from EU SF does not prevail, start-up is not initiated in the cluster, official co-operation agreements with foreign entities are not made. In comparison to other clusters, C cluster can keep up with processes as many of the procedures are not employed. The main reason of lower cluster performance may be because of financing for common cluster affairs. This cluster is financed mainly from private budgets. Projects are not financed from common cluster budget. Cluster members cover the costs of participation in projects by their own resources. The performance of C cluster might be increased by external financing for cluster initiatives and a greater number of personnel, concerned with cluster affairs.

All of the analysed clusters may be considered as having features which are superior over others. The main task for all of them is to divert the funds either from EU SF or private institutions properly over the resources, activity and processes. All three areas must be employed in order to make the cluster work efficiently.

5. Conclusions

This article aims at comparing the most successful clusters, in the given conditions, in Lithuania. After comprising all the steps that have been taken moving towards the results of this study, generic process has been followed. Competitiveness was determined as one of the main reasons why clusters are interesting for companies to join. The statistics of clusters in Lithuania were provided and they show that there is interest in establishing clusters in industry sector. Seven clusters were identified as the partners of the study four of which participated in the process. Data was collected and analysed using interview, questionnaire survey and multi-criteria analysis methods to serve the purpose. The results were implemented and monitored which showed that three of the clusters are of almost equal efficiency and one stands behind. Benchmarking was employed to further analyse the clusters.

The choice of clusters puts some limitations to the work. Successful cluster has to meet such conditions: it must have been operating for longer than two years, receiving funding either from EU funds or private institutions and the results of cluster activity must be satisfactory. Seven clusters were selected, four of which participated in the research. It must be noted that the results may have some discrepancies as some of the information was not available and it was considered as zero for further analysis.

This research needs further development as there are more aspects of the analysed clusters that must be compared and discussed. Benchmarking may be helpful for companies in clusters to measure their performance and reach for better results. The research takes time and consists of many questions which require gathering data for at least two years. A tool for measuring cluster performance or efficiency may be used by companies or scholars as there are the main points highlighted in the research.

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References

- Apžvalga (Review). 2015, May 25. Retrieved from the KlasterLT website: <http://www.klaster.lt/lt/klasteriai-lietuvoje/apzvalga>
- Balkienė, K. 2013. Sustainable innovativeness: issues and public policy, *Journal of Security and Sustainability Issues* 3(2): 53–76 [http://dx.doi.org/10.9770/jssi.2013.3.2\(5\)](http://dx.doi.org/10.9770/jssi.2013.3.2(5))
- Bileišis, M. 2012. Empowering institutions: a case for connecting business and the academe through *phronesis*, *Journal of Security and Sustainability Issues* 1(3): 177–185. [http://dx.doi.org/10.9770/jssi/2012.1.3\(3\)](http://dx.doi.org/10.9770/jssi/2012.1.3(3))
- Campaniaris, C., Hayes, S., Jeffrey, M., Murray, R. 2011. The applicability of cluster theory to Canada's small and medium-sized apparel companies, *Journal of Fashion Marketing and Management: An International Journal* 15(1): 8 – 26
- Carpinetti, L.C.R., Oiko, O.T. 2008. Development and application of a benchmarking information system in clusters of SMEs, *Benchmarking: An International Journal* 15 (3): 292 – 306
- Connell, J., Voola, R. 2013. Knowledge integration and competitiveness: a longitudinal study of an industry cluster, *Journal of Knowledge Management* 17 (2): 208 – 225

- Expósito-Langa, M., José-Vicente Tomás-Miquel, F. Xavier Molina-Morales, 2015. Innovation in clusters: exploration capacity, networking intensity and external resources, *Journal of Organizational Change Management*, 28 (1): 26 – 42.
- Figurska, I. 2014. Sustainable entrepreneurship: localization, acquiring and use of knowledge sources in competitive organization, *Entrepreneurship and Sustainability Issues* 1(4): 210–222. DOI: [http://dx.doi.org/10.9770/jesi.2014.1.4\(3\)](http://dx.doi.org/10.9770/jesi.2014.1.4(3))
- Ginevičius, R., Podvezko, V. 2008. Daugiakriterinio vertinimo taikymo galimybės kiekybiniam socialinių reiškinių vertinimui, *Verslas: Teorija ir praktika* (Possibilities of multi-criteria methods for evaluation of social phenomena quantatif evaluation, *Business: Theory and Practice*) 9 (2): 81 – 87.
- Giuliani, E. 2013. Clusters, networks and firms' product success: an empirical study, *Management Decision* 51 (6): 1135 - 1160
- Innovation in Transnational Networks. Financing Models of Cluster Organisations, *InTra-Net Project Note*, 2013. UK.
- Lämmer-Gamp, T. 2012. Benchmarking as a Tool for Cluster Analysis, Berlin, 256p.
- Lei H., Huang, C. 2014. Geographic clustering, network relationships and competitive advantage: Two industrial clusters in Taiwan, *Management Decision* 52(5): 852 – 871.
- Leichteris, E., Švirinas D. 2013. Klasterių fasilitavimo pavyzdiniai modeliai (Classic models of cluster facilitation), 148p.
- Martínez, A., Belso-Martínez, J. A., Más-Verdú, F. 2012. Industrial clusters in Mexico and Spain: Comparing inter-organizational structures within context of change, *Journal of Organizational Change Management*, 25 (5): 657 – 681
- Martins, B., Solé, F. 2013. Roles-purpose-and-culture misalignments: a setback to bottom-up SME clusters, *Journal of Knowledge Management*, 17(4): 598 – 616.
- Nadvi, K. 1999. Collective Efficiency and Collective Failure: The Response of the Sialkot Surgical Instrument Cluster to Global Quality Pressures, *World Development* 27 (9): 1605 – 1626.
- Niu, K. 2010. Organizational trust and knowledge obtaining in industrial clusters, *Journal of Knowledge Management* 14(1): 141 – 155
- Park, Y.W., Amano, T., Moon, G. 2012. Benchmarking open and cluster innovation: case of Korea, *Benchmarking: An International Journal* 19 (4/5): 517 – 531.
- Prause, G. 2014. Sustainable development of logistics clusters in Green transport corridors, *Journal of Security and Sustainability Issues* 4(1): 59-68. DOI: [http://dx.doi.org/10.9770/jssi.2014.4.1\(5\)](http://dx.doi.org/10.9770/jssi.2014.4.1(5))
- Schiele, H., Hospers, G., Zee, D. 2012. Surviving a cluster collapse: risk aversion as a core value, *Journal of Business Strategy*, 33(5): 14 – 21
- Singh, A. K., Shrivastava, R. L. 2013. Critical success factors of rice mills located in a cluster, *International Journal of Productivity and Performance Management* 62 (6): 616 – 633
- Tvaronavičienė, M.; Černevičiūtė, J. 2015. Technology transfer phenomenon and its impact on sustainable development, *Journal of Security and Sustainability Issues* 5(1): 87–97. DOI: [http://dx.doi.org/10.9770/jssi.2015.5.1\(7\)](http://dx.doi.org/10.9770/jssi.2015.5.1(7))
- Tvaronavičienė, M.; Šimelytė, A., Lace, N. 2014. Sustainable development facets: exporting industrial sectors from inside, *Journal of Security and Sustainability Issues* 3(4): 37–44. DOI: [http://dx.doi.org/10.9770/jssi.2014.3.4\(4\)](http://dx.doi.org/10.9770/jssi.2014.3.4(4))
- Vasiliūnaitė, R. 2014. Sustainable development: methodological approaches toward issues, *Journal of Security and Sustainability Issues* 3(3): 69–75. DOI: [http://dx.doi.org/10.9770/jssi.2014.3.3\(6\)](http://dx.doi.org/10.9770/jssi.2014.3.3(6))
- Zamparini, A., Lurati, F. 2012. Communicated identities of regional cluster firms: Evidence from the Franciacorta wine cluster, *Corporate Communications: An International Journal*. 17(4): 498-513.

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**DYNAMIC CAPABILITIES IN AMBIDEXTROUS ORGANISATION, DECISION MAKING
 PATTERN FOR SUSTAINABLE FUTURE**

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Abstract. The paper adds to the understanding of *how* dynamic capabilities shaped in ambidextrous organization like Google, Inc. In recent years Google, Inc has diversified from internet search across a broad range of internet products including email, photo management, satellite maps, digital book libraries, blogger services, and telephony. The paper has theory focus, uses qualitative empirical data, illustrates an innovative practice of one of the leader of ICT (Information and Communications Technology) industry and takes the form of demonstration. The paper is trying to unpack the nuances of ambidexterity that often drive successful firms. The paper is based on a qualitative analysis of Google, Inc. The research demonstrates how the ambidextrous strategic thinking and the dynamic capabilities create flows of innovative products and serve to generate micro foundations of sustained competitive advantages. The author is going to make a longitudinal study on current topic.

Keywords: innovation, dynamic capabilities, ambidexterity, exploration/exploitation, ICT industry

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1. Introduction

Management theories dynamic capabilities are young and fragmented and generally there is not much of a guide for executives except on certain narrow issues (Teece 2011). It is not enough that we know what organisations do, which markets they enter, which products they introduce, how fast they grow, which firms they acquire, but also *how* they do it (Wahl & Prause 2013). We try to address to demonstrate how dynamic capabilities actually operate in successful ITC industry's company. This paper presents the dynamic capabilities framework (Teece 2007) which is increasingly providing the set of tools for both theoretical and applied analyses of the sources of competitive advantages of organization and other strategic issues facing business decision makers. The paper aim is to add the understanding of dynamic capabilities as a sources of competitive advantage by demonstrating that dynamic capabilities (DC) development unfolds in three steps, from recognition that the environment has changed (monitoring and sensing), to the decision to deploy DC (analyzing and deciding) and to the implementation of assets re-orchestration (implementing) and thus create a micro foundations of sustained competitive advantages. The research offers insights into the composition of micro foundations of dynamic capabilities and demonstrates that dynamic capabilities can be unbundled into well-known and concrete strategic concentric diversification

activities. The paper thereby adds to the growing research on dynamic capabilities by illustrating the dynamic capabilities strategic thinking in ambidextrous organization. A deductive case study explicated the relationship between ambidexterity, dynamic capabilities and micro foundations of sustained competitive advantages.

2. Literature review

The exploration on how to manage organizational resources and capabilities to sustain competitive advantages remains the intriguing unit of research of strategic management science. As organizations are tending to be successful, the variety of managerial and organizational literature refers them to strategic management and introducing the term of ambidextrous organization as the possible way for successful solution (Duncan 1976; Gibson & Birkinshaw 2007; Tushman & O'Reilly 1996). Structural ambidexterity is concentrated on decentralized decision making (Tushman & O'Reilly 1996). Another form of contextual ambidexterity was introduced to extend structural ambidexterity (Gibson & Birkinshaw 2007). The idea of new form of contextual ambidexterity was to balance exploration and exploitation at a firm unit-level. For that purpose it was assumed to presume organizational capabilities which facilitate superior performance and thus sustain competitive advantage (Gibson & Birkinshaw 2007). Rezk *et al* (2015, p.52) argue that “innovation activities include all scientific, technological, organizational, financial, and commercial steps that actually lead, or are intended to lead, to the implementation of innovations. Some of these activities may be innovative in their own right, while others are not novel, but are necessary for implementation”. Jansen (2005) defined ambidexterity as the ability to simultaneously pursue both incremental and discontinuous innovation and change. *Exploitative innovations* build upon existing knowledge and meet the needs of existing customers. *Exploitative innovations* are incremental innovations and are designed to meet the needs of existing customers or markets (Benner & Tushman 2003; Danneels 2002). *Exploratory innovations* require new knowledge or departure from existing knowledge and are designed for emerging customers or markets (Benner & Tushman 2003). *Exploratory innovations* are radical innovations and are designed to meet the needs of emerging customers and markets (Benner & Tushman 2003; Danneels 2002). There is few empirical research and examples how ambidextrous organizations are able to simultaneously pursue exploratory and exploitative innovations (Gibson & Birkinshaw 2007; Tushman & O'Reilly 1996; Benner & Tushman 2003). The nature of ambidexterity is also implicitly recognized in the dynamic capabilities literature which urges the need to blend the different strategic logic - exploitation and exploration- within one organization (Acona *et al.* 2001; Teece 2011).

The dynamic capabilities view (DCV) has arguably become the theoretical centerpiece of efforts to understand how firms can successfully compete in changing environment. Dynamic capabilities can usefully be thought of as belonging to three clusters of activities and adjustments: identification and assessment of an opportunity (*sensing*); mobilization of resources to address an opportunity and to capture value from doing so (*seizing*); and continued renewal of core competences (*transforming*) (Teece 2007). One key implication of the dynamic capabilities concept is that firms are not only competing on their ability to exploit their existing resources and organizational capabilities, firms are also competing on their ability to explore, renew and develop their organizational capabilities /10/. This is especially true for ITC companies competing in global changing markets. During the last two decades, research in dynamic capabilities has promised to unlock understanding of how competitive advantage arises in dynamic markets. It's imperative Teece's (2007) paper here as this is the seminal piece on micro foundations of sustained competitive advantages. There has also been a Special Issue of SMJ on the 'psychology of strategic management'. Excellent contribution was added by Hodgkinson & Healey's (2011) paper that rethinks Teece's (2007) piece and focuses in more depth on the micro foundations of dynamic capabilities. However to date, empirical work has by and large focused on *what* dynamic capabilities are. There has been little work demonstrating *how* they actually operate and contribute to micro foundations of competitive advantage other than at the conceptual level (Armstrong, Macintosh & Maclean 2012). In this paper, we present a case study of Google, Inc organization that successfully adapted to major changes in its complex setting of global ITC competitive environment. In analyzing this cases, we shed light on the nature of dynamic capabilities and their link to performance outcomes as well as demonstrate that dynamic capabilities is a necessary condition for successfully adapting to environment changes and sustain competitive advantages.

3. Discription of investigation

We have selected an object of research the ogranisation that is especially active and interesting in ICT industry: Google Inc. The ICT industry is selected for the following reason. ITC industry is highly dynamic market, due to the reason that it is global, with relatively low entrance barriers, requiring huge investments in intangible assets and extremely capacity of specific knowledge and experience. According to the theory, in highly dynamic markets, the suggested routines have to be efficient and dynamic. In such situations there is a call for dynamic capabilities of the ITC players. Google is going through substantial change due to the technological shift that cloud computing is giving (Ilinitch, D'Aveni & Lewin 1996). In recent years Google has thremendously susccfelly diversified products range and expanded from internet search across a broad range of internet services including email, photo management, satellite maps, digital book libraries, blogger services, and telephony.

Thus we defined the first research question for this study as follows: *How are ambidextrous strategic thinking developed by Google, Inc pursuing product diversification strategy?* Second research question has been defined as follows: *how dynamic capabilities and their microfoundations actually operate in Google Inc groups and contribute to its competitive advantage?* We answer on the research questions by using CEO statements, company reports, case studies and press releases from the company web pages. This can boost our data to get at a micro-level understanding of dynamic capabilities (Barr, Stimpert & Huff 1992). Using DCV theory and data sources, the strategic thinking pattern of dynamic capabilities of ambidextrous organization: one of the leaders of the ICT industry to innovate the industry is identified. The research questions are *phenomenon-driven* and according to Eisenhart & Graebner (2007) it is appropriate *using a single case* if a phenomenon-driven research question is subject to investigation. Regarding research is investigating one single case, Siggelkow (2007) notes that it “can be a very powerful example”. In fact, it is a major advantage of case study research that the chosen case studies as a Google in our research can be investigated in depth which would not be possible with a large case sample (Eisenhardt & Graebner 2007). Regarding to *presentation of evidence*, Eisenhardt & Graebner (2007) state that there is no strict norm as in deductive (large-scale) studies when presenting results.

4. Data analysis and interpretation

According to the case study research data, ITC organizations are confronted with the tension between exploiting what they *know* and exploring what they *do not know* since both exploitation and exploration are essential capabilities to their long and short term survival. According to the Google case study research (Edelman & Eisemann 2010), there are basis to believe that Google is able to perform two things at the same time – generate and apply the knowledge through knowledge management system. Google is engaged in both exploitation (refinement, choice, production, efficiency, selection, implementation and execution) and exploration (search, variation, risk taking, experimentation, play, flexibility, discovery, innovation) and successfully implies ambidextrous strategic thinking in the organization to ensure the company’s competitive advantages. The knowledge processes within Google organization can be illustrated as follows. First stage is knowledge generation stage (exploration of new opportunities). Algorithmic search became the successful exploratory innovation and it has been licensed by Google. This action helped Google to enter the market, to surpass all rivals and ensure Google’s revenues in 1999. In the end of the same year, reacting to the pioneered by Overture monetize search, the company had also introduced its first paid listings, but with different approach on a cost-per-impression basis. Simultaneously, Google developed a range of new services in advertising and introduced Froogle, thus generating and exploiting the knowledge simultaneously. The same situation with Google maps, which has been generated and launched in year 2005. In addition to that the ambidextrous strategic thinking of Google took the company into other directions, namely: hosting of video and books, communications applications such as Gmail and Gchat messaging as well as voice communications and some others, all these actions helped Google to diversify and grow by generating and implementing knowledge simultaneously and constantly. Second stage is knowledge application stage (exploitation of existing capabilities). Due to the reasons that the search systems often failed to deliver useful results, Google used double loop model of learning and company’s engineers constantly fine-tuned search algorithms. Thus, the company proved to be in constant learning process and exploitation of its existing capabilities. Simultaneously, to the advertising scope actions mentioned before in the knowledge generation stage, Google expanded the efforts on attracting more advertisers by offering them free software to optimize campaings.

Furthermore, Google improved on policy of paid listings by considering listings relevance and these improvements made the product more sufficient and more competitive. All these simultaneous actions on knowledge generation and its application, as well as constant learning process describes the ambidextrous features of Google strategy aiming to achieve a balance between exploration and exploitation activities. Taking into the consideration the unconventional management practices of Google, it would be possible to underline that Google is inclined to contextual ambidexterity features (Edelman & Eisemann 2010). How did they do it? We assert that radical innovation is akin to exploration and incremental innovation is akin to exploitation. Table 1 summarizes the differences between exploratory and exploitative intangible assets along selected dimensions.

Table 1. Ambidextrous strategic thinking at Google.

	Exploratory innovations Knowledge creation (Innovation through research process)	Exploitative innovations Knowledge application (Broadening the existing knowledge and skills; improve and expand existing products)
Search algorithms technology	PageRank algorithm as the new search technology in 1999 As a result – license of new technology, market entrance and revenues in 1999	Constant improvements of search algorithms through incremental innovations approach As a result - Personalized Search launched in 2004
Advertising	Introducing paid listings sold on cost-per-impression basis in 1999 In 2002 using Overture's cost-per-click model DoubleClick with placing display ("banner") advertisements Radical innovations Google AdSense, Froogle and Google Analytics are designed to meet the needs of emerging customers and markets	Expanding beyond search advertising by launching "contextual" paid listings – AdSense in 2003 Developing new service – Froogle Free service – Google Analytics to identify which keywords yield the most sales Location-based paid listings at Google Maps in 2005 Acquisition with DoubleClick – expanding AdSense to show display ads
Google Maps	Competitors Internet maps before 2005 Radical innovations Google Maps are designed to meet the needs of emerging customers and markets	In 2005 launching Google Maps – faster scrolling and browsing than competitors.
Communication applications	Yahoo! Mail and Hotmail offering 2-4MB space Radical innovations Android platform is designed to meet the needs of emerging customers and markets Expanding into real time and voice communication – Goole Voice	In 2004 launching free email - Gmail with space of 1 GB with interface advances. In 2008 launching Android platform – free, open source mobile-phone operation system
Hosting	Sharing/ cloud-based applications, Microsoft Office Radical innovations Google's wide variety of applications are designed to meet the needs of emerging customers and markets	Using "cloud" to offer wide variety of applications: Google Reader and Personalized Home Page, Google Photos, Google calendar, Google Docs and other

Thus, first research question has been answered. Building on empirical case study data of contextually ambidextrous organization like Google, authors described Google idiosyncratic characteristics and explained how their mode of knowledge transmission between exploratory and exploitative domains, serves to generate a micro foundation of competitive advantage.

How dynamic capabilities actually operate in Google Inc groups and contribute to its competitive advantage? To answer on the second research question we are taking into consideration the Resource Based View (RBV) on strategy of Google, Inc. It is important to underline that there is a logical linking of RBV view of the company with its dynamic capabilities, because DC is deeply rooted in RBV foundations (Armstrong, Macintosh & Maclean 2012). For dynamic strategy the capabilities are to be dynamic in order to be able to react on industry changes and market dynamism. Changes in technologies, customer preferences, and demand or supply of products and services make current products and services obsolete and therefore require dynamic capabilities. To minimize the threat of obsolescence, Google needs both radical and incremental innovations to satisfy the existing markets and prepare

for the emerging markets, therefore by exploitative and explorative activities, organizations may search information extensively to lessen pressures of uncertainty. Dynamic capabilities enable the Google to react to changing market conditions by developing and renewing its organizational capabilities thereby achieving and sustaining a competitive advantage.

Dynamic capabilities are seen as integrated sets of knowledge management activities that changes, renews and exploits the knowledge-based resources of the firm. Google has proved to be a paradigmatic practitioner of ambidextrous strategic thinking and dynamic capabilities as it has created and transformed a series of markets. Table 2 shows how each of its major product introductions reflected aspects of the major categories of dynamic capabilities and how Google, Inc has pursuit product diversification strategy creating micro foundations of sustained competitive advantages.

Table 2. Micro foundations of dynamic capabilities and sustained competitive advantages at Google.

Strategic decision making on product diversification	Sensing (monitoring and shaping opportunities)	Seizing (analyzing and deciding)	Transforming (implementation of assets re-orchestration)	Result: (creating micro foundations of sustained competitive advantages)
Web search	Algorithms for indexing webpages displaying search results were not effective	Created efficient and meaningful search algorithm for web search	Created API for incorporating search in separate websites and mobile platforms. Expanded search algorithm to consider location and historical search strings when bringing new search results	Dominating global search engine
AdWords	Online advertising model did not bring value to businesses for the investment required	Created online advertising structure that is based on per-click payment, thus dramatically increasing value advertisers get for using the service	Introduced Adwords Web tools for advertisers to be able to analyze the effectiveness and results of their advertising efforts with Google services	One of the leading online advertising providers. One of the main revenue generating streams among product portfolio
E-mail	Free mailbox providers lacked user friendly interface and comfortable allowed size of the mailbox	Create online mailbox has the largest free of charge memory offering and service is extensively focused on friendly used interface	Created advanced filters to remove any SPAM advertising being received and integrated mailbox as online ID for other services provided by Google	Dominating as free-of-charge email mailbox sites
YouTube	Internet video sharing emerged as one of the core activity where people spend time when browsing internet	Purchased and developed online site where people could upload, store and share videos free of charge	Created lists and channels people could subscribe and contribute content transforming the site to a form of social network	Dominating as the absolute leader for online video sharing
Maps	Scanned static maps were becoming available online, however the service lacked functionality of easy browsing	Created web mapping service that provides web based map browsing, route calculations and many other services	Added public transport route planning, street view and API for porting maps on 3rd party websites or applications allowing them to use mapping and location based features	One of the leading online map browsing sites
Cloud Storage	Alternative free-of-charge storage spaces could afford to provide	Created Google Docs that focused on developing	Transformed Google docs to Google Drive that added storage	

	small storage spaces. Lacked interface for document editing	functionality of document sharing and online editing	facility of other file formats as well as provided API for integrating the service to mobile platforms	Only online storage site that supports online spreadsheet, worksheet editing.
Android OS	Smartphone market boomed, with only few market players. Only iOS could support the functionality	Create open-source mobile OS that supports advanced interface and extensive functionality and which smartphone manufactures could use on their devices	Developed OS for tablet devices	Leading OS on which the currently marketed smart phones operate
Picasa	Photo sharing sites lacked friendly user interface and integration with other online activities	Create online photo sharing webpage that would allow to store unlimited number of photos free of charge	Integrated service with Android OS	Photo sharing site integrated with most of other Google products, especially Android platform

5. Conclusions

Sustainable development, covering economic, social and environmental development, is gaining the increasing significance in the modern changing world (Belevičienė & Bilevičiūtė 2015). The proposed research has not only contributed to the theoretical development of the ambidextrous strategic thinking and dynamic capabilities perspective but also provide decision making pattern for practitioners striving for their sustainable future and retaining competitive advantages in dynamic global ICT battles. The research questions are answered empirically by using data from research-intensive firm as Google. A case study was conducted by analyzing Google as a large research-intensive organization and demonstrated *how* dynamic capabilities shaped *in ambidextrous organization*. Ambidextrous strategic thinking of Google is the key dynamic capability to become something more than a search engine and web storage. Google has the necessary market share and enough resources, but having acquired Motorola Mobility and it faced the challenge to build up credibility as a true ICT company with tangible products like mobile phone. The key policy here seemed to be confidence in exploitation of R&D and in exploration to develop and buy new capabilities as an infrastructure service and tangible product provider.

Dynamic capability of sensing is an inherently entrepreneurial set of capabilities that involves exploring technological opportunities, probing markets, and listening to customers. Google is sensing opportunities and following the learned wisdom that in technological changes it needs to be able to manage all the required technologies. Seizing capabilities of Google include designing business models to satisfy customers and capture value. Google's business model of reducing competition is to give services for free. Revenue is primarily created by online advertising. However, it can be noticed again that the acquisition of Motorola Mobility had marked a radical shift for Google's business model: away from the pure software side of things that they've always dealt in and towards plastic and metal hardware. *Transforming or reconfiguration* capabilities as a key *element of dynamic capabilities theory* were most obviously needed when radical new opportunities are to be addressed (Girod & Whittington 2012). Google is an expert in web environment, but mobile devices and mobile environment was a new area for them. Had Google been able to create a credible image as a company that can make money other ways than advertising and giving everything else out free?

The author is going to make a longitudinal study on current topic because it would be meaningful form a managerial and an academic outlook. The idea around the fact that dynamic capabilities lead to competitive advantage needs to be elaborated on from a conceptual viewpoint. It would be great to see more empirical work on *how* dynamic capabilities operate and contribute to micro foundations of competitive advantage within organizations – it is clearly an area that needs further attention in the strategic management and innovation areas.

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References

Journal articles:

Akona, D.; Goodman, P.; Lawrence, B.; Tushman, M. L. 2001. Time: A New Research Lens, *Academy of Management Review* 26 (4): 64-663.

Barr, P.; Stimpert, J.L.; Huff, A.S. 1992. Cognitive change, strategic action, and organizational renewal, *Strategic Management Journal*, John Wiley & Sons Ltd 13(S1): 15-36.

Belevičienė, T & Bilevičiūtė, E. 2015. Influence of employment on strategy of sustainable development implementation, *Journal of Security and Sustainability Issues* 4(3): 520-535. DOI: [http://dx.doi.org/10.9770/jssi.2015.4.3\(3\)S](http://dx.doi.org/10.9770/jssi.2015.4.3(3)S)

Benner, M.J.; Tushman, M.L. 2003. Exploitation, exploration, and process management: The productivity dilemma revisited, *Academy of Management Review* 28:238-256.

Danneels, E. 2002. The Dynamic of the Product Innovation and Firm Competence, *Strategic Management Journal*, John Wiley & Sons Ltd, 23: 1095-1121.

Duncan, R. 1976. The Ambidextrous Organization: Designing Dual Structures for Innovation, *The Management of Organization*. New York: North Holland:167-188.

Eisenhardt, K.M.; Graebner, M.E. 2007. Theory building from cases: Opportunities and challenges, *Academy of Management Journal* 50 (1): 25-32.

Eisenhardt, K.M.; Martin, J.A. 2000. Dynamic capabilities: What are they? *The Strategic Management Journal*, John Wiley & Sons Ltd, 21(10-11): 1105-1121.

Edelman, B.; Eisemann T.R. 2010. Google Inc., *Harvard Business School Publication* 1-10.

Gibson, C.; Birkinshaw, J. 2004. Building Ambidexterity into Organization. *MIT Sloan Review Management* 47-55.

Hodgkinson, G. P.; Healey, M.P. 2011. Psychological foundations of dynamic capabilities: Reflexion and reflection in strategic management. *Strategic Management Journal*, John Wiley & Sons Ltd, 32: 1500-1516.

Ilinitch, A.Y.; D'Aveni, R.A.; Lewin, A.Y. 1996. New Organizational Forms and Strategies for Managing in Hypercompetitive Environments. *Organization Science* 7 (3), *Special Issue Part 1 of 2: Hypercompetition*, 211-220.

Rezk, M. R. A.; Ibrahim, H., H.; Tvaronavičienė, M.; Sakr, M. M. , Piccinetti, L. 2015. Measuring innovations in Egypt: case of industry, *Entrepreneurship and Sustainability Issues* 3(1): 47-55. DOI: [http://dx.doi.org/10.9770/jesi.2015.3.1\(4\)](http://dx.doi.org/10.9770/jesi.2015.3.1(4))

Siggelkow, N. 2007. Persuasion with case studies, *Academy of Management Journal* 50 (1): 20-24.

Teece, D.J. 2011. Dynamic Capabilities: Guide for Managers, *Ivey Business Journal*, Available on the Internet:<<http://iveybusinessjournal.com/publication/dynamic-capabilities-a-guide-for-managers>>.

Teece, D. J. 2007. Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance, *Strategic Management Journal*, John Wiley & Sons Ltd 28(13): 1319-1350.

Tushman, M.L.; O'Reilly III, C.A. 1996. Ambidextrous Organizations: Managing Evolutionary and Revolutionary Change, *California Management Review* 38(4): 8 - 29.

Wahl, M.; Prause, G. 2013. Toward understanding resources, competencies, and capabilities: business model generation approach, *Entrepreneurship and Sustainability Issues* 1(2): 67– 80). DOI: [http://dx.doi.org/10.9770/jesi.2013.1.2\(1\)](http://dx.doi.org/10.9770/jesi.2013.1.2(1))

Doctoral thesis:

Jansen, J., 2005. *Ambidextrous organization: A Multiple-level study of absorptive capacity, exploratory and exploitative innovation*. PhD thesis, Erasmus Research Institute of Management (ERIM), Erasmus University Rotterdam, 1-184.

Papers presented at a meeting or conference:

Girod, S.; Whittington, R., 2012. Dynamic capabilities and reconfigurations: how much is too much? *Strategic Management Society 32 Annual Conference*: Abstracts of SMS 32 Annual Conference, 143.

Armstrong, K.; Macintosh, R.; Maclean, D., 2012. Unblocking the Conceptual Log Jam: Using a Rules Perspective to Make Sense of Dynamic Capabilities. *Strategic Management Society 32 Annual Conference*: Abstracts of SMS 32 Annual Conference, 68.

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**ORGANIZATIONAL CREATIVITY AS A DRIVING FORCE FOR COMPANY'S
INNOVATIVE DEVELOPMENT**

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Abstract. The article investigates the phenomenon of Creativity – the background of this term, its development and what we understand with creativity in business organizations nowadays. The concept of Creativity, Individual creativity and Organizational creativity are given, as well as provided differences between Individual and Organizational creativity. Specifically, the authors analyze the Organizational creativity, its features and influencing factors. This article provides two-step research: 1) content analysis of scientific literature, extracting factors of organizational creativity and 2) interview of business representatives with subsequent comparative analysis of the obtained results. Triangulation of research was obtained through cross verification from two sources.

Keywords: creativity, organizational creativity, innovation.

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1. Introduction

In today's rapidly changing environment and expanding global competition there is a continuing and ever-growing recognition on innovations and creativity. Innovation plays the key role in development and growth not only in particular enterprises, but in country's economy as well. Innovation has been placed at the heart of the Europe 2020 strategy: "Europe's future economic growth and jobs will increasingly have to come from innovation in products, services and business models" (Innovation Union 2013). However, European Commission claimed, that Latvian long-term competitiveness is hindered by poor development of innovation.

The research "Innovation Union Scoreboard 2015", published February 7, 2015, shows that Latvian innovation development rate is still below the EU average – among 29 surveyed countries, Latvia ranks – 26th (Estonia - 13, Lithuania - 25) (Ministry of Economy 2013). Currently, the Latvian economy is dominated by sectors with low added value, i.e., industries based on the processing of natural resources and cheap labor force benefits. To ensure long-term economic growth, it is necessary to create added value and raise productivity through a comprehensive innovation processes (Ministry of Economy 2013). So, the competitiveness of economy relies on the capacity of

businesses to create high value added goods and services. That can be done only through the creative approach in all business levels.

All innovation begins with creative ideas. Successful implementation of new programs, new product introductions, or new services depends on a person or a team having a good idea – and developing that idea beyond its initial state (Amabile *et al.* 1996). Creativity is even necessary before the actual innovation process can begin, and can thus be considered as “pre-innovation” (Burbiel 2009); therefore research of creativity may help to implement and foster innovation processes in business organizations.

Research on creativity has sprung from many academic disciplines, including psychology, organizational behavior, education, history and sociology. Psychological research on creativity has tended to focus on individuals and intra-individual factors – personality, traits, abilities, experiences, and thought processes (e.g. motivation; Amabile 1982). Within this focus, creativity is often seen as the product of a special individual in an isolated moment of insight. Researchers from other domains, particularly sociology, have focused on more macro issues concerning the influence of the environment on creativity (Ford 1996) (Pirola and Mann 2004). While researches focusing on creativity from either micro or macro perspective have made significant advances, the two approaches have tended to remain separate. It is only relatively recently, that considerable theoretical advancements have been made in linking the macro and micro levels, the work environment with intra-individual components.

Performed researches (Burbiel 2009; Yeh and Chen 2012; Zampetakis *et al.* 2009; Shalley and Gilson 2004; Amabile 1998) on creativity in business organizations show that it is not enough to hire creative individuals, it is necessary to create an environment favorable for creativity. Performed researches identify various factors on different levels – individual, group, organizational, that stimulates creativity in organizations and present different models of creativity assessment in business. These types of approaches are wide ranging and their levels of analysis widely discrepant. That’s why authors investigate what does term of creativity mean, what is relationship between individual and organizational creativity, which factors influence organizational creativity, is it possible to stimulate creativity in business organizations.

The research **object** is the concept of organizational creativity.

The research **goal** is to discuss and define what exactly Creativity is, to show why creativity within an organizational setting is not simply Individual creativity and to identify factors, influencing Organizational creativity.

The research methods applied in the article are content, logical and comparative analysis of scientific literature, exploring and comparison of foreign researches.

2. Studying the concept of Creativity

In scientific literature, creativity is often mentioned as a starting point for innovation and entrepreneurship. However, the concept of creativity is rarely clearly understood or defined in business management. The field of management theories and practices contains various approaches, which touch the creativity in organizations, but a minimal part of these approaches includes creativity in a comprehensive or in a profound way. The term “Creativity” has a multitude of definitions and approaches for assessment. To understand what organizational creativity is and how it could be stimulated in business organizations, the authors need to come to conclusion, what we understand with term “Creativity”.

The word „creativity” comes from the Latin term *creō* "to create, make". The development of the modern concept of creativity begins in the Renaissance, when creation began to be perceived as having originated from the abilities of the individual. Creativity as the subject of proper study began seriously to emerge in the late 19th century with the increased interest in individual differences. The start of the scientific study of creativity is taken as J. P. Guilford's (Guilford 1987) address to the American Psychological Association, which helped popularize the subject and focus attention on a scientific approach to conceptualizing creativity. He concluded that originality was an important dimension of a creative new product.

Interest of Creativity research began to grow in the early 20th century. Joseph Shumpeter introduced the economics theory of creative destruction, to describe the way in which old ways of doing things are endogenously destroyed and replaced by the new (Wikipedia). However, several indicators of the volume of work on creativity show that it remained a relatively marginal topic in science. Creativity and innovation are sometimes regarded as the same concept. However, many researchers have suggested that they are two disciplined areas (e.g. Amabile 1996; Barton and Tang 2011; Hopkins 2010; McLean 2005). Amabile (1996) claimed that creativity is the production of novel and useful ideas in any domain, whereas innovation is the successful implementation of creative ideas within an organization. In her Componential Model of Creativity, Amabile (1996) defined creativity as the production of responses or works that are reliably assessed by appropriate judges as being original (Yeh and Chen 2012). Amabile, 1996; Zampetakis and Moustakis, 2006 state that creativity marks the starting point for innovation and entrepreneurship. This approach is product oriented and focuses on the extent to which outcomes are creative.

Gruber and Davis (1988) used the case study method to investigate the processes of highly creative individuals and proposed an evolving system model of creativity. They concluded that the creative person is unique, developmental change is multidimensional, and the creative person is an evolving system (Yeh and Chen 2012). More recently, Yeh (2004) proposed the Ecological Systems Model of Creativity based on a thorough review of these well-known confluence models of creativity. This model emphasized that creativity is a process in which an individual generates a culturally and contextually original and valuable product in a specific domain, which derives from the interaction of four systems. The micro system specifies personal characteristics; mainly knowledge, dispositions, and skills and strategies; the mesosystem consists of family and school experiences; the exosystem comprises organizational factors that relate to an individual's work; and the macrosystem refers to a social milieu (Yeh and Chen 2012). Martins and Terblanche (2003) regarded creativity as a kind of capacity that integrates many new ideas for products, services, processes, and procedures (Yeh and Chen 2012).

Sternberg (1999) in his Handbook of Creativity suggests that Creativity is the ability to produce work that is both novel (original, unexpected) and appropriate (i.e. useful, adaptive concerning task constraints) (Sternberg 1999). Mayer's (1999) review of definitions given by authors contributing to the 1999 "Handbook of Creativity" (Sternberg 1999), provided the following definition of creativity: "[. . .] creation of new and useful products including ideas as well as concrete objects." A more recent, albeit unsystematic, review has confirmed the importance of this definition (Andreasen 2005) (Piffer 2012). A product which is useful but not novel, or novel but not useful cannot be considered creative (Arden, Chavez, Grazioplene, & Jung 2010) (Piffer 2012). Another concept, named appropriateness, has been introduced to account for products that are creative but not useful in a strict sense. This concept is part of a prominent definition of creativity (Zeng, Proctor, & Salvendy 2011). Appropriateness is different from impact as the former indicates agreement among the public or the community of experts about a product's creativity, whereas the latter indicates the extent to which an idea changes a particular domain, as reflected in this definition of creativity: "Creativity is any act, idea, or product that changes an existing domain, or that transforms an existing domain into a new one" (Csikszentmihalyi 1996) (Piffer 2012). The traditional distinction between Big-c and little-c creativity highlights the importance of this concept. The first is synonymous with eminent creativity and is usually believed to be limited to well-known creators or renowned individuals. Little-c, or everyday creativity, consists of the creative activities in which people might participate each day and is found across the demographic spectrum, from college students to children (Kaufman & Beghetto 2009) (Piffer 2012). Joacim Burbiel (2009) also states that Creativity is a combination of idea generation and idea validation, highlighting the need of suitability acknowledgement of idea (Shalley and Gilson 2004). He emphasizes that creativity is essential to the innovation process: "novel ideas must be added to the innovation process anew all the time." (Shalley and Gilson 2004). Many researchers noted that no innovation in an organization may be reached without an individual creative action of its employees.

What has been given so far is a definition of "creativity". Reviewing variety of definitions it becomes clear that it is more relevant to products, people and process. Sometimes (but not always) the definition explicitly encapsulates all three elements. Thus, in Zeng et al. (2011) "creativity is broadly defined as the goal-oriented individual/team cognitive process that results in a product (idea, solution, service, etc.) that, being judged as novel and appropriate, evokes people's intention to purchase, adopt, use, and appreciate it" (Piffer 2012)..

In many researches Creativity is described as an ability to think in an original and unusual way, as a specific personal characteristic, as a process and creative result received during it (Macerinskiene and Bulygina 2012; Fisher *et al.* 2005; Shalley and Gilson 2004). It is emphasized that creative ideas must be acknowledged and practically applied in order to be useful for others, in other words, they must be converted in a certain form – a product or a service. Having analyzed results of various researches on creativity, became clear that since the advocate of creativity research by Guilford in 1950, proposed definitions of „creativity” have changed from the unidimensional to the multidimensional plane; from factors related to personal characteristics to those concerning the social milieu; and from the cognitive to the affective domain. The authors agree with Mumford & Gustafson (1988) statement that creative outcomes can range from minor adaptations in workflow or products to major breakthroughs and the development of new products or processes. Based on the researches’ results presented above, the authors define Creativity as goal-oriented individual/team cognitive process, in which an individual/team generate novel, useful and appropriate ideas that results in a product, service, process, procedure, solution, etc. However, with such a broad definition, one is at a loss as to how creativity could be influenced and fostered in business organizations? What is the difference between individual and organizational creativity? Which factors positively influence individuals to be creative?

2.1. Individual creativity versus Organizational creativity

The development of scientific thinking about creativity has followed a trajectory similar to that of research on intelligence: an early emphasis upon isolated individuals and their internal traits and capabilities, followed by a developing focus upon the interaction between the individual and the environment (Sternberg 1999). The major focus in creativity research has been on the individual creator and her or his personality, traits, abilities, experiences, and though processes – we call it Individual creativity. Later research focused on the individual in context. These systems views are based on analyses of creative individuals within their social and historical contexts. Thus, these views incorporate environmental influences on creativity (Sternberg 1999).

The influence of environment is very important, because creative outcomes cannot and do not occur in a vacuum. Some might conclude that organizational creativity needs could be met by hiring individuals with right levels of intelligence, combined with other aspects of personality. However, the problems with drawing such conclusions are, first, that the individual in an organization must function within a group-oriented organizational culture, and so may not express creativity as it was expressed in isolation. Second, when drawing such conclusions, we do not know the extent of the relation between such performance and real world creativity in organizational setting (Sternberg 1999). Mumford et al. (2002) discussed creative work as being contextualized in that the success of creativity depends on the capabilities, pressures, resources, and sociotechnical system in which employees find themselves (Arena 2008).

C.M. Arena (2008) writes in his book „The business of intellectual property”: „Creativity in and of itself is value neutral and, depending on the outcome, may be positive or negative” (Amabile 1998). Hence, the role of leaders is to ensure that the structure of the work environment, the climate and culture, and the human resource practices are such that creative outcomes can and do occur. So, there is an increasing need for a greater understanding of the contextual factors that may enhance or discourage employees’ creativity as well as the interaction between personal characteristics and the work environment. This interaction’s result – positive creative outcome in business organizations we understand under term Organizational Creativity.

Based on the information above, the authors conclude, that creativity stems from individual talent, but for development of Organizational creativity, organization must mediate this individual potential and channel it into creative production. For getting the positive creative outcome, it is essential to find factors that foster Organizational creativity. By defining and analyzing these factors, leaders will be able to manage and enhance creativity in business organizations. Systems-oriented views of creativity can help us to conceptualize the multiple factors that influence creative performance within an organizational setting.

3. Research methodology

The authors provide two-step research: 1) content analysis of scientific literature, extracting factors of organizational creativity and 2) interview of business representatives with subsequent comparative analysis of the obtained results. Triangulation of research was obtained through cross verification from two sources.

Most managers would say that they would like their employees to be more creative, but it has not always been clear how managers should lead for creative performance to occur. There is a need to identify the way for leadership to follow and stimulate the creativity in business organizations. The authors suggest that it could be done through identifying factors, influencing Organizational creativity, systematizing them and analyzing in everyday work, as well as in particular cases. Managers should be able to estimate, which factors they must pay attention at; what are the strong points and weakness; which factors could be changed, improved or even replaced for getting the best result.

There is a huge set of various factors, which influence Organizational creativity on different levels with different force. That's why purpose of the present research is not only to identify factors of Organizational creativity, but also to structure them in one comprehensive system by dividing into groups. So, in authors' opinion, the first and essential step in efficient management of Organizational creativity is identifying factors, influencing Organizational creativity and systemizing them. For these purpose, the authors conducted a content analysis of scientific literature, exploring and comparison of foreign researches.

The most often discussed models of Organizational creativity are the models of Organizational creative climate assessment and creativity and Innovativeness guarantee factors of Amabile (1988, 1996), and the Model of interactions organizational creativity of Woodman *et al.* (1993). The theoretical works of Amabile and Woodman serve as general frameworks that describe a variety of relevant factors that can either enhance or stifle employee creativity. These models present a foundation for suggestion why the context of employees work is important for their creativity. Both models have categorized the major components of the work context into individual, job, group or team, and organizational level factors.

Csikszentmihalyi, Gardner and Simonton are among the theorists who have conducted research based on the systems approach. Csikszentmihalyi (1988, 1994) sees creativity as a product of interactions between three components: 1) a person who makes changes in the contents of a domain that are acceptable to a field; 2) members of a person's field as judges the person's creative endeavors; 3) organizational influence – organizations, that encourage the optimal types of judging behaviors and attitudes will thus encourage creativity (Sternberg 1999). Gardner's (1988, 1994) understanding of creative processes is expressed on four levels of cognitive analyses: 1) the subpersonal level of genetic and neurobiological factors; 2) the personal level of development in some form of human intelligence; 3) the extrapersonal level of progress of development in bodies of knowledge or domains, and 4) the multipersonal level of a social context of a field of inquiry that is created through interactions among colleagues in a domain (Sternberg 1999). Like Csikszentmihalyi, Gardner recognizes the role of multipersonal input in the creative process, which is an aspect of organizational environments that is at least partly under organizational control.

Based on these models, the authors have divided all factors of Organizational creativity into three groups: 1) individual factors; 2) group factors; and 3) organizational factors. The authors also give an explanation, what is the concept of each group:

1. Individual factors – are the personal characteristics of the individual, a set of skills specific to creativity. These factors depend only on each individual's cognitive abilities, personality.
2. Group factors – are factors of interaction between individuals in one workgroup.
3. Organizational factors – factors, concerned with the structure of organization, its internal climate, rules, strategy and technologies.

The authors' intent was to prove that Organizational creativity doesn't depend on the individual characteristics only. Organization is a system and it is necessary to take into consideration all conditions of its functioning. However, a clear picture regarding what is important and when is still emerging

4. Dimensions and factors of Organizational creativity

Increasingly, creativity has become valued across a variety of tasks in business organizations. Work environment is very dynamic nowadays and level of creativity required and the importance of creativity can differ depending on the tasks or job in question, most managers would agree that there is room, in almost every job, for employees to be more creative (Arena 2008). The authors of the paper consider that for a company to encourage positive-outcome of creativity, it must recognize the characteristics and factors, which supports and rewards the positive-outcome. By conducting content analysis of foreign researches, the authors identified the factors that stimulate creativity in business organizations and, based on the literature and authors' practical experience, divided them into three dimensions: individual, group and organizational. The researchers' findings and factors are presented in Table 1.

Table 1. Factors, influencing organizational creativity

Authors	Quotation	Individual factors	Group factors	Organizational factors
Teresa M. Amabile (1998)	Within every individual, creativity is a function of 3 components: expertise, creative thinking skills and motivation (Sung and Choi 2012).	expertise, skills	motivation	
Gruber and Davis (1988)	Evolution of creative ideas is influenced by an individual's expertise, motivation, emotions and environment (Yeh and Chen 2012).	expertise	environment – supportive climate; motivation	
Sternberg and Lubart (1996)	A confluence of six distinct but interrelated resources is required for creativity. These are intellectual ability, knowledge, particular style of thinking, personality, motivation and the environment (Yeh and Chen 2012).	intellectual ability; knowledge; particular style of thinking	environment; motivation	
Yeh (2004)	knowledge, dispositions and skills and strategies (Yeh and Chen 2012).	knowledge; dispositions and skills		strategy
(Yeh, 2006). Sweller (2009)	The first element of creativity is a comprehensive knowledge base.	knowledge		
Crawford and Brophy (2006)	Creativity requires a basic level of expertise and fluency within a specific knowledge domain along with deep knowledge of the subject. Apparently, knowledge is the most fundamental and critical element of creativity (Yeh and Chen 2012).	knowledge, expertise		
Tinerney and Farmer (2002)	Personal self-confidence or self-efficacy helps to foster creative behavior (Yeh and Chen 2012).	self-confidence; self-efficacy		
Claxton, Edwards, and Constantinou (2006)	Dispositions such as curiosity, resilience, experimentation, attentiveness, and thoughtfulness are important for the performance of creativity.	dispositions		
Pelled, Eisenhardt, and Xin (1999)	Range of skills, knowledge, and perspectives positively impact an individual's creative performance (Yeh and Chen 2012).	skills; knowledge; perspectives;		

Feldhusen (1995)	The process of creation requires abilities of planning and monitoring.	abilities of planning; abilities of monitoring		
Wallas (1926), Runco (2007)	Early research on creativity has demonstrated that time is an important resource; individuals should be given sufficient time if they are expected to do creative work (Zampetakis et al. 2010).		time; work load	
Mednick (1962)	Original ideas tend to be remote and are usually found far away from the original problem or initial idea. This remoteness requires time; it takes time to move from idea to idea to idea, and to find the remote associate (Zampetakis et al. 2010).		time	
Amabile (1998), Runco, (2007), Simonton, (2000)	Creative individuals are intrinsically motivated and are equipped with high levels of persistence (Zampetakis et al. 2010).	intrinsic motivation		
Gilson & Shalley, 2004	Extant studies of team creativity have highlighted the importance of group composition and team emergent states or processes, such as a supportive climate (Chen and Huang 2010).		group composition; supportive climate	
Van Engelen, & Kratzer, (2003)	Intra-team communication is important (Chen and Huang 2010).		intra-team communication	
Lopez-Cabrales et al., (2009)	The ability of a team to generate novel and useful ideas is inextricably linked to task-relevant knowledge embodied in members (Chen and Huang 2010).	task-relevant knowledge		
Gerhard Fischera, Elisa Giaccardia., Hal Edena, Masanori Sugimotob, Yunwen Yea, (2005)	Nature of creativity has four essential pieces: (1) originality, (2) expression, (3) social evaluation and (4) social appreciation within a community (Fiscger et al. 2005).	originality; expression	social evaluation, social appreciation within a community	
Woodman et al.,(1993); Nonaka and Takeuchi, (1995); Ofori-Dankwa and Julian,(2002); Paulus,(2000)	Prior researches in the group literature have found evidences that characteristics of creative workforce, such as network structure, size and diversity are critical factors of creative output.			network structure, size and diversity
Woodman et al. (1993)	Individual characteristics are the basis for their interaction and depend on each individual's cognitive abilities, inner motivation and suitable knowledge (Macerinskiene and Bulygina 2012).	abilities; inner motivation; knowledge		
Woodman et al. (1993)	Group creativity is influenced by group composition, and group characteristics (e.g., cohesiveness, group size, member diversity, role distribution and methods of problem solution), implying that		group composition; cohesiveness, group size, member diversity, role distribution	

	the interactions and flows of knowledge that take place across creative actors of an organizational network influence the creation of new knowledge.		and methods of problem solution	
Woodman et al. (1993)	Innovation performance of the organization is a function of the creative performance of its constituent groups and salient aspects of the organization, such as resource availability, that can enhance or constrain creativity. Organizational characteristics encompass organizational culture, resources, and compensation systems and focus on organizational strategy, structure and technologies (Macerinskiene and Bulygina 2012).			resource availability; organizational culture; compensation systems; organizational strategy, structure and technologies
Schepers & van den Berg (2007)	Personal freedom, both in choosing which particular task to do next and how to tackle it, has been identified as a major source of creativity (Burbiel 2009).		personal freedom	
Heinze (2007)	Friendly competition between different groups of the same organisation had been important as a driving factor towards creative achievements (Burbiel 2009).		friendly competition	
Redmond (1993), Wong (2003), Amabile (2004)	The influence of leader behavior on creativity in subordinates is well documented in literature (Burbiel 2009).		leader's behavior	
Shaley, Gilson (2004)	Specifically, when jobs are complex and demanding (i.e., high on challenge, autonomy, and complexity), individuals should be more likely to focus all of their attention and effort on their jobs, making them more persistent and more likely to consider different alternatives, which should result in creative outcomes (Arena 2008).		task complexity; challenging work	
Kanfer & Ackerman, (1989)	One way in which leaders can influence the occurrence of creative activity is through goal setting. Goals influence motivation through their impact on self-regulatory mechanisms (Arena 2008).		goals setting	
Alavi & Leidner (2001)	Accordingly, knowledge sharing has been considered as a key component of KM systems and the most important element of creative behaviors in any organizations (Arena 2008).		knowledge sharing	
Epstein & Laptotsky (1999)	A behavioral approach to creativity focuses on the relationship between an individual's behavior and events in	Individual behavior		

	and properties of the individuals environment.			
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Table 1 highlights the point that while there are individual differences with regards to creativity, social and contextual factors can enable the expression of creative activity and motivate its applications. Summarizing the information, presented in Table 1, it is seen, that there are many quite different factors, which influence creativity on different levels in business organization, but some of them are mentioned more often by bigger number of researches and some of them could be generalized into one factor. It means that all factors don't influence Organizational creativity equally and there is room for further research on the finding the most important factors, that could become tools for measuring and managing creativity in business organizations. For visibility and convenient use, the authors summarized identified factors in Table 2.

Table 2. Summary of factors of Organizational creativity

Individual factors	Group factors	Organizational factors
Knowledge	Motivation	Strategy
Expertise	Group composition	Organizational structure
Skills	Supportive climate	Organizational culture
Intellectual abilities	Intra-team communication	Sufficient resources
Particular style of thinking	Team leader's vision, behavior	Reward system
Dispositions	Time	Organizational size
Intrinsic motivation	Role distribution in a team	Technologies
Behavior	Methods of problem solution	Network structure
	Work load	
	Challenging work	
	Diversity and complexity of processes	
	Knowledge-sharing culture	
	Friendly competition	
	Personal freedom	

These factors indicate to what managers should pay attention at, stimulating creativity in organizations. For efficient management of Organizational creativity, the authors recommend to analyze identified factors in context of dimensions. Concerning, to Individual factors, if creativity is desired, managers should try to hire individuals with definite characteristics, listed in Table 2, that are more predisposed to be creative. Additionally, they can use an individual's predisposition for creativity as a factor in placing them in jobs where creativity may be more desirable or critical.

The emphasis on group work is based on the assumption that idea generation is best performed in groups and that interaction with others fosters creativity. The research on Group factors' evaluation suggests that leaders should provide support for role expectations of creativity by providing an environment where employees expect to receive constructive, developmental feedback on their work. Based on the research, managers should work on encouraging and supporting their employees as well as developing nurturing relationships among employees. If leaders are supportive and provide challenging work, time and freedom, creative activity should be more likely to occur.

Speaking about Organizational factors, for getting the positive outcome is necessary to follow that creative ideas are generated according to the strategy of organization, taking into consideration it's size, culture, resources, technologies, etc. But managers, in turn, need to ensure that employees have access to a reasonable amount of the necessary resources for performing their job. In opinion of various researchers, positive impact on employees' creativity has a reward system. So, rewards should be seen as something given in recognition of individuals' competence, attempts to engage in creative activity, and their actual creative accomplishments. Finally, whether creativity is a requirement or an expectation of a job, it is critical that challenges, work load, time resource, rewards, support, freedom and evaluation all be closely linked such that creative behaviors and outcomes are perceived as important.

With the aim to assess creativity factors identified in the literature interview of business representatives was organized. Respondents - business representatives (micro-small-medium) were asked to assign to which group belongs each factor influencing creativity. Fifty representatives of various business areas were interviewed. The main part of the responders (60%) was representing manufacturing sector, 30 % wholesale and retail, 10 % Human Health and Social activities. Interview result is shown in Table 3.

Table 3. Summary of interview results

Individual Factors	Group Factors	Organizational Factors
Dispositions	Challenging work	<u>Diversity and complexity of processes</u>
Expertise	Friendly competition	Organizational structure
Intellectual abilities	Groups composition	Organizational culture
Intrinsic motivation	Intra-team communication	Organizational size
Knowledge	Knowledge-sharing culture	Reward system
<u>Motivation</u>	Methods of problem solution	<u>Supportive climate</u>
Particular style of thinking	<u>Network structure</u>	Strategy
Skills	Personal freedom	Sufficient resources
Behavior	Role distribution in the team	<u>Team leaders' vision, behavior</u>
		<u>Time</u>
		Technologies
		Work load

Interviewed business representatives introduced some changes to previously developed table, which shares factors influencing creativity to three groups (Individual Factors – Group Factors – Organizational Factors). Interview results show that 54 % of respondents assigned “motivation” as Individual Factor and 58% of them attributed “network structure” as a Group Factor. Necessary to notice that “diversity and complexity of processes”, “supportive climate”, “team leaders’ vision, behaviour” and “time” factors respondents ascribed to group of Organizational Factors while in the table 2, which was prepared from literature analysis all mentioned factors belonged to Group factors.

5. Conclusions

The heightened competition within today’s business climate has forced organizations to reexamine the assumptions of traditional theories of organizational structure and operation. Established formulas for work organizing and decision-making have become less applicable. For the efficient functioning and development of business organizations, new ideas and approaches are required. Therefore the importance of Creativity is emphasized more and more nowadays. However, the term of Creativity is rarely clearly understood or defined in business management. That’s why the authors studied the concept of Creativity, described in different researchers and provided their own definition of the term. The authors consider, that Creativity is a goal-oriented individual/team cognitive process, in which an individual/team generate novel, useful and appropriate ideas that results in a product, service, process, procedure, solution, etc.

The authors have come to conclusion that creativity occurs only when the appropriate mix of individual, social and environmental elements interact. The evidence suggests that individual creativity can provide the raw material for novel and useful ideas, but the creative process is perceived as taking place within the context of a particular environment rather than in a vacuum. That’s why the authors distinguish two types of creativity: Individual and Organizational.

It is clear that Organizational creativity should be considered not from individual, but from more systems-oriented perspective, because creativity success in context of organization depends on the resources, opportunities, communication of group members and technical system in which employees find themselves. Different authors identified various factors that stimulate creativity in organizations in their researches, and research models were

drawn up based on these factors (Amabile 1996; Amabile 1998; Wodman 1993). It was noticed, that some dimensions of factors are reflected in almost all models. So, on the basis of scientific researches and analysis of the most popular models of creativity, the authors found out the factors influencing Organizational creativity and divided them into three groups: Individual, Group and Organizational.

The authors assume that to create a favorable environment for creativity is possible by combining as many positive factors as possible. For this purpose Table 3 was created which present creativity factors assigned by business representatives to the groups. By conducting careful analyses of factors, given in Table 3, managers are able to find out which factors they must pay attention at; what are the strong points and weakness; which factors could be changed, improved or even replaced for getting the best result. By means of these factors, leaders can control and manage the creativity. In turn, dimensions of Organizational creativity, provided by authors, simplify this process by systematizing the factors and pointing out the problem area of business organization. Finally the authors conclude that the challenge for organizations is to achieve a balance between these two types of thinking and performing, so that creative ideas are available and are cultivated within the organizational setting.

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References

- Amabile T.M. et.al. 1996. Assessing the work environment for Creativity, *The Academy of Management Journal* 39(5): 1154-1184. ISSN 0001-4273.
- Amabile, T.M. 1998. *How to kill creativity*. Harvard Business Review. Boston: Harvard Business School Publishing, MA, USA, (September – October) Nr.5, p. 77-87. ISSN 0017-8012.
- Arena, C.M. 2008. *The business of intellectual property*. New York: Oxford University Press. 52-53.
- Burbiel, J. 2009. Creativity in research and development environments; A practical review, *International Journal of Business Science and Applied Management* 4(2): 35-51. ISSN 1753-0296.
- Chen, C.-J; Huang Y.-F. 2010. *Creative workforce density, organizational slack, and innovation performance*. Elsevier Ltd. 64(4): 411-417. DOI: 10.1016/j.jbusres.2009.03.018.
- European commission Homepage. Community Research and Development service. 2013. Available on the Internet: <http://cordis.europa.eu/eu-funding-guide/home_en.html>.
- European Comission Homepage. European Innovation Scoreboards. 2015. Available on the Internet: <http://ec.europa.eu/growth/industry/innovation/facts-figures/scoreboards/files/ius-2015_en.pdf>.
- Epstein, R; Laptotsky, G. 1999. Behavior Approaches to creativity, *Encyclopedia of Creativity*, Academic Press.
- Fischer G. et al. 2005. Beyond binary choises: Integrating individual and social creativity, *The International Journal of Human-Computer Studies*, Elsevier Ltd. 63: 482-512. ISSN 1071-5819.
- Guilford, J. P. 1987. Creativity research: Past, present and future, *Frontiers of creativity research: Beyond the basics*: 33-65.
- Innovation Union Homepage. 2013. Available on the Internet: <http://ec.europa.eu/research/innovation-union/index_en.cfm>.
- Macerinskiene, I; Bulygina, A. The concept of creativity and innovativeness assessment in business organizations. *The 53rd International Riga Technical University Conference "SCEE'2012 Proceedings"* CD. ISBN 978-9934-10-355-1.
- Ministry of Economy. Innovation fostering. 2013. Available on the Internet: <<http://www.em.gov.lv/em/2nd/?cat=30255>>.

Piffer, D. 2012. Can creativity be measured? An attempt to clarify the notion of creativity and general directions for future research. Elsevier Ltd. 7(3): 258-264. DOI: 10.1016/j.tsc.2012.04.009.

Pirola-Merlo, A; Mann, L. The relationship between individual creativity and team creativity: aggregating across people and time, *Journal of Organizational Behavior*. 2004, Vol. 25, 235-257. DOI: 10.1002/job.240.

Shalley C.E., Gilson L.L. 2004. What leaders need to know: A review of social and contextual factors that can foster or hinder creativity, Elsevier Ltd. 15(1): 33-53. DOI: 10.1016/j.leaqua.2003.12.004.

Sternberg, R.J. 1999. *Handbook of Creativity*. Cambridge University press, 373- 389.

Sung, S.Y; Choi, J.N. 2012. *Effects of team knowledge management on the creativity and financial performance of organizational teams*. Elsevier Ltd. 118(1): 4-13. DOI: 10.1016/j.obhdp.2012.01.001.

Yeh, Y; Yeh, Y; Chen, Y. 2012. From knowledge sharing to knowledge creation: A blended knowledge-management model for improving university students' creativity. Elsevier Ltd. 7(3): 245-257. DOI: 10.1016/j.tsc.2012.05.004.

Zampetakis, L.A; Bouranta, N; Moustakis, V.S. 2010. On the relationship between individual creativity and time management. Elsevier Ltd. 5(1): 23-32. DOI: 10.1016/j.tsc.2009.12.001.

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COOPERATION PROJECTS BETWEEN UNIVERSITY AND COMPANIES: PROCESS OF FORMATION AND OBJECTIVES OF THE STAKEHOLDERS

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Abstract. This paper scrutinizes cooperation projects between universities and companies. The well-functioning links between universities and companies and knowledge transfer in supporting the economic growth are becoming increasingly more important. One link between universities and companies by means of which the knowledge transfer can take place is cooperation projects. The formation of the cooperation projects and objectives of the stakeholders as well as possibilities to clarify these objectives in order to promote and facilitate the cooperation projects are discussed in the paper. As an example, the concept and process of formation of cooperation projects of Innovation and Business Centre MEKTORY of Tallinn University of Technology are described.

Keywords: university-industry relations, cooperation projects, knowledge transfer, technology transfer office

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JEL Classifications: O32

1. Introduction

This paper discusses the objectives and formation of cooperation projects between universities and companies. The knowledge exchange and research cooperation between the research and business sector are considered important for promoting technological change and economic growth. The cooperation projects between universities and companies are important in the paradigm of „Mode 2“. The paradigm of „Mode 2“ describes knowledge production which relies on interdisciplinary teams cooperating together for short periods to work on specific problems in the real world (Gibbons *et al.* 1994). The concept of the Triple Helix underlines the importance of the university-industry-government relations. According to the concept of Triple Helix the university can have the enhanced role in innovation in increasingly knowledge-based society (Etzkowitz *et al.* 2000).

The importance of knowledge transfer and cooperation between academic and business sector has been emphasized in Estonian Research and Development and Innovation Strategy 2014-2020 „Knowledge-based Estonia“ (Eesti teadus- ja arendustegevuse ning innovatsiooni strateegia 2014-2020).

Schartinger *et al.* (2002) analyze the patterns of knowledge interactions between academic and business sector in case of different fields of research and sectors of economic activity. They find that the intensity of knowledge interactions is not relevantly related to the research intensity of the sector. The analysis of sectoral patterns of knowledge interactions can give valuable input for the design of university-industry cooperation. Bekkers *et al.* (2008) analyze knowledge transfer channels between universities and companies in case of different economic sectors. According to Hsu *et al.* (2015) the possible mechanisms and activities by means of which knowledge can be transferred from university to industry include launching technology-oriented start-ups, and providing collaborative research, contract research, consulting services, technology licensing, graduate education, advanced training for enterprise staff, exchange of research staff, and other forms of formal or informal information transfer. Santoro and Chakrabarti (2002) discuss the differences in the knowledge transferred in industry-university interactions and find that larger more mechanistic companies are using these interactions more to build competencies in non-core technological areas whereas smaller high-tech companies are targeting problem solving in core technological areas. Santoro and Gopalakrishnan (2000) discuss the organizational factors affecting the process of knowledge transfer. O’Kane *et al.* (2015) discuss the questions of the formation of identity of Technology Transfer Offices in relations with the actors of the university.

The concept and process of formation of cooperation projects of Innovation and Business Centre MEKTORY of Tallinn University of Technology are also described as an example of cooperation projects between universities and companies in the article.

2. The drivers of the university-industry partnerships and objectives of the stakeholders

The study of Berbegal-Mirabent *et al.* (2015) clarifies the organizational and institutional aspects that act as drivers for the establishment of successful university-industry partnerships. Under scrutiny in the study are R&D contracts as a way of transferring academic knowledge to companies. The clarification of the factors determining the success of R&D contracts of universities is important since universities face constraints on resources and changes in their environment (Berbegal-Mirabent *et al.* 2015; Tvaronavičienė, Černevičiūtė 2015). Important factors include organizational capabilities, internal resources, and services that support research and knowledge transfer activities at universities whereas the model comprises two dimensions: Universities and Technology Transfer Offices. Universities provide knowledge, technology, and research expertise whereas Technology Transfer Offices facilitate and accelerate the relationship between business and academic sector (Berbegal-Mirabent *et al.* 2015). To estimate the statistical significance of different factors regression models are elaborated (Ibid.).

In order to facilitate cooperation between university and business sector, a clear view concerning the aims and motives of actors of university as well as business sector is needed. Ankrah *et al.* (2013) use qualitative approach (relying primarily on interviews) to investigate the university and industry actors’ motives to engage in university-

industry knowledge transfer. According to the study, university actors most frequently held as the benefits arising from cooperation the source of funding for research work; creation of business opportunities; exposure of the practical problems/ new ideas and/or state-of-the-art technology to the students and faculty, with positive effects on the curriculum; stimulation of technological advancement and/or research activities in certain key areas; training and employment opportunities for students; access to wider network/ networking possibilities. Industry actors most frequently held as the benefits arising from cooperation that the cooperation resulted in more cost-effective research than similar research in-house; improved innovative ability and capacity/ strengthened research base; exposure/ access to new knowledge and leading edge technologies; the opportunity to keep up to date with technological developments in universities/ university research capabilities; solution of specific technical problems or development of bespoke and tailored projects; opportunity to access a wider network of research expertise (Ankrah *et al.* 2013).

A wide overview of the studies concerning the motives, objectives and drawbacks from the point of view of the stakeholders of university-industry cooperation in knowledge transfer is presented in Ankrah *et al.* (2013). Ankrah *et al.* (2013) divide the benefits arising from the cooperation in the following groups: financial/economic benefits; organisational benefits; societal benefits. The drawbacks are grouped as follows: digression from the organisation's mission or objective; issues relating to quality; conflicts and risks (Ankrah *et al.* 2013).

An interesting question is the extent to which the motives, objectives and feared shortcomings are similar among different stakeholders. Ankrah *et al.* 2013 point out as the result of their study that „the motives of university actors and industry actors using Oliver's theoretical framework are consistent at the determinant (i.e. summary) level but differ markedly at a lower (i.e. more detailed) level“.

Resende *et al.* (2013) have elaborated a tool for qualitative analysis of technology transfer offices to clarify the facilitators of technology transfer which would enable technology transfer offices to improve their efficiency and effectiveness (Resende *et al.* 2013). Weckowska (2015) discusses the different approaches employed by technology transfer offices that shape the commercialization practice of technology transfer offices and their abilities to facilitate technology transfer (Weckowska 2015).

3. The aims and formation of cooperation projects of Innovation and Business Centre MEKTORY

3.1. The concept and aims of Innovation and Business Centre MEKTORY

The Innovation and Business Centre MEKTORY (abbreviation from „Modern Estonian Knowledge Transfer Organization for You“) of Tallinn University of Technology was opened in 2013. MEKTORY has the following aims (Innovation and Business Centre MEKTORY):

1. To bring together scientists, students and entrepreneurs; solve practical product development problems and generate new intelligent ideas. There are three directions of focus – design and product development, development of business models, and mobile services and media.
2. To tie theoretical studies at the university with the practical side to the maximum possible extent. To prepare better-trained engineers with an experience of cooperation with companies.
3. To encourage students' start-up companies to move forward.
4. To introduce and promote engineering specialities to upcoming generations.
5. To commit to internationalisation to combine different cultures, working habits, ideas and interesting solutions.

The cooperation projects which are under observation in the present paper are one part of broader cooperation with companies of Innovation and Business Centre MEKTORY in many forms. The projects of MEKTORY are initiated based on practical needs. The projects are conducted by interdisciplinary project teams who have at their disposal MEKTORY Centre's infrastructure, including the appliances and test laboratories. Also, projects benefit from the international networks of the university. The cooperation projects of MEKTORY offer companies the opportunity to take part in the working process of a science team and benefit from the contacts with qualified university members and motivated students.

3.2. The formation of cooperation projects

MEKTORY can be viewed as the contact point of the university and companies. The model of an example of a MEKTORY project is depicted in the Figure 1.

The Technology Transfer Office contacts the companies to receive the general topics/fields of research in regard of which the companies may be interested to carry out a cooperation project. Different departments of the company suggest which research questions, topics they would be interested in and which speciality students are required to solve them. Based on the information collected from the companies the Technology Transfer Office contacts the research groups of university dealing with these fields. The research groups of university elaborate the proposals of projects with the estimated costs of the project, which are then sent to companies for review and evaluation. The companies select the projects which they are interested in and may suggest some adjustments to the projects so that the projects would best accord to their needs. The preparation of the proposals of projects may start well before the beginning of the projects. The duration of the projects is approximately 4-8 months. The process of adjustment of the proposal and negotiations with the companies are mediated by the Technology Transfer Office.

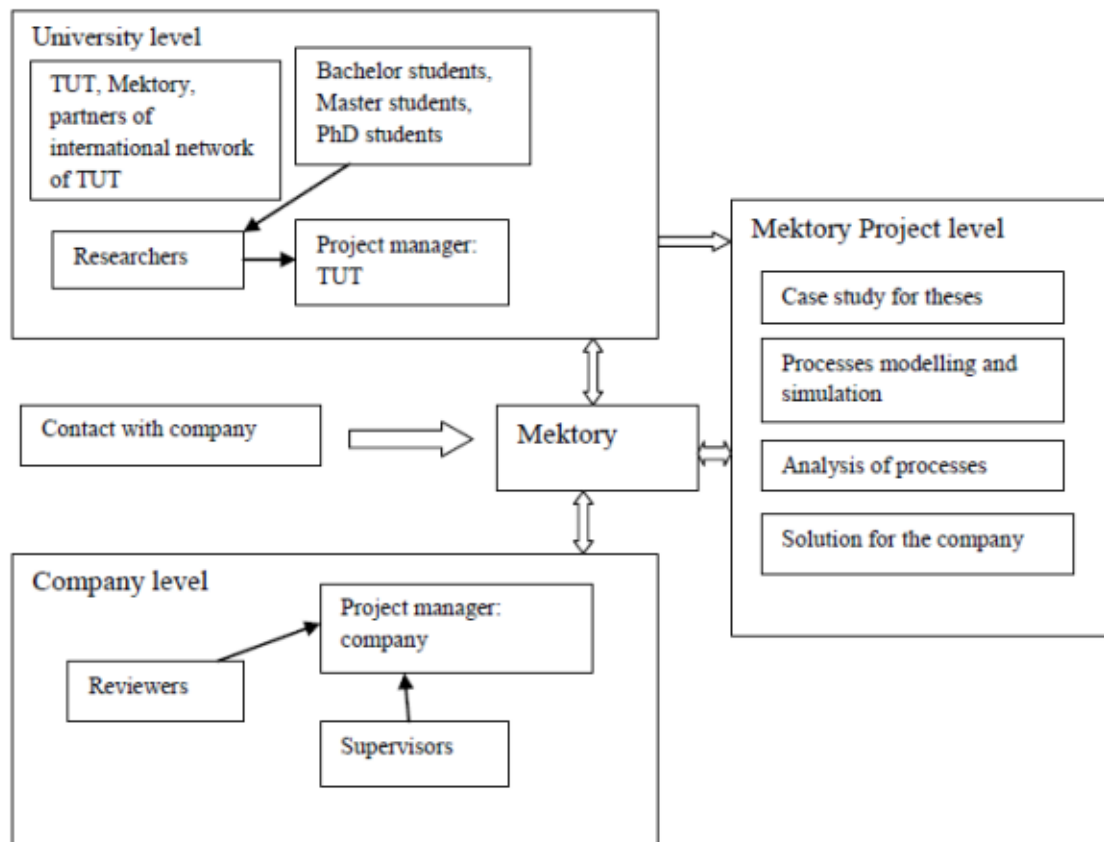


Fig.1. Model of the project

The interdisciplinary project teams consist of the researchers and students. The interdisciplinarity refers to the involvement of researchers and students from different faculties and departments of the university to tackle the various aspects of the problem of the company. The researchers and representatives of the university work on finding the suitable students for the project. In selecting the students, among others the requirements of the company to the students, the qualifications of the student (e.g. the courses the student has taken) and the need for internship of the student are taken into account. The students who are offered the possibility to participate in the project are asked to give their permission to name them as the possible participants of the project in the project

proposal sent to the company and are announced after the company has deliberated the project proposal whether the company accepted the project or not. The participation of the students in the project is remunerated. After the project is accepted by the company, the agreements regarding the confidentiality are signed by the students and the researchers. The students are expected to participate actively in every phase and part of the project.

The projects have two project managers: project manager from the university and project manager from the company. From the company side, employees of the company who support the project with the relevant company-specific information are involved in the project. Company-side supervisors for the students are appointed, too. Researchers of the project are university-side supervisors for the students. The project also has steering group from the company which reviews the focus, progress and results during the project. If some changes regarding the research questions or scope of the project are needed during the project, the procedure of project change can be initiated. The project team consisting of team of university (i.e. researchers and students) and employees of the company have regular meetings (e.g. once in two weeks) where the current status and questions related to the project are discussed. The project team of university also has its internal meetings every week. The specific tasks and problems to solve in the project are divided among the members of the research group. The projects may include internship and work-shadowing period for students. The practicalities related to the internship for the students are organized by the Human Resources department of the company.

3.3. The outcomes of cooperation projects

As the result of the project the final report is prepared. The final report presents the research findings; the analysis of the current situation in the field under observation in the company; the possible improvements suggested by the project; the proposed solutions to the problem. The proposed solutions elaborated in the project can be in different formats. Among others, they can concern processes of the company or a specific part of the process/problem of the company. The final report of the project is compiled by the researchers and students. In addition to the final report the outcomes of the project can be of different type (e.g. application elaborated in the project). The results and the initial version of the final report of the project are presented to the employees of the company involved in the project before the end of the project to receive their feedback. According to the feedback some changes or additions may be done to best accord to the expectations of the company and provide to the company the output of most possible value. Finally, the results and the final report of the project are presented to a larger group of people of the company.

The students have the opportunity to write their theses based on their work in the project. However, writing the thesis is not a prerequisite for participating in the project for the student. The final report of the project can include parts of the final theses of the students but can also be written independently. The theses written on the topic of the project are reviewed by the company and the theses have to follow the requirements concerning the confidentiality. The theses often have two reviews: one from the project-related employee of the company and one from the member of the academic personnel of the university. The company-side reviewer can give evaluation to the thesis e.g. regarding the treatment of the problem-specific details and solution of the problem as well as the practical usage of the recommendations elaborated in the thesis. The university-side reviewer evaluates the accordance of the thesis to academic standards. After the project has ended, feedback from participants is collected and analyzed. The feedback is taken into account when preparing the following projects.

Among others, as benefits of the projects for the companies the analysis of current situation; development of models of future (TO-BE) solutions; received information for further projects have been pointed out. Among others, as benefits of the projects for the university the theses defended (theses were defended under double supervision – one supervisor from university and one supervisor from company); the employment of students; International Applied Collaborative Research experience; input collection for collaborative scientific paper; and received input for further projects have been pointed out. The students have appreciated the work-shadowing period, the engagement of the students to the everyday life of the company; the practical topics for writing theses; knowledge and experience gained from the project.

The cooperation contacts arising from the cooperation projects have also contributed to the cooperation of other type. They have provided the opportunity to ask the representatives of the companies to participate in giving the lectures to students at the university where they have introduced their business case from the perspective of the respective course. As important factors contributing to the success of the project priority of the project from the stakeholders, the quality of information available and the level of management involvement can be pointed out.

In 2014, 50 projects were conducted with approximately 40 companies (Innovation and Business Centre MEKTORY). The Department of Logistics and Transport had in 2014 3 projects with 3 different companies where 4 project managers and researchers of the department and 10 students were involved.

4. Case studies

4.1. A transportation company A

The goal of the Project A is optimization of the distribution network of the company in Estonia. The tasks were the following:

- 1) To create an overview of the existing distribution network, target points and terminal to terminal transportation routes and choice of transportation equipment;
- 2) To concentrate on bottle necks of the existing network and elaborate new solutions to the problems;
- 3) To perform cost-benefit analysis of proposed improvements;

The project proposal was discussed with representatives of the transportation company A, head and project manager of the Department of Logistics and Transport of TUT and a project manager of the MEKTORY of TUT. Necessary improvements were introduced into the project proposal. Then the legal officer of Mektory formulated a contract according to rules of the TUT. The representatives of company A overviewed the contract. Then Chief Executive of the Company A and Director of Mektory, who is also Vice Rector of International Affairs of TUT, signed the agreement. The Director of the Department of Logistics and Transport signed the working plan, working schedule of students, list of planned results of the project and also distribution of revenues of the project between the participants. The contract consisted aims of the project, master plan of work, planned results, amount and schedule of financial payments, confidentiality agreement between the company and TUT. Students participating in the project and project manager from the Department of Logistics and Transport of TUT signed individual confidentiality agreements with the company A. Afterwards, the biweekly meetings were organised where project managers from the Department of Logistics and Transport and Mektory and representatives of the company A with the team of students participated. The results of the project for the last period, issues related to following the scope of the project and necessary improvements of work were discussed during the meetings.

The working team of four students of TUT Logistics Department made observations in terminals, interviews with drivers and documented a working day of four drivers during a week. The results were documented and discussed with the head of department of the transportation company A. The observation part and interviews with drivers already gave some information on necessity of more detailed guidelines for drivers in planning their daily activities.

The team fulfilled the tasks of the project, though they spent two months more than was initially planned. The company A accepted that delay because partly the reason was lack of some data for cost –benefit analysis. The project proposed some new routes and the quite substantial changes in transport equipment. The company postponed these changes but applied the optimization model in one region to validate the theoretical approach.

4.2. An electronics company B

The goal of the Project B was use of statistical methods to clarify inter-relationships between different symptoms of failure of components of the equipment produced by the electronics company B. The project treatment followed the same procedure as project A.

The key question was which symptoms (problems) are likely to cause the product to fail the retest without repair. In case of these symptoms, it may be useful to omit the retest and send the product directly to repair. This may contribute to the reduction of the testing time.

The aim was to clarify which symptoms have statistically significantly higher frequency of occurrence in the group where both the first test as well as the retest showed the problem. This question was clarified by means of chi-square test (Curtis, Youngquist, 2013, 179-180). Based on the analysis, the list of symptoms was elaborated in case of which the recommendation is to omit the retest. The benefits of applying the recommendation of not carrying out retests for particular symptoms include possibility to solve the symptom more quickly and it enables to test other products earlier.

The team reported the results to the managers and specialists of the respective department of the company B. The company accepted the report. The lively discussion followed and members of the team of TUT explained the applied methods and results in a very detail way.

5. Concluding remarks

In the knowledge-based society, the importance of knowledge transfer and cooperation projects between academic and business sector increases. Therefore the importance of the analysis of the process and clarification of the objectives of the cooperation projects has to be underlined. Both the qualitative as well as quantitative studies contribute to this analysis. To further promote and facilitate the cooperation projects within the frame of an intermediating organization between academic and business sector – technology transfer office, the contribution of the continuous monitoring and analysis of the objectives and feedback received from the projects could be used. As important factors contributing to the success of the project priority of the project from the stakeholders, the quality of information available and the level of management involvement can be pointed out. In the paper, the formation of the university-business cooperation projects was described on the example of the Innovation and Business Centre MEKTORY of Tallinn University of Technology. The cooperation projects which were under scrutiny in the present paper constitute one part of the broader cooperation of MEKTORY with companies. In case of the cooperation projects active participation of both the actors of the university as well as the company in every phase of the project can be pointed out.

References

- Ankrah, S. N.; Burgess, T. F.; Grimshaw, P.; Shaw N. E. 2013. Asking both university and industry actors about their engagement in knowledge transfer: What single-group studies of motives omit, *Technovation* 33(2-3): 50-65. doi:10.1016/j.technovation.2012.11.001
- Bekkers, R.; Freitas, I. M. B. 2008. Analysing knowledge transfer channels between universities and industry: To what degree do sectors also matter?, *Research Policy* 37(10): 1837-1853. doi:10.1016/j.respol.2008.07.007
- Berbegal-Mirabent, J.; García, J. L. S.; Ribeiro-Soriano, D. E. 2015. University-industry partnerships for the provision of R&D services, *Journal of Business Research* 68(7): 1407-1413. doi:10.1016/j.jbusres.2015.01.023
- Curtis, K.; Youngquist, S.T. 2013. Part 21: Categorical Analysis. Pearson Chi-Square Test, *Air Medical Journal*, 32(4): 179-180.
- Eesti teadus- ja arendustegevuse ning innovatsiooni strateegia 2014-2020 „Teadmistepõhine Eesti“. https://www.hm.ee/sites/default/files/59705_teadmistepohine_eesti_est.pdf
- Etzkowitz, H.; Leydesdorff, L. 2000. The dynamics of innovation: from National Systems and „Mode 2“ to a Triple Helix of university-industry-government relations, *Research Policy* 29(2): 109-123. doi:10.1016/S0048-7333(99)00055-4

Gibbons, M.; Limoges, C.; Nowotny, H.; Schwartzman, S.; Scott, P.; Trow, M. 1994. *The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies*. London: Published by Sage.

Hsu, D. W. L.; Shen, Y.-C.; Yuan, B. J. C.; Chou, C. J. 2015. Toward successful commercialization of university technology: Performance drivers of university technology transfer in Taiwan, *Technological Forecasting & Social Change* 92: 25-39. doi:10.1016/j.techfore.2014.11.002

Innovation and Business Centre MEKTORY. <http://www.ttu.ee/et/?id=23694> (01.04.2015)

O’Kane, C.; Mangematin, V.; Geoghegan, W.; Fitzgerald, C. 2015. University technology transfer offices: The search for identity to build legitimacy, *Research Policy* 44(2): 421-437. doi:10.1016/j.respol.2014.08.003

Resende, D. N.; Gibson, D.; Jarrett, J. 2013. BTP – Best Transfer Practices. A tool for qualitative analysis of tech-transfer offices: A cross cultural analysis, *Technovation* 33(1): 2-12. doi:10.1016/j.technovation.2012.09.001

Santoro, M. D.; Chakrabarti, A. K. 2002. Firm size and technology centrality in industry-university interactions, *Research Policy* 31(7): 1163-1180.

Santoro, M. D.; Gopalakrishnan, S. 2000. The institutionalization of knowledge transfer activities within industry-university collaborative ventures, *Journal of Engineering and Technology Management* 17(3-4): 299-319. doi:10.1016/S0923-4748(00)00027-8

Schartinger, D.; Rammer, C.; Fischer, M. M.; Fröhlich, J. 2002. Knowledge interactions between universities and industry in Austria: sectoral patterns and determinants, *Research Policy* 31(3): 303-328. doi:10.1016/S0048-7333(01)00111-1

Tvaronavičienė, M.; Černevičiūtė, J. 2015. Technology transfer phenomenon and its impact on sustainable development, *Journal of Security and Sustainability Issues* 5(1): 87–97. DOI: [http://dx.doi.org/10.9770/jssi.2015.5.1\(7\)](http://dx.doi.org/10.9770/jssi.2015.5.1(7))

Weckowska, D. M. 2015. Learning in university technology transfer offices: transactions-focused and relations-focused approaches to commercialization of academic research, *Technovation* 41-42: 62-74. doi:10.1016/j.technovation.2014.11.003

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INDUSTRIALISATION FACTORS IN POST-INDUSTRIAL SOCIETY

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Abstract. In most economies, both developed and developing, industrialisation is viewed as a necessary step towards economic development. New risks for industrialisation are associated with the result of the economic and social changes, regarding the transition to a post-industrial society. Modern progress of organization theory has generated important questions and challenges to conventional sociological and organizational theories. These developments are related to “conditions of postmodernity” – dynamic environment and a post-industrial society with information and knowledge-based nonhomogeneous values as a central research topic. As a result it should be stressed that nowadays society is directly linked to the adjustments in values as a shift to post-industrial modes of production. Modern industrialisation concept should represent the post-industrial society approach, providing framework for the practical applications and explaining the modern company value creation process that corresponds to the economic transformation into post-industrial.

Keywords: industrialisation, post-industrial society, organization theory, performance, ICT, Internet of Things

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JEL Classifications: L16, L23, L61, M1, O14

1. Introduction

Inspecting the origin of the term of industrialisation in Europe, the authors emphasise a major increase of labor productivity due to industrialisation as a significant aspect of the production process. Industrialisation gave a huge advantage over other methods of production and led to the overall development of modern Europe. When considering industrialisation as a contribution to society development, economists point that ‘towns and cloth manufacturing obviously existed in Western Europe before the eleventh (11th) century, but the advance in economic productivity was underlined as critical, by using better-qualified workers and by increased artisan creativity, substantial improvements in quality and value of the goods produced per working hour input were realised’ (Van Der Wee 1975). The aim of the research is to develop the model of modern industrialisation development into post-industrial economy. The starting point for industrialisation the authors define in the process of technical modernisation. Schumpeter, affirms: ‘Inspecting the birth of the modern concept of industrialisation, it is worth noting the process of modernisation’ [...] ‘a degree of modernisation can, and sometimes does, occur without industrialisation, but industrialisation is usually a basic aspect of modernisation’ (Schumpeter 1934). Industrialisation is the totality of relations involving workers, employers and society as they develop to make use

of the new machines, processes and services that modern technology has made possible. Industrialisation is usually described by new and more diverse skills, larger-scale productive endeavours, more large cities and much else (Kerr *et.al.*1960).

2. Industrialisation and management theory development

Discussing the contribution of industrialisation in the efficiency of production process, J. Schmielechin also describes industrialisation as a method of centralising resources of the enterprise in order to improve productivity. He also points out the productivity as the fundamental aspects and the basis of industrialisation. The essence of industrialisation ‘the dominant tendency to centralize production and labour within the factory’ and ‘natural progression to greater and more sophisticated economic organisation [...] and greater organisation of labour [...] new machinery and dramatic technological innovation’... ‘Accepted patterns of industrial evolution could be explained by changes in technology, supply of labour, consumer demand, or even urban growth’ [...]. Fundamental basis for the fast evolution of the productivity theories was established by F. Taylor. Economist Daniel (1992) in his study also indicates that the concept of industrialisation revealed great opportunities and changed its development owing to the research F. Taylor: ‘The study of scientific management provides an avenue for understanding the [...] interest in economic and technical rationalisation as well as the evolution of production management and the changing character of industrial work in the middle decades of the century’ (Schmielechin 1975).

Nowadays, the variety of economic theories offer a huge number of different ways to achieve efficient use of company resources. The following Table 1 is representing the major schools of economic history. The authors underline that industrialisation in its core is also sharing the same concept - to improve the resource management efficiency through the development of technical rationalisation and efficient organisational structure. Kuhn also explains that the new research and standards usually include the basics and concepts of the most famous scientific papers, often complementing and developing them: ‘When new paradigm is born from old one; it incorporates much of the vocabulary and apparatus that the traditional paradigm had previously employed, though these elements are employed in different ways’ (Daniel 1992). The authors summarize that subsequent management theories (discussed below) have embraced the idea inherent to F. Taylor, they are proposing to improve the resource management (utility of resources) through the development of the organisational structure or optimisation of the production process efficiency using divergent approaches. The authors stress that owing to above mentioned impulse the structure of the organisation has historically been associated with the production process in order to support its functions. The production process and the structure are closely related and complement each other. Process-based companies have become fashionable during recent years. They are a powerful answer to the problems that functional and product-oriented structured companies faced (Vanhaverbeke and Torremans 1998).

Table 1. The schools of historical thought and their components by decade

Theory	Description
Org. theory prior to 1900	Emphasised the division of labor and the importance of machinery to facilitate labor.
Scientific management (1910s)	Described management as a science with employers having specific but different responsibilities; encouraged the scientific selection, training, and development of workers and the equal division of work between workers and management.
Classical school (1910s)	Listed the duties of a manager as planning, organizing, commanding employees, coordinating activities, and controlling performance; basic principles called for specialisation of work, unity of command, scalar chain of command, and coordination of activities.
Human relations (1920s)	Focused on the importance of the attitudes and feelings of workers; informal roles and norms influenced performance.
Classical school revisited (1930s)	Re-emphasised the classical principles.
Group dynamics (1940s)	Encouraged individual participation in decision-making; noted the impact of work group on performance.
Bureaucracy (1940s)	Emphasised order, system, rationality, uniformity, and consistency in management; lead to equitable treatment for all employees by management.
Leadership (1950s)	Stressed the importance of groups having both social task leaders; differentiated between Theory X and Y management.

Decision theory (1960s)	Suggested that individuals "satisfice" when they make decisions.
Sociotechnical school (1960s)	Called for considering technology and work groups when understanding a work system.
Environmental and technological system (1960s)	Described the existence of mechanistic and organic structures and stated their effectiveness with specific types of environmental conditions and technological types.
Systems theory (1970s)	Represented organisations as open systems with inputs, transformations, outputs, and feedback; systems strive for equilibrium and experience equifinality.
Contingency theory (1980s)	Emphasised the fit between organisation processes and characteristics of the situation; called for fitting the organisation's structure to various contingencies.

Source: Fligstein 2001

All the modern management theories of the organisation as well as industrialisation concept have structure as the cornerstone to ensure a more efficient production process (See classical theory to 1900, e.g. 1776 A.Smith (Wealth of Nations), and F.Taylor (1911), A.Fayol (1949) until neoclassical works Mayo (1933) and McGregor (1960) Figure 1).

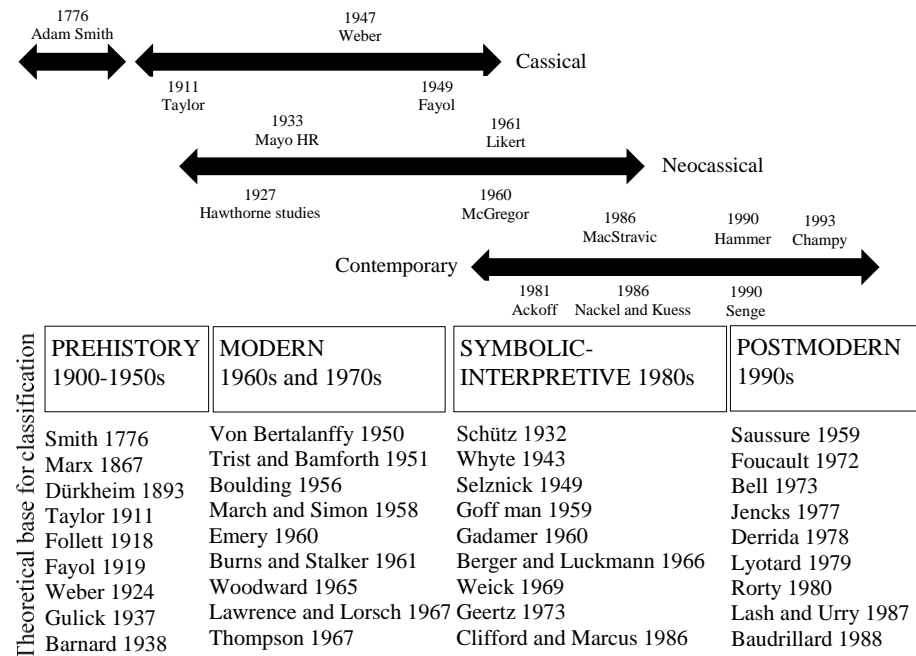


Fig.1. Modern progress of organisation theory and major frameworks

Source: the authors` created system, based on M.Hatch 2012

Organisation theory has been developed to describe, explain and predict the functioning of organisations in order to improve their effectiveness and efficiency. Even in modern conditions, the organisation's strategy includes the efficiency of the production process as a major competitive advantage in the market, and modern scientific works continue to explore methods of creating the optimal structure to ensure the specific processes within the company. It can be summarised by saying that modern industrialisation has core methods of improving productivity through centralisation of resources, organisation of labor, optimizing company structure, technological innovation, and modern methods of mechanisation of the production process.

3. Industrialisation and modern society

In order to fully analyse and create a picture of changes and development of the industrial economy towards modern society, it is necessary to follow the changes in the concept of industrialisation; management of production processes and the main directions of research in this field. Industrialisation played a central dynamic force at work

around the world, which includes political and cultural developments as well. The first industrialisation footprints could be traced back to Maya Age, “Machine Age Maya” (Whyte, 1959). The most significant event in the development of the world economy through industrialisation is considered to be the First Industrial Revolution (hereinafter FIR). Industrial Revolution has dramatically changed the structure of the world economy, and served as fundamental basis for transforming to its present form. Industrialisation has become the primary incentive for the rapid economic development of the numerous countries. It is crucial to understand the factors which played significant role for industrial process development. Industrialisation at that time was an attempt to use more effective methods of production through mechanisation, the division and the special organisation of labor (see Table 2).

Table 2. Industrializaion major factors groups that influenced world economy transformation during FIR

Factors groups	Impact Description	Author
High productivity of labor through mechanisation	The process of industrialisation is essentially an effort to break with an economic order characterised by a low productivity, impossible or difficult to augment.	J. Orchard, 1960
	Impact of mechanisation during industrialisation ‘ease the skilled labor shortage in many instances and lower skill requirements’	J. Brigh, 1958
	Industrialisation’s contribution to society development — industrial society is based on a labor theory of value (the authors’s remark derivated from A.Smith and K.Marx).	D. Bell, 1980
	Increases in productivity as a result of the use of mechanical power and machinery”, ‘the displacement of traditional skills by machinery’, and discussed new factory towns.	K. Marx, 1884
Innovation in technology and organisational design	Technological and organisational changes in the cotton industry have been widely studied in attempts to understand the nature of economic change.	E. Hobsbawm, 1968
	Industrial revolution was triggered by the invention of the steam engine, the replacement of hand labor, and the shift to more capital-intensive methods of production.	P. Mantoux, 1961
	Economy development model based on industrialisation elements. Model reviews technology breakthroughs in production process on economy growth; economy growth has recession times, making economical cycles described in Nikolai Kondratiev’s work.	J. Mokyr, 1976
	Innovations in economic organisation, social relationships and technology as structural factors. Concentration of capital and the creation of innovation relationship; an industry cluster presents new opportunities for innovation.	Schumpeterian view, Schumpeter, 1939

Source: the authors’s created major factor groups based on Orchard 1960; Brigh 1958; Bell, 1980; Marx 1884; Hobsbawm 1968; Mantoux 1961; Mokyr 1976; Schumpeter 1939.

After significant technology breakthrough during the 1st Industrial Revolution, the 2nd Industrial Revolution (hereinafter SIR) underlines concentration of capital. Many economists differently explain the incredible achievements of SIR. Higher "capital-labor ratio" or capital density is also considered one of the elements that improve productivity, and due to the fact that capital and labor are mutual substitutes, increasing either capital or labor can raise productivity (Moomaw 1983). Broad number of studies has identified industrial structure, capital density, technology adjustment capacity, labor quality, and agglomeration economies to exist among the main factors affecting urban productivity (Moomaw 1983; Williams and Moomaw 1989; Chandler 1966). Both industrialisation major factors are categorised in Table 3.

Table 3. Industrialisaion majorfactors groups that influenced world economy transformation during SIR

Factors groups	Impact Description	Author
Internal capital concentration	Large, vertically-integrated structures embracing research and development, marketing and distribution, and manufacturing.	D.Chandler 1966
	In neo-classical economic thought, industries typically move from simple to highly concentrated forms of organisation.	F.Scherer 1980; M.Watson, 1984
	Influential theory of industrial employment in a country. Economic growth leads to an increase of capital in industrial production.	C.Clark 1940, S.Dodzin and A.Vamvakidis 1999
	The density of the capital equipment and related maintenance downtime is associated	S.Kim 1997

(Industrial productivity)	with industrial productivity	
	Large, vertically-integrated production unit generates better production efficiency through economy of scale.	A.Marshall's view 1980
	Full usage of resources and production efficiency characterize industrial development progress and industry scale and positively impact local competitiveness.	I.Begg 1999
	Higher "capital-labor ratio" or capital density.	R.Moomaw 1983
	Manufacturers holding a higher "capital-labor ratio" have more advanced production technology.	J.Kendrick 1977
External capital concentration (Agglomeration)	A new industrial system has been emerged, industrial districts' competitive advantages, and their strong propensity to export.	M.Bagella <i>et al.</i> 1998; L.Becchetti and P.Rossi 2000; R.Helg 2003
	Large industries have accessibility to more extensive and cheaper financial and informational resources, and are more efficient in controlling and their existence is threatened less.	A.Rahnama 2011
	In economics, there is a new appeared concept - industrial cluster or agglomeration. The term 'industrial cluster' refers to the company and institutions in close proximity to each other in a particular field and area maintaining an interactive relationship, influencing and supporting each other.	M.Porter 1998; S.Rosenfeld 1997; G.Swann and M.Prevezer 1996
	Industrial district innovative performance is correlated to its specialisation, the existence of suppliers, and social and business networks.	R. Boix and V. Galletto, 2009
	Production specialisation, network organisation, trust relations, collective learning, circulation of knowledge and technologies, diffuse entrepreneurship, spirit of emulation, quality, flexibility and mobility of human resources, education, strong domestic competition, and co-penetration between the economy and society in local cultures founded on centuries-long traditions.	F.Pyke <i>et al.</i> 1990; F.Pyke and W. Sengenberger 1992; F.Cossentino <i>et al.</i> 1996; G.Becattini <i>et al.</i> 2003; G.Becattini 2004.

Source: the authors's presented major factor groups based on A.Marshall 1890; Bostic *et al.* 1997; Piore and Sabel 1984, etc

The Third Industrial Revolution (hereinafter TIR) began in the last half of the 1950s, with the sudden explosion of U.S. corporations beyond national and continental limits, (Hazen 1969) placed emphasis on more sophisticated cooperation between government and industrial structure. During the TIR, the development of industrial clusters led to new forms of interaction, not only among companies, but also between public institutions and countries. After TIR, industrial clusters have started to play a significant role in the development of not only states but also the entire global economy (Ignatavičius *et al.* 2015; Tvaronavičienė *et al.* 2015; Travkina, Tvaronavičienė 2015; Tvaronavičienė, Černevičiūtė 2015; Rezk *et al.* 2015). Many economists consider the process of industrialisation as the main factor for the development of the company (Cameron 1961; Gerschenkron 1962, Hobsbawm 1962; Mitchell 1976; Landes 1969; Kemp 1969; Rostow 1971; Cafagna 1971; Baer 1964).

All these revolutionary approaches have led to significant changes in the direction of development of the World's economy and has become a significant factor that must be constantly considered in determining the newest trends. Industrialisation major factor groups could be seen on Table 4.

Table 4. Industrializaion major factors groups that influenced world economy transformation during TIR

Factors groups	Impact Description	Author
R&D (Scientific industrial districts)	Industrial zones help regional development in upgrading research technology.	D.Keeble 1989
	Variations across sectors and over time depend upon a number of factors related to the opportunities to develop an appropriate technology.	M.Robson and R.Rothwell 1985
	In industrial districts (scientific industrial districts), had a key role in the country or in the world for supporting the influences of R&D expenditures.	W.Koh <i>et al.</i> 2005, Jin-Li Hu <i>et al.</i> 2010
	Technology adoption is a critical factor in national competitive performance as part of national capabilities in Industrial Technology.	D. Mowery and D. Teece 1993
	Benefits of industrialisation is stated in the concept of the "big push"; various sectors of the economy adopted increasing returns technologies simultaneously; they could	N.Paul 1943, R.Nurkse 1953, T.Scitovsky 1954, and

	each create income that becomes a source of demand for goods in other sectors.	J.Fleming 1955
Multinational development	Industries with a high degree of industrialisation are more successful in their development.	J. Kurth 1979 D.Leighton 1969
	The global reorganisation of manufacturing, which is referred to as the new international division of labor, is considered by some to be the defining characteristic of the latest wave of globalisation.	F.Frobel <i>et.al.</i> 1980; M.Castells 1996; A.Hoogvelt 1997 Gereffi G. 1995, 2005
	Economic exchanges between relatively independent parties have been replaced by complex and highly interdependent systems of industrial production and economic exchange organised on a global scale.	P.Dickens 2003; Gereffi 1994,
	Transition from a “traditional” (rural, backward, agricultural) society to a “modern” (urban, industrial) society directly links the concept of development with industrialisation theory.	C. Gore 1996
	Economic growth strategies were emphasised on similarities and dissimilarities in the attitudes taken toward participation in the international division of labor.	B.Balassa 1970
	Countries that have reached this stage have been alternatively described as "semi-industrial" or “newly industrialised”.	J. Bergsman 1979
	The structural transformation as part of development strategy for developing countries with industrial development as a core idea. Associated with state assistance for declining industries in developing country which could not compete.	V. Rosenbium <i>et.al.</i> 1985
	Industrial development associated with a supposed 'imperative' towards innovation. Innovation takes place in terms both of product improvement and of process design.	E.Mansfield 1968; R.Rothwell and W.Zegveld 1982; R.Vernon, 1966

Source: the authors presented major factor groups based on Keeble, 1989; W.Koh *et.al.* 2005; Mowery and Teece 1993; Kurth 1979 and etc.

4. Industrialisation and post-industrial society

Modernisation theorists argued industrialisation impact that created modern economies. In the later stages of economic development, ‘the demand for manufacturing also decreases while the demand for services increases’ (Levy 1966). This shifts employment from manufacturing to services. Analysis on postmodern based on Table 5 shows the dramatic changes from industrial to post-industrial modes of production. The authors’s goal is to integrate post-industrial realities into modern industrialisation concept, representing the new economic paradigm in the modern concept of industrialisation. The authors point that, in order to be successful in nowadays markets these tendencies bring us towards the understanding that modern industrialisation concept lacks postindustrial society context analysis (detailed info on Postindustrial society is described in Table 5).

Table 5. Comparison of the characteristics of the industrial and information (post-industrial) society

	Industrial society	Information society (Postindustrial)
Core	Steam engine (power)	Computer (memory, computation, control)
Basic function	Replacement, amplification of physical labour	Replacement, amplification of mental labour
Productive power	Material productive power (increase in per capita production)	Information productive power (increase optimal action-selection of capabilities)
Products	Useful goods and services	Information, technology
Production centre	Modern factory (machinery, equipment)	Information utility (information networks, data banks)
Market	New world, colonies, consumer purchasing power	Increase in knowledge frontiers, information space
Leading industries	Manufacturing industries (machinery industry, chemical industry)	Intellectual industries, (information industry, knowledge industry)
Industrial structure	Primary, secondary, tertiary industries	Matrix industrial structure (primary, secondary, tertiary, quaternary/systems industries)
Economic structure	Commodity economy (division of labour, separation of production and consumption)	Synergetic economy (joint production and shared utilisation)
Socio-economic principle	Law of price (equilibrium of supply and demand)	Law of goals (principle of synergetic feed forward)
Socio-economic subject	Enterprise (private enterprise, public enterprise, third sector)	Voluntary communities (local and informational communities)
Socio-economic system	Private ownership of capital, free competition, profit maximisation	Infrastructure principle of synergy, precedence of social benefit

Form of society	Class society (centralised power, classes, control)	Functional society (multicenter, function, autonomy)
National goal	GNW (gross national welfare)	GNS (gross national satisfaction)
Form of government	Parliamentary democracy	Participatory democracy
Force of social change	Labour movements, strikes	Citizens' movements, litigation
Social problems	Unemployment, war, fascism	Future shock, terror, invasion of privacy
Most advanced stage	High mass consumption	High mass knowledge creation
Value standards	Material values (satisfaction of physiological needs)	Time-value (satisfaction of goal achievement needs)
Ethical standards	Fundamental human rights, humanity	Self-discipline, social contribution
Spirit of the times	Renaissance (human liberation)	Globalize (symbiosis of man and nature)

Source: Masuda 1980

As a result, nowadays performance depends not only on the production processes; therefore, new performance expressions are considered both on strategic level and decision levels (strategic, tactical and operational). Thus, knowledge in performance expressions of the modern company must be considered from top to bottom for all the activities or processes to be controlled (Bititci 1995; Rangone 1996; Ghalayini *et.al.* 1997; Suwignjo *et.al.* 2000). In the information age, effective use of intellectual capital is the most important factor in the success or failure of a business (Goh 2005). Scientists (Eustace 2001; Upton 2001; Lev 2000; Beattie and Pratt 2001; Ignatavičius *et al.* 2015; Tvaronavičienė *et. al.* 2015; Travkina, Tvaronavičienė 2015; Tvaronavičienė, Černevičiūtė 2015; Rezk *et. al.* 2015) have confirmed that demand for knowledge-based resources is growing as companies increasingly base their competitive strength in the value of know-how, patents, skilled employees and other intangibles. The advance of modern Information Communication Technologies (ICT) has launched the Industry 4.0, which is the German newest strategic initiative to take up a leader role in industrial IT which is currently revolutionizing the manufacturing engineering sector (Beattie and Pratt, 2001). Industry 4.0's strategy will allow to stay a globally competitive with the industrialisation factors discussed from the first, second and third industrial revolution. Technology breakthrough allowed to increase the level of automation and production and labor cost decreased. Commentators use the term "industry 4.0" to refer to a fourth industrial revolution with four main characteristics (Industrie 4.0., 2014) The fourth industrial revolution is more focused on intangible assets (associated with IC) managing company data flow, plant-specific software and the "hardware" of manufacturing technology (industrialisation factors). Since ICT is only one part of the Industry 4.0, the other is its use of industrialisation factors and the utilisation of the benefits that it brings to the value chain (Figure 2). "Industry 4.0" (sometime referred as Smart industry) advantages are coming from the technological evolution - from embedded systems to cyber-physical systems (Figure 2).

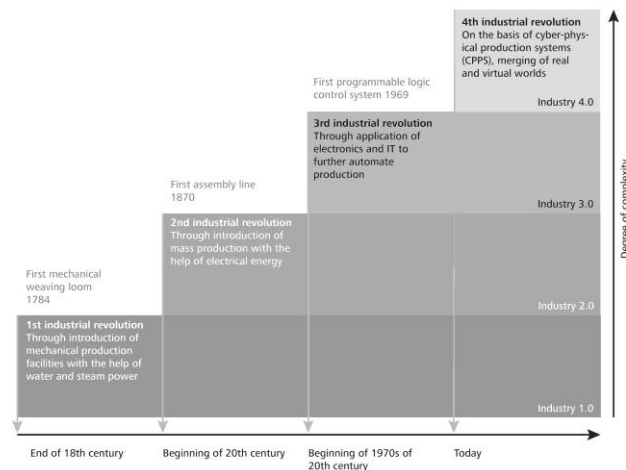


Figure 2. The evolution of embedded systems into the Internet of things, data and services

Source: Acatech 2012

Cyber-physical systems intelligence helps create intelligent object networking and independent process management, with the interaction of the real and virtual worlds representing a significant new aspect of the manufacturing and production process integration. Industry 4.0 creates networked production, in which orders

managed automatically throughout entire value chains, order processing machines and material and organize their delivery to the customer (Schlick, Stephan and Zühlke 2012). Cyber-physical systems provide the basis for using these data efficiently. This is a considerable competitive advantage (reducing downtimes, accurate planning, reducing unit costs and etc.) - the creation of an Internet of Things, which combines with the Internet of Services to make Industry 4.0 symbiosis possible. After considering the main events and stages of development of industrialisation, the authors make the system of industrial production in order to recognize competitive factor for manufacturing company. To make it transpicuous, the authors propose to use the following scheme of evolutionary processes in the theory of industrialisation (see Figure 3).

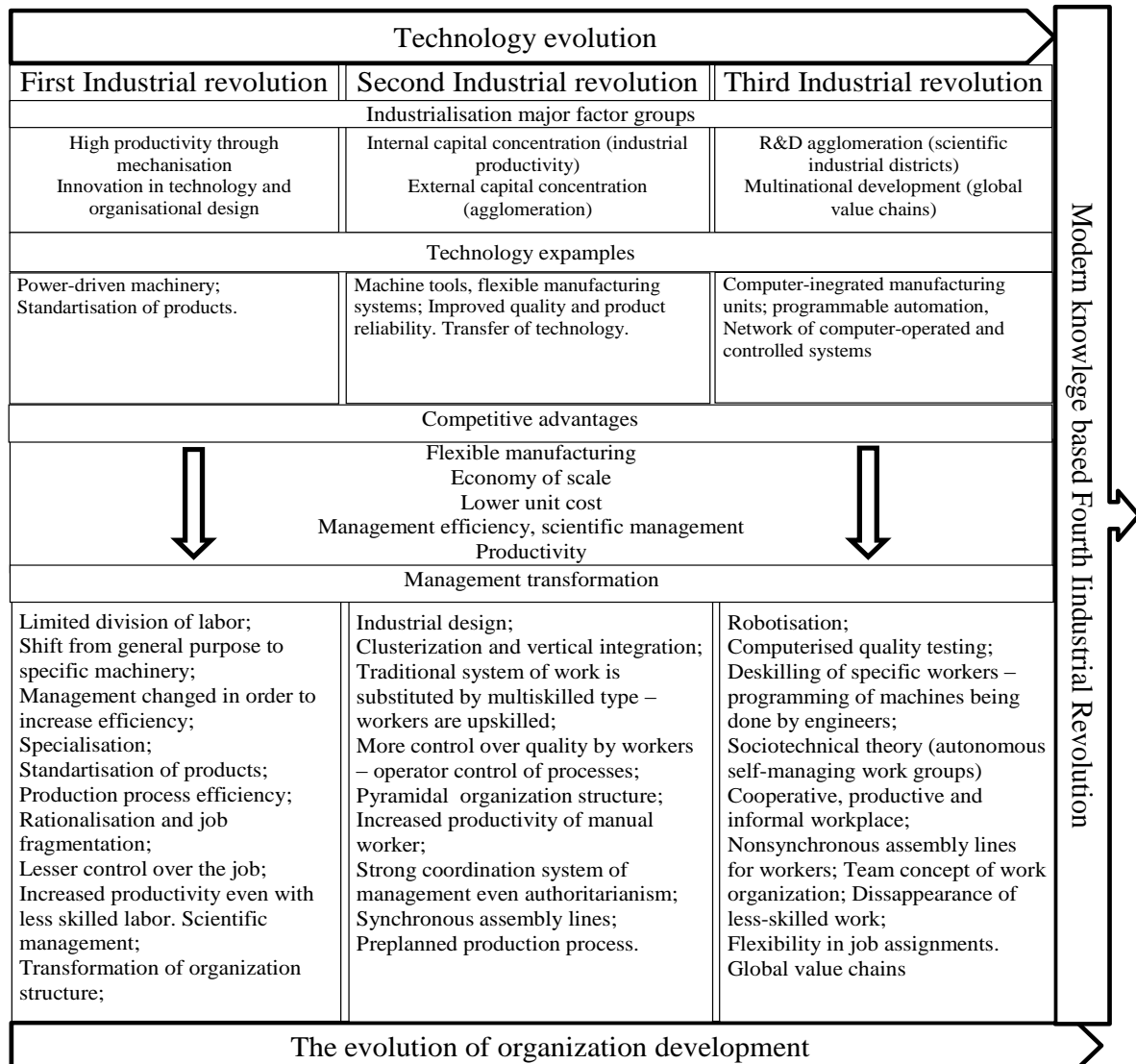


Figure 3. Evolution of industrialisation system and industrialisation factors

Source: the authors's presented model using Berger 2014; Helfgott 1986 ... etc.

The authors, based on above-mentioned numerous studies, suggests his own development model of industrialisation factors. By the authors' opinion – “superimposing” is the most appropriate method to integrate industrialisation factors into post-industrial society. Nowadays, in post-industrial society paradigm traditional manufacturing industry is digitally transformed by exponentially growing technologies (e.g. intelligent robots, autonomous drones, sensors, 3D printing). Manufacturing companies and their industrial processes are adapting to the adjustments in values. The digital computer in the 1950s and the integrated circuit in the 1970s were two inventions that steered the manufacturing technology onto a new shift. Before, only the material-processing system

was improved. With the computer age, industrialisation was “superimposed” to the information-processing system in the rationalisation and improvement work. While the mechanisation is best suited for large-scale production, the information-processing system can in general be applied to all manufacturing activities. With the help of the information-processing system machines were equipped with digital control units, systems started to be integrated with each other by a central computer (Hoppe and Berv 1967).

New microelectronic components, especially the microprocessor, came and formed the basis of the powerful and cost-effective control systems of today (Karlsson 1991). These trends started with a greater level of production automation, a process that has, since the 1970s, been driven by developments in electronics and information technology. Computer-aided design (CAD), robots, numerical control (NC) machine tools, flexible manufacturing systems (FMS), and other programmable automation equipment and systems are supplied by industries that are currently more or less separate. Numerical control (NC) is the oldest and largest, dating from the 1950’s (Hunt 1983). While significant markets for CAD and robots did not emerge until the 1970’s (Kurlak 1982). In the early 1980s industrial robots were seen as the ultimate solution to automatized factories. The productivity also relies on many factors that interact with each other, and therefore ‘the robots alone cannot improve the productivity, a robot is the ultimate mechatronic system’ (Westerlund 2000). New industrial development have increasingly embraced modern ICT, manufacturing industry around the world now integrates ICT creating new approaches to development, production and the entire logistics chain.

Links to both business and social networks – the business web and the social web play an important role in the digital transformation to industry 4.0. Smart network of machines, properties, ICT systems, smart products and individuals across the entire value chain and the full product life cycle establish new environment (Figure 4). Smart Factories continually share information about current stock levels, problems or faults, and changes in orders or demand levels. The widespread adoption by manufacturing industry and traditional production operations of ICT is increasingly blurring the boundaries (Spong, Hutchinson and Vidyasagar, 2006) between the real world and the virtual world in what are known as cyber-physical production systems (CPPSs).

Processes and deadlines are coordinated with the aim of boosting efficiency and optimising throughput times, capacity utilisation and quality in development, production, marketing and purchasing. CPPSs not only network machines with each other, they also create a new environment (Figure 4).

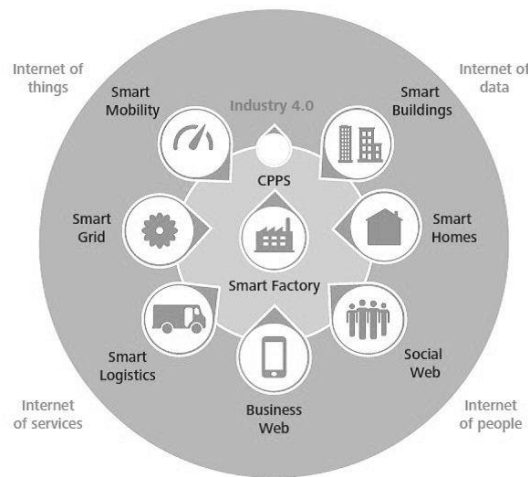


Figure 4. The industry 4.0 environment

Source: D. Schatsky 2013; DFKI 2013

Industry 4.0 cornerstone is its interface with other smart infrastructures (e.g. smartmobility, the smart grid, smart logistics and smart homes and buildings). All these new networks and interfaces offered by industry 4.0 within an ‘internet of things, services, data and people’ mean that manufacturing is set to implement considerable changes

in future. Traditional industrial society expected to implement this fourth industrial revolution, increasing global competitiveness. This means that industrial production machinery no longer simply “processes” the product, but that the product communicates with the machinery to tell it exactly what to do. Connecting embedded system production technologies and smart production processes creates new technological age advantages, which will radically transform industry and production value chains and business models (e.g. “Smart Factory”).

5. Survey and results

Empirical research based on theoretical findings was performed from July 2013 until September 2014. The population of the survey was – 8 981 enterprises of Latvian manufacturing companies working in manufacturing industry. The number of respondents surveyed (368 surveyed online) compared to the number of companies reflected in the database made up 4.09% (5.00 confidence interval).

During industrialisation factor analysis, the research authors constructed the questionnaire with the number of variables determined by the context of the research. Quantitative data processing was performed with SPSS program, descriptive and conclusive statistical methods in data processing were used. Research results revealed industrialisation diffusion problems for SME (use of industrialisation advantages). The calculation of the SME industrialisation diffusion is performed by using formula (1):

$$IndDistr = \frac{\bar{R}}{\overline{Impl}} \quad (1)$$

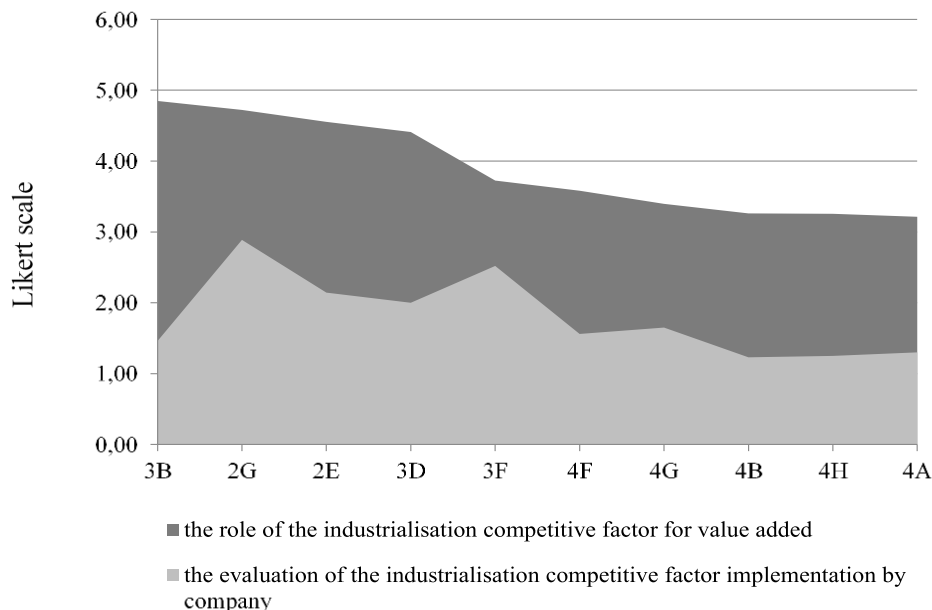
IndDistr - the distribution assessment of industrialisation factors among SMEs in manufacturing industry;

$\overline{Impl} = \frac{\sum_{i=1}^n Impl_i}{n}$ - the average evaluation of the industrialisation factors implementation by the company, using 6 point Likert scale;

$\bar{R} = \frac{\sum_{i=1}^n R_i}{n}$ - the average role of the industrialisation factor for value added, using 6 point Likert scale.

The result of the companies' industrialization factors' significance is shown in Figure 5.

Based on results SMEs still highly evaluate industrialisation factors, but could not take full advantages of them. Exploiting economies of scale and transactional cost factors will significantly reduce operation cost and increase profit margin. Currently Latvian SMEs are exploiting operations management and flexible manufacturing system. In case of SMEs, associations and Industrial Parks could provide necessary transactional cost reduction.



3B Vertical integration system
 2G Mass production
 2E Production process continuity

- 3D Automated and synchronised manufacturing system
- 3F Patents and intellectual systems
- 4F Special financial instruments through the Association and Industrial Park
- 4G Additional export capabilities through the Association and Industrial Park
- 4B Suppliers and transport transaction cost reduction, reducing the cost of using resources and logistics through the Association and Industrial Park
- 4A R&D capabilities through the Association and Industrial Park

Figure 5. Evaluation of the top 10 factors and its support by Latvian manufacturing companies

Source: survey data analysis

The authors conclude that implementation of industrialisation factors is insufficient to create high value added products for SMEs (30 % - average industrialisation factors' implementation by companies for top ten valued factors) Figure 5.

6. Conclusions

The discussed above results allow concluding that conventional industrialisation development is no longer dominant in modern economy. For the purposes of the modern industrialisation approach, information and knowledge-based perspectives are useful in understanding the structural changes associated with the industrialisation transition into post-industrialism. New relationships with customers, the integration of information and knowledge-based perspectives and organization development theory in dynamic environment to the context of industrialisation are the relevant and problematic issues of management science. The solution of them could expand the field of management research and could fill the gaps of scientific discussion on the topic.

In this paper, our main goal was to reveal the challenges for modern industrialisation concept concerning the post-industrial society approach. The authors use “superimposing” method to explain industrialisation transformation process to the modern post-industrial value creation process. The authors see it as the most appropriate method to integrate industrialisation factors into post-industrial society, in order to correspond to the economic transformation into post-industrial.

With the information age industrialization factors were “superimposed” to the information-processing system in the rationalisation and improvement work.

The demand for knowledge-based resources and advance of modern ICT will exploit the Industry 4.0, newest strategic initiative focused on intangible assets. Traditional industrialization environment expected to transform into fourth industrial revolution advantages, across the entire value chain and the full product life cycle integrating into new environment.

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References

Acatech. 2012. National Academy of Science and Engineering. Recommendations for implementing the strategic initiative INDUSTRIE 4.0, August Available on the Internet: <http://www.acatech.de/fileadmin/user_upload/Baumstruktur_nach_Website/Acatech/root/de/Material_fuer_Sonderseiten/Industrie_4.0/Final_report__Industrie_4.0_accessible.pdf>.

Baer, W. 1964. Industrialization in Latin America: Successes and Failures. *Journal of Economic Education*, 124.

- Bagella M., Becchetti L., Sacchi, S. 1998. The positive link between geographical agglomeration and export intensita: the engine of Italian endogenous growth, *Economic Notes* 27: 1–34.
- Balassa, B. 1970. Growth strategies in semi-industrial countries, *Quarterly Journal of Economics* 84 (1): 24-47.
- Beattie, V., Pratt, K. 2001. *Business Reporting: Harnessing the Power of the Internet for Users*, Institute of Chartered Accountants of Scotland, Edinburgh.
- Becattini, G. 2004. *Industrial Districts. A New Approach to Industrial Change*. Edward Elgar, Cheltenham.
- Becattini, G., Bellandi, M., Deiottati G., Sforzi, F. 2003. *From Industrial Districts to Local Development*. An Itinerary of Research. Edward Elgar, Cheltenham.
- Becchetti L., Rossi, P.S. 2000. The positive effect of industrial district on the export performance of Italian firms, *Review of Industrial Organization* 16: 53–68.
- Beeson, P. E., Husted, S. 1989. Patterns and determinants of productive efficiency in state manufacturing. *Journal of Regional Science* 29 (1): 15-28.
- Begg, I. 1999. Cities and competitiveness. *Urban Studies* 36 (5-6): 795-809.
- Bell, D. 1980. *The Social Framework of the Information Society*. In: Forester, T. (ed): *The Microelectronics Revolution: The Complete Guide to the New Technology and Its Impact on Society* MIT Press, Cambridge.
- Berger, R. 2014. Industry 4.0: A driver of innovation for Europe. Available on the Internet: <<http://www.think-act.com/blog/2014/industry-4-0-a-driver-of-innovation-for-europe/>>
- Bergsman, J. 1979. Growth and Equity in Semi-Industrialized Countries, staff work. *Research paper no. 351*, World Bank.
- Bititci, U. S. 1995. Modelling of performance measurement systems in manufacturing enterprises, *International Journal of Production Economics* 42: 137–147.
- Boix, R., Galletto, V. 2009. Innovation and Industrial Districts: A First Approach to the Measurement and Determinants of the I-District Effect, *Regional Studies* 43 (9): 1117–1133.
- Bright, J. R. 1959. *Automation and Management*. Boston: Division of Research, Graduate School of Business Administration. Harvard University, 78.
- Cafagna, L. 1971. *The Industrial Revolution in Italy 1830-1914* pp. 279-325
- Cameron R. E. 1961. *France and the Economic Development of Europe, 1800-1914, Conquests of Peace and Seeds of War*. Princeton: Princeton University Press, chapter IV.
- Castells, M. 1996. *The Information Age*. Blackwell.
- Chandler A. D. 1966. *Strategy and Structure*. New York: Doubleday Anchor, Chapter 1.
- Colin, C. 1957. *The Conditions of Economic Progress*. Macmillan.
- Cossentino, F., Pyke, F., Sengenberger, W. 1996. *Local and Regional Response to Global Pressure: The Case of Italy and its Industrial Districts*, International Institute for Labour Studies, Geneva.
- Daniel, N. 1992. *Mental Revolution - Scientific Management since Tayler*. Ohio State University Press.
- DFKI. 2013. German Research Center for Artificial Intelligence. Securing the future of German manufacturing industry Recommendations for implementing the strategic initiative INDUSTRIE 4.0 Final report of the Industrie 4.0 Working Group, Available on the Internet: <http://www.acatech.de/fileadmin/user_upload/Baumstruktur_nach_Website/Acatech/root/de/Material_fuer_Sonderseiten/Industrie_4.0/Final_report__Industrie_4.0_accessible.pdf>.
- Dicken, P. 2003. *Global Shift: Reshaping the Global Economic Map in the 21" Century*, 4" Edition. Guilford Press.
- Dodzin, S. and Vamvakidis, A. 1999. Trade and Industrialization in Developing Agricultural Economies. *IMF Working Paper*, WP/99/145. Washington, Available on the Internet: <<http://www.imf.org/external/pubs/ft/wp/1999/wp99145.pdf>>.

- Eustace, C. 2001. The intangible economy: impact and policy issues, *Report of the High Level Expert Group on the Intangible Economy*, EU Commission, Brussels.
- Fleming, J. M. 1955. External Economies and the Doctrine of Balanced Growth, *Economy Journal* 65(June):241—56.
- Fligstein N. 2001. Organizations: Theoretical debates and the scope of organizational theory. *Handbook of Sociology*, University of California Berkeley, 41.
- Frobel, F., Heinrichs, J., Kreye O. 1980. *The New International Division of Labor*. Cambridge University Press .
- Gereffi, G. 1994. *The Organization of Buyer-Driven Global Commodity Chains: How US Retailers Shape Overseas Production Networks*. In G. Gereffi & M. Korzeniewicz (Eds.), *Commodity Chains and Global Capitalism*, 95-122.
- Gereffi, G. 1995. *Global Production Systems and Third World Development*. In B. Stallings (Ed.), *Global Change, Regional Response: The New International Context of Development*, Cambridge; New York and Melbourne: Cambridge University Press, 100-142.
- Gereffi, G. 2005. Export-Oriented Growth and Industrial Upgrading: Lessons from the Mexican Apparel Case. *Study commissioned by the World Bank*.
- Gerschenkron, A. 1962. *Economic Backwardness in Historical Perspective* Cambridge, Massachusetts: Harvard University Press.
- Ghalayini, A. M., Noble, J. S., Crowe, T. J. 1997. An integrated dynamic performance measurement system for improving manufacturing competitiveness, *International Journal of Operations and Production Management* 15: 80–116.
- Goh, P. C. 2005. Intellectual Capital Performance of Commercial Banks in Malaysia. *Journal of Intellectual Capital* 6(3): 385-386.
- Gore, C. 1996. *Methodological Nationalism and the Misunderstanding of East Asian Industrialisation*. Arguing development policy: frames and discourses, 77-122
- Hatch, M. J. Cunliffe, A. L. 2012. *Organization Theory Modern, Symbolic and Postmodern Perspectives*. Oxford University Press.
- Hazen, W. N. 1969. *Overseas High Stakes of Multinational Firms*, " in *Marketing in a Changing World*, Bernard A. Morin, ed. Chicago, 111.: American Marketing Association, June, 47-52.
- Helfgott, R, B. 1986. America 's Third Industrial Revolution. *Challenge* 29, 41-46.
- Helg R. 2003. *Italian district in the international economy*, in Di Matteo M. and Piacentini P. (Eds) *The Italian Economy at the Dawn of the XXI Century*. Aldershot, Ashgate.
- Hobsbawm, E. J. 1962. *The Age of Revolution: Europe 1789-1848*. London: Weidenfeld and Nicolsonp.
- Hobsbawm, E. J. 1968. *Industry and Empire: An Economic History of Britain since 1750*. Weidenfeld & Nicolson, London, 34.
- Hoogvelt, A. 1997. *Globalization and the Postcolonial World*. Johns Hopkins University Press.
- Hoppe, R. A. Berv, E. J. 1967. Measurement of attitudes toward automation. Hulin, *Personnel Psychology* 20: 65-70.
- Hunt, V. D. 1983. *Industrial Robotics. Handbook*. Industrial Press Inc, New York, USA.
- Ignatavičius, R.; Tvaronavičienė, M.; Piccinetti, L. 2015. Sustainable development through technology transfer networks: case of Lithuania, *Journal of Security and Sustainability Issues* 4(3): 261-267. DOI: [http://dx.doi.org/10.9770/jssi.2015.4.3\(6\)](http://dx.doi.org/10.9770/jssi.2015.4.3(6))
- ILO. 1976. *Employment, Growth and Basic Needs A One World Problem*. Geneva: ILO.
- Industrie 4.0. 2014. Smart manufacturing for future. Future Markets, Germany Trade and Invest, July, Available on the Internet: <http://www.gtai.de/GTAI/Content/EN/Invest/_SharedDocs/Downloads/GTAI/Brochures/Industries/industrie4.0-smart-manufacturing-for-the-future-en.pdf>
- Jin-Li Hu, Tsung-Fu Han, Fang-Yu Yeh, Chi-Liang Lu. 2010. Efficiency of Science and Technology Industrial Parks in China, *Journal of Management Research* 10 (3 December): 151-166.
- Karlsson, J. M. 1991. *A Decade of Robotics; Analysis of the Diffusion of Industrial Robots in the 1980s by Countries, Application Areas, Industrial Branches and Types of Robots*. Mekanförbundets Förlag, Stockholm, Sweden.

- Keeble, D. 1989. High-technology industry and regional development in Britain: the case of the Cambridge phenomenon. *Environment and Planning* 7(2): 153-172.
- Kemp, T. 1969. *Industrialization in Nineteenth Century Europe*. London: Longman.
- Kerr, C., Dunlop, J., Harbison, F., Myers, C. 1960. *Postscript to "Industrialism and industrial man: the problems of labor and management in economic growth"*. Harvard University Press, (revised edition, New York, Oxford University Press, 1964), 519p.
- Kim, S. J. 1997. *Productivity of cities*. England: Ashgate Publishing Ltd.
- Koh, F. C., Koh, W. T., Tschanga, F. T. 2005. An Analytical Framework for Science Parks and Technology Districts with an Application to Singapore, *Journal of Business Venturing* 20: 217-239.
- Kuhn, T. 1970. *The Structure of Scientific Revolutions*. 2nd Ed., Univ. of Chicago Press, Chicago & London.
- Kurlak, T. 1982. *CAD/CAM: Review and Outlook*, Merrill Lynch Capital Markets, October.
- Kurth, J. R. 1979. The political consequences of the product cycle: industrial history and political outcomes, *International Organization* 33: 1-34.
- Landes, D. S. 1969. *The Unbound Prometheus: Technological Change and Industrial Development in Western Europe from 1750 to the Present*. Cambridge: Cambridge University Press.
- Leighton, D. R. 1969. The Internationalization of American Business. The Third Industrial Revolution, *Journal of Marketing* (pre-1986) (34) 3: 2-3.
- Lev, B. 2000. Communicating knowledge capabilities, *working paper*, Leonard N. Stern School of Business, New York University, New York, NY.
- Levy Jr., Marion J. 1966. *Modernization and the Structure of Society*. Princeton University Press.
- Mansfield, E. 1968. *The Economics of Technical Change*. London: Longman.
- Mantoux, P. 1961. *The Industrial Revolution in the Eighteenth Century*, Revised Edition. New York: Harper & Row.
- Mariotti, S., et.al. 2008. The Internationalization of Production by Italian Industrial Districts' *Firms: Structural and Behavioural Determinants Regional Studies* (42)5: 719-735, June. DOI: <http://dx.doi.org/10.1080/00343400701543264>
- Masuda, Y. 1980. *The Information Society as Post-Industrial Society*. The World Future Society, Tokyo, IIS, Washington D. C. .
- Mitchell, B. R. 1976. *European Historical Statistics, 1750-1970*. New York: Columbia University Press, 427-436
- Moomaw, R. L. 1983. Spatial productivity variations in manufacturing: a critical survey of cross-sectional analyses, *International Regional Science Review* 8 (1): 1-22.
- Mowery, D. C. Teece D. J. 1993. Japan's Growing Capabilities in Industrial Technology: Implications for U.S. Managers and Policymakers, *California management review*: 11
- Nadal, J. 1973. The Failure of the Industrial Revolution in Spain 1830-1914. In Cipolla, 532-620.
- Orchard, J. E. 1960. Industrialization in Japan, China mainland, and India some World, *ANNALS of the Association of American Geographers* 3 (3): 193-215.
- Porter, M. E. 1998. Clusters and The New Economics of Competition, *Harvard Business Review* 76 (6): 77-90.
- Pyke, F., Becattini, G., Sengenberger, W. 1990. Industrial Districts and Inter-firm Cooperation in Italy. International Institute for Labour Studies, Geneva ...p.
- Pyke, F., Sengenberger, W. 1992. *Industrial Districts and Local Economic Regeneration*. International Institute for Labour Studies, Geneva ...p.
- Ragnar, N. 1953. *Problems of Capital Formation in Underdeveloped Countries*. New York: Oxford Univ. Press'.

- Rahnama, A. 2011. The Role of Industrial Incentives in Development of Small and Medium Industries, *International Journal of Business Administration* 2 (4) November. DOI: <http://dx.doi.org/10.5430/ijba.v2n4p25>
- Rangone, A. 1996. An analytical hierarchy process framework for comparing the overall performance of manufacturing departments, *International Journal of Operations and Production Management* 16: 104–119.
- Rezk, M. R. A.; Ibrahim, H., H.; Tvaronavičienė, M.; Sakr, M. M.; Piccinetti, L. 2015. Measuring innovations in Egypt: case of industry, *Entrepreneurship and Sustainability Issues* 3(1): 47-55. DOI: [http://dx.doi.org/10.9770/jesi.2015.3.1\(4\)](http://dx.doi.org/10.9770/jesi.2015.3.1(4))
- Robson, M., Rothwell, R. 1985. What is the role of the small firm in innovation in the late 1980s? Paper presented to the *15th European Small Business Seminar, 'New technological development: a challenge for small enterprises'*, Grosvenor Hotel, Ghester, 16-18 October.
- Rosenfeld, S. 1997. Bring business clusters into the mainstream of economic development, *European Planning Studies* 5 (1): 3-23.
- Rosenstein-Rodan, P. N. 1943. Problems of Industrialisation of Eastern and South-eastern Europe. *Earning. Journal* 53, June-September: 202-211.
- Rostow, W. W. 1971. *The Stages of Economic Growth*. Cambridge: Cambridge University Press, second edition .
- Rothwell, R., Zegveld, W. 1982. *Innovation and Small and Medium-sized Firms*. London: Frances Pinter.
- Schatsky, D.; Mahidhar, V. 2013. *The Internet of Things*. Deloitte University Press, Arbeitskreis Industrie 4.0: Umsetzungsempfehlungen für das Zukunftsprojekt Industrie 4.0. September.
- Scherer, F. M. 1980. *Industrial Market Structure and Econornic Performance*. 2nd Ed. Ghicago: Rand McNally
- Schlick, J., Stephan, P., Zühlke, D. 2012. *Produktion 2020. Auf dem Weg zur 4. industriellen Revolution*. IM – Fachzeitschrift für Information Management und Consulting, August.
- Schmiechein, J. A. 1975. *State Reform and the Local Economy: an Aspect of Industrialization in Late Victorian and E.dwardian*. London. State Reform. University of Illinois, 413-428.
- Schumpeter, J. A. 1939. *Business Cycles: A Theoretical, Historical, and Statistical Analysis of the Capitalist Process*. McGraw Hill, New York.
- Schumpeter, J.A. 2008. *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest and the Business Cycle*, 1934 translated from the German by Redvers Opie, New Brunswick (U.S.A) and London (U.K.): Transaction Publishers..
- Scitovsky, T. 1954. Two Concepts of External Economies. *J.P.E.* 62. April, 143-51.
- Spong, M. W., Hutchinson, S., Vidyasagar, M. 2006. *Robot Modeling and Control*. John Wiley & Sons, Ltd, New York,p.
- Suwignjo, P., Bittitci, U. S., Carrie, A. S. 2000. Quantitative models for performance measurement system, *International Journal of Production Economics* 64: 231–241.
- Swann, G., Prevezer, M. A. 1996. Comparison of the Dynamics of Industrial Clustering in Computing and Biotechnology, *Research Policy* 25: 139-157.
- Toynbee, A. 1969. *Lectures on the Industrial Revolution in England*. New York, 1969 reprint of the 1884 edition, 150.
- Travkina, I.; Tvaronavičienė, M. 2015. Peculiarities of export structure in Lithuania: synthesis and analysis. *Entrepreneurship and Sustainability Issues* 2(4): 233-247. DOI: [http://dx.doi.org/10.9770/jesi.2015.2.4\(7\)](http://dx.doi.org/10.9770/jesi.2015.2.4(7))
- Tvaronavičienė, M.; Černevičiūtė, J. 2015. Technology transfer phenomenon and its impact on sustainable development, *Journal of Security and Sustainability Issues* 5(1): 87–97. DOI: [http://dx.doi.org/10.9770/jssi.2015.5.1\(7\)](http://dx.doi.org/10.9770/jssi.2015.5.1(7))
- Tvaronavičienė, M., Razminienė, K., Piccinetti, L. 2015, Aproaches towards cluster analysis, *Economics and Sociology* 8(1): 19-27. DOI: 10.14254/2071- 789X.2015/8-1/2 http://www.economics-sociology.eu/files/ES_Vol8_1_Tvaronavicien%C4%97.pdf
- Upton, W.S. 2001. Business and Financial Reporting: Challenges from the New Economy, Financial Accounting Standard Board, Norwalk, CT, *Special Report*.
- Van Der Wee H. 1975. Structural Changes and Specialization in the Industry of the Southern Netherlands, 1100-1600. *Economic History Review*: 203-221.

Vanhaverbeke, W. Torremans, H. 1998. Organizational structure in process-based organizations. University of Maastricht. *14th EGOS-Conference in Maastricht*, 9-11 July.

Vernon, R., 1966. International investment and international trade in the product cycle. *Quarterly Journal of Economics*, 80, 190-207.

Waterson, M. 1984. *Economic Theory of Industry*. Gambridge: Gambridge University Press.

Westerlund, L. 2000. *The Extended Arm of Man – A History of the Industrial Robot*. Informationsförlaget, Stockholm, Sweden.

Whyte, W. F. 1959. Machine Age Maya: The Industrialization of a Guatemalan Community, *Industrial & Labor Relations Review* 12 (3) April: 481-482.

Williams, M., Moomaw, R. L. 1989. Capital and labour efficiencies: a regional analysis, *Urban Studies* 26 (6): 573-585.

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ANALYSIS OF MARKETING MIX: NIVEA CASE STUDY

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Abstract. This article analysis theoretical aspects of marketing mix. Article also present Nivea background, Nivea history, Nivea SSGG analysis, Nivea marketing mix. Article submit study data about Nivea marketing mix. The article takes ICT impact on entrepreneurship by putting emphasis on theoretical aspects of social network, social network marketing. Also article presents research concerning Nivea marketing mix.

Keywords: marketing, marketing mix, price, place, product, promotion, Nivea

JEL Classifications: M31, M37

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1. Introduction

Dabija, Dinu, Abrudan, Postelnicu (2014) argue that „retail marketing mix includes assortment, private labels, price and acquisition finance, customer service, communication, store environment, store location, customer loyalty policy“. Alipour, Ghanbari, Moniri (2011) state that prior to 1980, studies of marketing organization focused largely on its role in implementation of the marketing paradigm. Offered 4ps as marketing mix and introduced that to the scientific centers. He introduced four main factors as effective factors in the marketing of products. These factors were product, price, place and promotion. According to Jain (2013) „the marketing mix concept also has two important benefits. First, it is an important tool used to enable one to see that the marketing manager’s job is, in a large part, a matter of trading off the benefits of one’s competitive strengths in the marketing mix against the benefits of others. The second benefit of the marketing mix is that it helps to reveal another dimension of the marketing manager’s job. „ Nivea also has marketing mix. Nivea is an established name in high quality skin and beauty care products. It is part of a range of brands produced and sold by Beiersdorf. Beiersdorf, founded in 1882, has grown to be a global company specializing in skin and beauty care. In the UK, Beiersdorf’s continuing goal is to have its products as close as possible to its consumers, regardless of where they live. Its aims are to understand its consumers in its many different markets and delight them with innovative products for their skin and beauty care needs. This strengthens the trust and appeal of Beiersdorf brands. The business prides itself

on being consumer-led and this focus has helped it to grow Nivea into one of the largest skin care brands in the world. Brei, D'Avila, Camargo, Engels (2011) stated that in the current globalized market, companies have seen the internationalization of their activities as a way to remain competitive. Decision-making concerning the international marketing mix has become critical, especially because of the influence this arrangement has on performance.

Purpose of this article – to analyze Nivea marketing mix.

Object – Nivea marketing mix.

Study methods – literature analysis, case study, questionnaire.

Research problems arise from research questions “Is Nivea have effective marketing mix?”

Methodology. Scientific analysis of the literature and literature analysis was performed in order to reveal theoretical aspects of marketing mix, Nivea marketing mix, Nivea SWOT analysis. Application was used in order to know respondents opinion about Nivea marketing mix.

2. Discussion and results

The **marketing mix** is a **tool to help understand what the product or service can offer and how to plan for a successful product offering**. The marketing mix is most commonly executed through the 4 P's of marketing: price, product, promotion, and place. In different marketing literature exit 7 P, for example **price, product, promotion, place, people, process and physical evidence**. Successful use of a balanced marketing mix, Nivea has managed to create a clear position in the market. It addresses a need felt by a specific niche segment. Traditional distribution methods are balanced by a unique product and updated promotional strategies. This ensures that the brand message reaches the right people at the right time in the right way. It is vital for any company to focus equally on all elements of the marketing mix while planning for a product. Eventually, there may be a need to divert more resources towards one variable such as strong distribution channels over promotional activities. But this needs to come after a clear plan and strategy has been decided upon. An effective marketing mix can mean the difference between a flash in the pan product or one that is bound to become a well-loved classic.

3. Theoretical aspects of marketing mix

Marketing has evolved beyond traditional economic analysis and is now applied in resolving problems beyond the boundaries of the firm and in attaining societal goals (Lazer 1969). As the marketing function recognized its interface with society, the fields of business ethics and management were independently developing stakeholder theory (Parmar *et al.* 2010; Freeman 1984). Marketing sometimes is defined as marketing mix. Marketing mix is the set of interrelated actions and solutions that meet customers' needs and achieve business goals. Marketing mix consist 4 P: product, price, place, promotion. Product understood as the actions and decisions touching upon meeting the needs of the product development and production, its formatting, packaging, and brand name, warranty, etc.. Element "price" includes all activities related to the product pricing, regulation, and other concessions, price application forms. Element "place" - includes all activities related to the selection of channels, and the transfer of goods into a user-friendly place. Element “promotion” covering the actions and decisions aimed at informing customers about products and persuade them to buy the goods.

Satit, Tat, Rasli, Chin, Sukati (2012) stated that here is sufficient evidence that the 4Ps have a major impact on the decision making process in today's competitive market. The concept of 4Ps is an input component of the customer decision-making model. This model operates on the premise that external influences serve as a valuable source of information about particular products, thus influencing customers' product-related values, attitudes and behaviors. According Al-Debi, Mustafa (2014) marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large. It is important for customers to know Nivea value. Riaz, Tanveer (2012) argue that marketing mix and brand building process are highly interlinked. All stages of brand building process are dependent on marketing mix, which is product, price, promotion and place. To create brands, firms need to design the marketing mix in

such a way so that it creates the desired image and position in customers' minds and generate positive response which then could be converted into a strong long lasting relationship.

As stated Naik, Raman, Wine (2005) brand managers need to account for interactions between marketing activities and interactions among competing brands. By recognizing interaction effects between activities, managers can consider interactivity trade-offs in planning the marketing-mix strategies. Kotler (2011) stated, that “marketing will have to reinvent its practices to be environmentally responsible”. At present, marketing managers' decision-making is typically framed around the traditional concept of the marketing mix, which addresses the needs of individual consumers, but provides little guidance on operating more sustainably, for the benefit of society at large. In 2004, the American Marketing Association (AMA) adopted the following as its official definition of marketing (Marketing News, 2004): “Marketing is an organizational function and a set of processes for creating, communicating and delivering value to customers and for managing customer relationships in ways that benefit the organization and its stakeholders.” In 2007, the AMA adopted the following as its new official definition of marketing (Marketing News 2008): “Marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large.

Alipour, Darabi (2011) noticed, that the marketing strategy means the regulating and applying the marketing mix. Tools and tactics in marketing are the marketing mix. The marketing mix, mixed marketing, marketing tools and marketing tactics are all the words which are used for translating the marketing mix. Mittal, A. (2014) stated, that the marketing mix concept also has two important Roles. First, it is an important tool used to enable one to see the marketing manager's job is, in a large part, a matter of trading off the benefits of one's competitive strengths in the marketing mix against the benefits of others. The second role of the marketing mix is that it helps to reveal another dimension of the marketing manager's job. Doyle (2000) claims that the marketing mix approach leads to unprofitable decisions because it is not grounded in financial objectives such as increasing shareholder value. According to Doyle it has never been clear what criteria to use in determining an optimum marketing mix. According Owomoyela, Olasunkanmi, Oyeniyi (2013) marketing mix is a business tool that used by the management of organizations which enable them to remain in global competitive environment. Marketing mix involve the four major areas of decision making (4 P) in the marketing process that are blended and mixed to obtain the results desired by the organization to satisfy the needs and wants of customers. Pour, Nazari, Emami (2013) stated, that marketing mix of traditional management models over -comes dynamic market, where the beggar works, alongside other methods of Anderson and the theoretical parameters of a system developed by the University of Copenhagen in Europe. Methods such as vision of a new product, functional vision are faced with such geographical perspective. As Grönroos (2006) state „marketing is a process , which the updated definition acknowledges, although it seems to include only processes internal to the firm, and hence marketing should be defined as a process and not merely as a structure, in other words not pre-dominantly relying upon a list of decision-making variables. This means that the process nature of marketing should be the backbone of a marketing definition and structural aspects should only provide support to the facilitation of that process. In particular, three elements of the updated definition are discussed: (1) the customer value concept; (2) marketing as managing customer relationships; and (3) marketing as an organizational function. In addition, (4) an intermediate stage between what is done and what should be achieved covering the how aspect of marketing is discussed.

Yasanallah, Vahid, (2012) stated “marketing mix was dominated the market since 1940. In 1964, McCarty developed this idea and revised them as principles recognized as 4Ps today. Marketing mix includes four elements namely product, price, promotion and place”. Akroush (2011) stated that literature has revealed that the 4Ps of the marketing mix have come under criticism by many marketing scholars from different perspectives e.g., services marketing and relationship marketing scholars. For services businesses, the traditional marketing mix framework should be expanded to include the other 3Ps (people, process and physical evidence) as strategic elements, which affect companies' performance. Marketing involves a number of activities. To begin with, an organization may decide which of its target group of customers to be served. Once the target group is decided, the product is to be placed in the market by providing the appropriate product, price, place and promotion. These are to be combined or mixed in an appropriate proportion so as to achieve the marketing goal. Such mix of product, price, distribution and promotional efforts is known as marketing mix (Mei 2011). Bamigbola, A.A. (2013) noticed, that marketing

strategy is a well-structured plan that highlights the organization's goals and quest and the specific process of achieving those set of goals. Marketing strategy is important element which help company to achieve objectives. Singh (2012) noticed, that the marketing mix is a set of controllable variables that the company can use to influence the buyers responses. Thus marketing manager decides the level of marketing expenditure in order to achieve marketing objectives of the firm and after finalizing the market budget it is decided that how to divide total marketing budget among various tools in the marketing mix. Marketing decisions are categories provided below in the Table 1.

Table 1. Elements of 4 P's (Singh 2012)

Product	Price	Promotion	Place
Design	Retail	Strategies	Special offers
Technology	Wholesale	Skimming	Endorsements
Usefulness	Internet	Penetration	Advertising
Value	Direct sales	Psychological	User trials
Convenience	Peer to peer	Cost -plus	Direct mailing
Quality	Multi	Loss leader	Leaflets/posters
Packaging	channel		Free gifts
Branding			Competitions
Warranties			Joint ventures

These marketing mix elements helps companies better understand their customers and market, to satisfy customer needs. Lee Goi (2009) stated that marketing mix is not a scientific theory, but merely a conceptual framework that identifies thee principal decision making managers make in configuring their offerings to suit consumers' needs. The main reasons the marketing mix is a powerful concept are It makes marketing seem easy to handle, allows the separation of marketing from other activities of the firm and the delegation of marketing tasks to specialists; and - The components of the marketing mix can change a firm's competitive position (Grönroos 1994). Palade (2011) argues that ingredients for a good marketing are the 4P's: product, price, promotion and placement. An effective marketing program combines harmoniously all elements of the marketing mix. Marketing mix is the main instrument of the company for obtaining strong positioning on the concerned markets.

4. Nivea background

4.1. History of Nivea

Nivea is a global skin and body care brand, owned by the German company Beiersdorf. In 1882 Pharmacist Carl Paul Beiersdorf establishes the company on March 28. The company began in 1911 when Beiersdorf developed a water in oil as a skincream with Eucerit, the first stable emulsion of its kind. The company's owner, Oscar Troplowitz named it Nivea, from the latin word niveus/nivea/niveum (meaning snow-white). Under Oskar Troplowitz ownership, the company developed several of its own products, including Nivea leukoplast, labello and other. The company Nivea originated from Poland and was bought by Germany investors. During the 1930s, Nivea (Beiersdorf) began producing products such as tanning oils, shaving creams, shampoo and facial toners. In 1911 Nivea cream was born. Soon after its discovery Nivea cream was found in tin yellow box. Imaginative decorative green edge held popular trend in the art of that time. In 1959 logo Nivea cream with characteristics words "cream" first appeared on the Nivea box. This logo known for completely blue box. A successful logo is retained in an unchanged form until today. Their slogan in 1928 was "skin care" and in 1931 " for the house and sports", but they were no longer necessary since the Nivea gained status and internationally renowned classical brand. In 1980 Nivea expanded European market with cosmetics for men, with men balm that has used after shaving, and was not harmful to the skin but also relax. In 1998 Nivea innovation presented with areas of cosmetics: anti-wrinkle ingredient Q 10, and daily care cream. Nivea visage anti-wrinkle Q 10 quickly became a bestselling anti-wrinkle product in the world. (Table 2).

Table 2. Beiersdorf development

1882	Pharmacist Paul C. Beiersdorf establishes the Company.
1890	Pharmacist and businessman Dr. Oscar Troplowitz purchases the Hamburg-based Company from its founder, Paul C. Beiersdorf. He modernizes the production processes, makes first international contacts, and significantly enlarges the Company.
1900	Patent application for Eucerit, (lit. "beautiful wax"), an emulsifying agent. Made from lanolin, found in sheep's wool, Eucerit is the basis for Eucerin and, later on, for NIVEA Creme.
1911	NIVEA is born. Working closely together with chemist Dr. Isaac Lifschütz and dermatologist Prof. Paul Gerson Unna, Dr. Oscar Troplowitz develops the first stable skin cream based on a water-in-oil emulsion, using the emulsifying agent Eucerit.
1920	NIVEA takes its first steps: NIVEA Creme's first commercial film is shown in German cinemas.
1932	Beiersdorf employs more than 1,400 staff on its 50th anniversary.
1943	The air raids on Hamburg cause heavy damage to both production plants and administrative buildings. At the end of the Second World War, most of the Hamburg production plants and administrative buildings have been destroyed. During the war, most Beiersdorf affiliates in countries at war with Germany are expropriated. Beiersdorf also loses its NIVEA trademarks here. Soon after the war, Beiersdorf begins to buy back the trademarks.
1950	PH5 Eucerin is launched on the market. This innovative ointment focuses on the importance of the skin's own natural protective acid barrier in maintaining good skin health. It is the basis for the Eucerin consumer brand.
1963	NIVEA milk – liquid NIVEA Creme in the form of an oil-in-water emulsion – is introduced for all-over body care. A large number of affiliates and licensees expand Beiersdorf's international business in the course of the 1960s.
1972	Main entrance to the Beiersdorf headquarter in Hamburg. Beiersdorf employs more than 10,000 people worldwide.
1982	Launch campaign NIVEA Visage, Belgium. Launch of NIVEA Gesicht (later NIVEA Visage). Start of the steady expansion of NIVEA as a brand for skin and beauty care through a large number of subbrands with an international focus.
1991	La Prairie advertisement. Acquisition of the La Prairie brand, which originated in the famous "La Prairie" clinic in Montreux, Switzerland.
2001	The new strategy allows tesa to become an independent affiliate, enabling it to react more flexibly to consumers and industrial customers.
2002	Florena Creme. Florena, based in Waldheim in Saxony, becomes a wholly-owned Beiersdorf affiliate. The two companies originally cooperated under a "licensed production" agreement before the fall of the Berlin Wall in 1989, and intensified their ties following the reunification of Germany.
2003	Tchibo becomes Beiersdorf's majority shareholder. In October a long struggle for the Allianz stake in Beiersdorf ends happily for the Company. Tchibo Holding AG increases its shareholding from 30.3% to an initial 49.9%, becoming Beiersdorf's largest shareholder. This prevents Beiersdorf AG from being split up. In order to ensure that Beiersdorf remains in Hamburg, the city also temporarily acquires a 10% stake. A new functional organization focusing on the areas of brands, supply chain management, finance, and human resources replaces the previous divisional organization.
2004	The Beiersdorf Research Center in Hamburg. The new Skin Research Center opens in Hamburg. With more than 450 scientists, this is one of the largest and most advanced research centers in Germany, and one of the most important in the world.

2006	Beiersdorf CEO Thomas B. Quaas and Hamburg's mayor Ole von Beust. The world's first "NIVEA Haus" is opened on the Jungfernstieg street in the heart of Hamburg. Beiersdorf's sales exceed €5 billion for the first time.
2007	Slek advertisement, China. In the year of the Company's 125th anniversary, Beiersdorf acquires an 85% stake in C-BONS Hair Care, one of the leading companies in the Chinese hair care market with a well-developed sales network in China.
2008	Beiersdorf joins the DAX! In December 2008, Beiersdorf is included in the leading German equity index, the DAX, which comprises the 30 leading listed companies in Germany.
2009	Beiersdorf opens the NIVEA Haus on Berlin's famous "Unter den Linden" boulevard. This is the world's third NIVEA Haus following the ones opened in Hamburg and Dubai in 2006 and 2008 respectively. In line with the needs of its metropolitan customers, the NIVEA Haus in Berlin, on a space of over 500 sqm, provides brief cosmetic applications for short-term relaxation and recovery.
2010	Beiersdorf introduces the new Eucerin AQUAporin ACTIVE moisturizer, developed using a Nobel Prize-inspired technology. As of fall the aquaporin technology is step by step being integrated in various NIVEA products.
2011	Beiersdorf developed after intensive research, along with textile experts from the prestigious International Textile Institute Hohenstein, a deodorant that reduces stains: NIVEA Invisible for Black & White, the most successful deodorant launch in the history of Beiersdorf.
2011	Happy Birthday NIVEA! With celebrations around the world and a special campaign the NIVEA Creme celebrates its 100th anniversary.
2012	Stefan F. Heidenreich is taking over from Thomas-B. Quaas as CEO of Beiersdorf AG. Mr. Heidenreich has been a member of the Executive Board since January 2012.
2013	50 years after launch of the very first bodylotion in 1963 NIVEA transforms body care again with the launch of its In-shower Skin Conditioner range – a hassle-free way to moisturize while in the shower.

4. 2. Nivea SWOT analysis

Nivea first of all assessed the market. It understood what its male customers wanted. A study of the environment confirmed men were willing to buy a product that would calm and soothe their skin irritated by shaving. An SWOT analysis looked at the internal and external strengths of the business in fulfilling the need, and included an assessment of the brand's position and the state of the market. The company already had a strong presence in women's skincare products, and could easily use the same production, distribution, and promotional set-up for its men's products. The team used research data to forecast market trends over the next three-to-five years, which helped them set specific targets for sales, market growth, and improving brand image. The analysis also considered the state of competitor products in the market. The company used celebrity driven radio, television, and press advertising, adopted experiential activities that engaged consumers through two-way communications, and provided free samples. Such initiatives brought brand personalities to life and added value to the target audience. The focus on product development combined with an emphasis on needs analysis helped Nivea retain in position a market leader in the male facial skincare market, especially in UK (Table 3).

Table 3. Nivea SWOT analysis

Nivea	
Parent Company	Beiersdorf AG
Category	Personal care brands – Skin cream
Sector	FMCG
Tagline/ Slogan	It helps protect your skin; 100 years of skin care for Life

USP	Makes dry skin smooth and irresistible to touch
STP	
Segment	Personal skin care products
Target Group	Middle class all age groups for skin care
Positioning	Positioned in the platform of "Gentle Care" and "Wellness"
SWOT Analysis	
Strength	<ol style="list-style-type: none"> 1. Nivea globally is the brand that has its presence in around 20 product categories in more than 50 countries. 2. Nivea has huge brand recall and equity. 3. Very strong distribution network 4. The packs 'Blue and White' color as its brand element. 5. Excellent advertising and brand visibility makes it a top-of-the-mind brand
Weakness	<ol style="list-style-type: none"> 1. Nivea cream is perceived as a winter cream because of its thickness and oily consistency. This restricts the sale of Nivea skin cream to winters mainly. 2. Intense competition in skincare segment
Opportunity	<ol style="list-style-type: none"> 1. Well reputed and established global brand, every chance to grow in the emerging economies as well 2. Nivea has an opportunity to increase market share 3. Entry in men's segment by focused products
Threats	<ol style="list-style-type: none"> 1. Popularity of other skin care brands 2. Fierce marketing from competitors while Nivea still lies on lazier front.
Competition	
Competitors	<ol style="list-style-type: none"> 1. Vaseline 2. Ponds skin care 3. Johnson and Johnson Petroleum jelly

4.3. Nivea marketing mix

In 1911 the German consumer goods company Beiersdorf brought the now very famous skin cream named Nivea into the market. Nivea has now grown to be one of the biggest skin care brands in the world, selling products in some 150 countries. The Nivea brand encompasses a wide range of body care products. Its assortment includes baby care, bath care, body care, cosmetics, deodorants, face care, hair care, hair styling, hand care, lip care, mature skin care, men's care and sun care. Nivea has clearly been successful in creating strong attributes which people associate with the Nivea product and especially with the blue tin and its white capitals. Nivea has created the image of being genuine, environmentally friendly and offering good quality at a reasonable price. Offering a wide range of products and serving all generations it suggests being an ideal choice for the entire family. In order to analyse how Nivea has achieved this position in consumers' minds, this essay will be looking at the marketing mix and how Nivea has dealt with the four P's.

Product. Panyachokchai, K. (2013) stated, that today consumers focus more on trusted brands that provide credibility and benevolence that deliver benefits to consumers in terms of the results of using. Moreover, a brand needs to concern about a customer in terms of its reputation, personality, and also the focus on satisfaction and personality traits of users of a customer to improve the brand strategy and reserve the long term relationship with a customer through brand loyalty. Kotler (2005) defined product as anything that can be offered to a market for attention, acquisition, use or consumption that might satisfy a want or need. The Nivea product is generally a

product of good quality. However different the range of Nivea products may be they all embody gentle care for all generations (Table 4). To ensure this certain quality standard research and development becomes an important issue. On their webpage it is indicated that over 150 dermatological and cosmetic researchers, pharmacists and chemists are constantly working to improve established products and come up with new ones. Especially with the product line Q10, which involves anti-skin aging and anti-cellulite products, Nivea strives to proof its dermatological expertise. The first stage in building an effective mix is to understand the market. Nivea uses market research to target key market segments which identifies groups of people with the same characteristics such as age/gender/attitude/lifestyle. The knowledge and understanding from the research helps in the development of new products. Nivea carries out its market research with consumers in a number of different ways. These include: using focus groups to listen to consumers directly; gathering data from consumers through a variety of different research techniques; product testing with consumers in different markets.

Table 4 Nivea products

Description	Brand
NIVEA. Our most important brand has enjoyed over 100 years of success and is today one of the world's largest skin care brands.	
Eucerin. Pharmacists, dermatologists, and consumers around the world trust in Eucerin's medical skin care competence.	
La Prairie. Luxurious, state-of-the-art anti-aging skin care based on over 35 years of research expertise.	
NIVEA MEN. The modern and effective products of the NIVEA MEN brand are leading in the international men's skin care market.	
Labello. Labello is synonymous with lip care and at the same time the market leader in numerous European countries.	
Hansaplast. Today a globally successful brand, Hansaplast revolutionized the plaster and wound care market over 90 years ago.	
Florena. Products that stand for naturalness and uncomplicated skin care with select and natural ingredients that are processed in an exceptionally gentle way.	
8x4. 8x4 deodorants for women and men have been combining individual fragrances with long-lasting protection for more than 60 years.	

Price. On their webpage Nivea claims that their products are of a quality level that some competitors offer for ten times the price. Here we clearly see that Nivea goes for the strategy of positioning their products as being of quality at affordable prices ("More for the same"). This is coherent with the idea of Nivea being the perfect choice of the whole family. Caring mothers and fathers who want to provide their families with good quality products can still afford doing so by buying Nivea skincare. This goes along with the fact that discounts on Nivea products are often found (see Boots's current offer of buying three Nivea deodorants for the price of two). In terms of price Nivea products always appear competitive with brands, such as Dove, Johnson & Johnson or Laboratoire Garnier, which may be situated next to them in the shops. However, among these the brand takes care that it does not appear to charge less so that the image of being a quality brand remains believable for customers. Lots of factors affect the end price of a product, for example, the costs of production or the business need to maximize profits or sales. A product's price also needs to provide value for money in the market and attract consumers to buy. There are several pricing strategies that a business can use:

- cost based pricing this can either simply cover costs or include an element of profit. It focuses on the product and does not take account of consumers;
- penetration price an initial low price to ensure that there is a high volume of purchases and market share is quickly won. This strategy encourages consumers to develop a habit of buying;
- price skimming an initial high price for a unique product encouraging those who want to be 'first to buy' to pay a premium price. This strategy helps a business to gain maximum revenue before a competitor's product reaches the market.

Place. Nivea products are virtually found everywhere. They are located on the shelves of high-status retailers, like Boots and Lloyd Pharmacy in line with EL'VITAL or Pantene. But they are also found in supermarkets, such as Co-op, or discount pharmacies, such as Schlecker, next to the shop's own cheap brand. Through this distribution strategy Nivea appears as a brand that is easily available for all kinds of people and of course all kinds of families who care for good quality, whether they buy at Boots or Schlecker. Place refers to: how the product arrives at the point of sale. This means a business must think about what distribution strategies it will use where a product is sold. This includes retail outlets like supermarkets or high street shops. It also includes other ways in which businesses make products directly available to their target market, for example, through direct mail or the Internet. Nivea distributes through a range of outlets that are cost effective but that also reach the highest number of consumers. Its distribution strategies also consider the environmental impact of transport. It uses a central distribution point in the UK. Products arrive from European production plants using contract vehicles for efficiency for onward delivery to retail stores. Beiersdorf does not sell direct to smaller retailers as the volume of products sold would not be cost effective to deliver but it uses wholesalers for these smaller accounts. It does not sell directly through its website as the costs of producing small orders would be too high. However, the retailers, like Tesco, feature and sell the NIVEA products in their online stores.

Promotion. Kotler (2002) defines promotion as the activities a company performs in order to communicate to its existing and potential customers. Multiple channels are used to communicate to different parties (Distributors, customers) and different means could be used to do promotion. Nivea adverts are found in all kinds of magazines and newspapers, on television on all channels at regular intervals. It is through these adverts that the image is mainly conveyed. It is an image that suggests favoring family values, standing for health and genuineness and communicating this "close to touch" human togetherness. Smiling faces of genuine looking people of all generations, from babies over teens and young parents to 60 year-olds, help bring this message across. Promotion is how the business tells customers that products are available and persuades them to buy. Promotion is either above-the-line or below-the-line. Above-the-line promotion is directly paid for, for example TV or newspaper advertising. Below-the-line is where the business uses other promotional methods to get the product message across. Promotional activities include: Events or trade fairs help to launch a product to a wide audience. Events may be business to consumer (B2C) whereas trade fairs are business to business (B2B).

Direct mail can reach a large number of people but is not easy to target specific consumers cost-effectively. Public relations (PR) includes the different ways a business can communicate with its stakeholders, through, for example, newspaper press releases. Other PR activities include sponsorship of high profile events like Formula 1 or the World Cup, as well as donations to or participation in charity events. Branding a strong and consistent brand

identity differentiates the product and helps consumers to understand and trust the product. This aims to keep consumers buying the product long-term. Sales promotions, for example competitions or sampling, encourage consumers to buy products in the short-term. Nivea chooses promotional strategies that reflect the lifestyle of its audience and the range of media available. Nivea realises that a 'one way' message, using TV or the press, is not as effective as talking directly to its target group of consumers. Therefore Nivea does not plan to use any above-the-line promotion for Nivea visage young.

5. Research data analysis

The research was conducted in September in 2014. Objective of the study - to investigate the Nivea marketing mix. The study was reconnaissance. 56 respondents participated in the survey, which 18 percent were men and 82 percent - women. 89 percent of respondents were 18 - 25 years age, 11 percent - 26 - 40 years age. As can be seen from the study, the participants in the study were enough young people. 77 percent respondents earning until 800 Litas, 18 percent - 801 - 1000 Litas, 4 percent - 1501-2000 Litas. 2 percent - 2001 Lt and and more. 84 percent respondents used Nivea products, while 16 percent respondents said that does not use Nivea products. The survey showed that the vast majority of respondents use Nivea products. Respondents were asked "How often do you buy Nivea products?". 16 percent respondents said that they buy Nivea product once a month, 37 percent - once every three months, 19 percent - once every six months, 28 percent - once a year. The study shows that the majority of respondents buy Nivea products every three months (Table 5).

Table 5. Respondents answer to question "How often do you buy Nivea products?" opinion distribution

How often do you buy Nivea products?	Percent
once a month	16
once every three months	37
once every six months	19
once a year	28

The respondents were asked the question "Where you buy Nivea products?" 86 percent respondents said that they bought in supermarkets, 20 percent – in special stores, 4 percent indicated other. The results show that the vast majority of respondent buy Nivea products in supermarkets. Respondents stated, that the Nivea products are extensive and constantly updated. 50 percent stated yes, they are, 9 percent no, and 41 percent respondents said that they had no opinion. Respondents were asked question "Which price category to assign most of the Nivea products? 9 percent respondents argued that Nivea products are the low prices, 86 percent - average prices, 5 percent - higher prices. It can be concluded that the vast majority of respondents said that Nivea products depends on the average price category.

In response to the question whether the price of Nivea products is consistent quality, and it is attractive to customers, 68 percent respondents said that they are, 7 percent – no and 25 percent respondents did not have an opinion. Results showed that the vast majority of respondents said that Nivea products comply with the quality and the price is attractive to the customer. Respondents answer to question "What are the most common discount used Nivea?". 54 percent respondents said that seasoning discount, 36 percent - festive discount, 29 percent do not use rates (Table 6).

Table 6. Respondents' answer to question "What are the most common discount used Nivea?"

What are the most common discount used Nivea?	Frequency	Percent
Seasoning discount	30	54
Festive discount	20	36
Do not use discount	16	29

The respondents know about Nivea products from newspapers (18 percent), magazines (34 percent), internet (41 percent), television (59 percent), other (21 percent.). The results show that most of the respondents were aware of Nivea products from television and internet. The respondents were asked the question "Does Nivea products advertising is attractive?". 52 percent respondents said that it is attractive, 5 percent argued that an unattractive, 43 percent respondents replied that they do not know.

6. Conclusions

Nivea products include: physical attributes – how the product appeals to a consumer; utilities; brand, packaging and labeling; design, color, size, shape, style, finish and beauty; price; services; company image; safety to users – buyers are not interested in what the product contains, but what the product satisfies them with. Nivea is known for the high standard of quality products that it produces. This makes it stand different among other cosmetic brands. The milk lotion product that it had launched earlier in the market demonstrates an example regarding Nivea and its constant improvement in quality. However, as people complained that the milk lotion felt too sticky when applied to the body, Nivea changed the product by improving the quality and instead of the milk lotion, it introduced a body lotion, which was non – sticky and was available in different types for all skin types, which was not a feature of the milk lotion earlier. This proves the fact that they really work hard in order to improve their quality of the product to gain customer satisfaction and brand loyalty. Along with color and quality, Nivea's packaging is also very attractive as it comes in different shapes and sizes. Nivea's prices are reasonable compared to its competitors. Everybody can afford Nivea, as its products are not targeted to any particular segment of the market.

Place means the areas where Nivea is distribute and spread out. It should be distributed so that it is within the reach of normal customers also. Nivea products are available at all supermarkets, mostly at all grocery stores and shopping malls too. Big and popular supermarkets have separate counter only for Nivea products with a promoter standing beside the counter in order to promote the product. All variables are interlinked where the main ingredient of promotion and advertising plays an important role in the success of Nivea sales other than other elements such as quality, packaging, etc.

Promotion is an important element in an organizations marketing mix, which is, used to inform and persuade the market regarding the organization's products and services. The main goal of promotion is to change the pattern of demand for the product in order to have the same distance between the products and its customers. Whereas, advertising consists of the activities involved in presenting to a group, oral / visual, openly sponsor identified message regarding a product – service – idea. An advertisement is disseminated through one or more media and is paid for by the identified sponsor. Nivea promotes its products through different kinds of media. This includes television, newspapers, billboards, magazines, brochures and a number of stalls at popular malls and supermarkets. *Nivea gives huge quantities of free samples of its products. Nivea's promotion campaign includes attractive packages with mind blowing offers.*

References

Alipour, M.; Darabi, E. 2011. The Role Of Service Marketing Mix And Its Impact On Marketing Audit In Engineering And Technical Service Corporations, *Global Journal of Management and Business Research* 11(6) (USA) Print ISSN: 0975-5853.

- Alipour, M.; Ghanbari, A.; Moniri, S.M. 2011. The Impact of Marketing Mix (4Ps) on Marketing Audit and Performance in Iranian SMEs, *International Journal of Humanities and Social Science* 1(2): 112 -117.
- Al-Debi, H.; Mustafa, A. 2014. The Impact Of Services Marketing Mix 7P's In Competitive Advantage To Five Stars Hotel-Case Study Amman, Jordan. The Clute Institute International Academic Conference Orlando, Florida, USA, 2014, 39- 48.
- Akroush, M.K. 2011. The 7Ps Classification of the Services Marketing Mix Revisited: An Empirical Assessment of their Generalisability, Applicability and Effect on Performance Evidence from Jordan's Services Organizations, *Jordan Journal of Business Administration* 7(1): 116 – 147.
- Bamigbola, A.A. 2013. Application of Marketing Strategies and Mix to Digital Information Services (DIS): Nigerian University Libraries Perspectives. *Library Philosophy and Practice* (e-journal).
- Brei, V. A.; D'Avila, L.; Camargo, L. F. ; Engels, J. 2011. The Influence of Adaptation and Standardization of the Marketing Mix on Performance: a Meta-Analysis, *BAR, Curitiba* 8(3): 266-287.
- Dabija D.C.; Dinu V.; Abrudan I.N.; Postelnicu C. 2014. The Impact of the Marketing Mix and Sustainability on Shaping Consumer Preferences towards Non-Food Stores, *Transformations in Business & Economics* 13(33): 36-53.
- Grönroos, C. 1994. From Marketing Mix to Relationship Marketing: Towards A Paradigm Shift in Marketing, *Management Decision* 32(2), 4-20.
- Kotler, P. 2011. Reinventing Marketing to Manage the Environmental Imperative, *Journal of Marketing* 75(4): 132-556.
- Lazer, W. 1969. Marketing's changing social relationships, *Journal of Marketing* 33: 3–9.
- Lee Goi, Ch., L. 2009. A Review of Marketing Mix: 4Ps or More? *International Journal of Marketing Studies* 2-15.
- Mei, L.S. 2011. Marketing mix (7P) and performance assessment of western fast food industry in Taiwan: An application by associating DEMATEL and ANP, *Afr. J. Bus. Manage.* 5(26):10634 – 10644.
- Mittal, A. 2014. Role of Marketing Mix for Indian Marketers. *Global Journal of Finance and Management* ISSN 0975 – 6477, 6(3): 191-196.
- Naik, P.A.; Raman, K.; Wine, R.S. 2005. Planning Marketing-Mix Strategies in the Presence of Interaction Effects, *Marketing Sciences* 24(1): 25–34b, ISSN 0732-2399, EISSN1526-548X0524010025.
- Owomoyela, S. K.; Olasunkanmi, .S; Oyeniyi, K.O. 2013. Investigating the impact of marketing mix elements on consumer loyalty: an empirical study on Nigerian breweries plc., *Interdisciplinary Journal of Contemporary Research in Business*. March 2013(4)
- Jain, M.K. 2013. An Analysis of Marketing Mix: 7Ps or More, *Asian Journal of Multidisciplinary Studies* 1(4): 23-28.
- Palade, A. 2011. Analysis of marketing mix on cosmetics products case study: Avon Company, *Annals of the University of Petroșani Economics*, 11(4): 233-244.
- Panyachokchai, K. 2013. A Study of Factors Affecting Brand Loyalty: A Case Study of Nivea for Men Facial Wash in Bangkok. The 2013 IBEA, International Conference on Business, Economics, and Accounting 20 –23 March 2013, Bangkok -Thailand.
- Pour, B.S.; Nazari, K.; Emami, M. 2013. The effect of marketing mix in attracting customers: Case study of Saderat Bank in Kermanshah Province, *African Journal of Business Management* 7(34): 3272 - 3280, 14 September, 2013.
- Riaz, W.; Tanveer, A. 2012. Marketing Mix, Not Branding, *Asian Journal of Business and Management Sciences* 1(11): 43-52.
- Satit, R.P.; Tat, H.H.; Rasli, A.; Chin, T.A.; Sukati, I. 2012. The Relationship Between Marketing Mix And Customer Decision-Making Over Travel Agents: An Empirical Study, *International Journal of Academic Research in Business and Social Sciences* 2(2): 523-530.
- Singh, M. 2012. Marketing Mix of 4P'S for Competitive Advantage. *OSR Journal of Business and Management (IOSRJBM)* ISSN: 2278-487X 3(6): 40-45.
- Yasanallah, P.; Vahid, B. 2012. Studying the Status of Marketing Mix (7Ps) in Consumer Cooperatives at Ilam Province from Members' Perspectives, *American Journal of Industrial and Business Management* 2: 194-199.
- Marketing News. 2004. AMA adopts new definition of marketing. *Marketing News* 38(1)

Marketing News. 2008. Marketing defined, *Marketing News* 42: 28–29.

History of Nivea Company. <http://www.scribd.com/doc/55469087/History-of-Nivea-Company> - 20 September of 2014

The use of the marketing mix in product launch. <http://www.mbaskool.com/brandguide/fmcg/1213-nivea.html> - 6 February of 2015.

Doyle, P. 2000. Value based marketing, Wiley, Chichester, 2000.

Freeman, R. E. 1984. Strategic management: A stakeholder approach. Marshfield: Pitman Publishing Inc.

Grönroos, Ch. 2006. On defining marketing: finding a new roadmap for marketing, *Marketing Theory* 6: 395.

Kotler, P.; Armstrong, G.; Saunders, J.; & Wong, V. 2002. Principles of Marketing (3rd European ed.). London: Prentice – Hall.

Kotler P. 2005. Marketing: an introduction, New Jersey: Pearson Education Inc.

Parmar, B. L.; Freeman, R. E.; Harrison, J. S.; Wicks, A. C.; Purnell, P. & de Colle, S. 2010. Stakeholder theory: The state of the art, *The Academy of Management Annals* 4: 403–445.

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**FACTORS INFLUENCING SOCIAL INNOVATION PROCESSES IN LATVIA:
 QUALITATIVE RESEARCH PERSPECTIVE**

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Abstract. The research reflected in this paper aimed at the determination of social innovation influencing factors in the Latvian context. The qualitative content analysis of the scripts made from the video recordings of the focus group discussion organized with participation of representatives of the fields of entrepreneurship, education, communication, sport and charity, revealed that social innovation influencing factors have dual nature. That duality manifests itself as both promoting and hindering effects of social innovation influencing factors depending on the presence and development level of specific characteristics of the factor, as well as on the context within which the factor acts. The empirical data were analysed with open coding using AQUAD 6 software for the registration of conceptual codes, data processing and creation of frequency tables of categories developed. The research resulted in the revelation of ten social innovation influencing factors: openness to novelty, consciousness, responsibility, proactive thinking, lifelong learning, positive experience, passivity, conservative thinking, power distance and bureaucracy.

Keywords: social innovation, influencing factors, duality of influence, qualitative research, Latvia

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1. Introduction

Social innovation attracts the attention of researchers, policy makers, practitioners, governmental and nongovernmental organizations, entrepreneurs and individuals in Latvia as it is a relatively new concept to be studied and promoted for the sustainable development of the society. Therefore, being a topical issue, the research on the determination of factors which influence social innovation processes in Latvia was conducted in the project “Involvement of the society in social innovation for providing sustainable development of Latvia” which is carried out within the National Research Program 5.2. “Economic Transformation, Smart Growth, Governance and Legal Framework for the State and Society for Sustainable Development – a New Approach to the Creation of a Sustainable Learning Community (EKOSOC-LV)”. The qualitative content analysis of the texts of the scripts

made from the video records of the focus group discussion revealed two groups of categories which promote or hinder social innovation processes in Latvia. The analysis of these categories showed that these are pairs of categories with opposite effects on social innovation. The literature analysis shows that the factors which influence social innovation processes positively or negatively are called by researchers in different ways: drivers and barriers (Bund *et al.* 2013; Chalmers 2012; Howaldt *et al.* 2014; Mendes *et al.* 2012), pull-factors and push-factors (Antadze & Westley 2010; Bund *et al.* 2013; Mulgan *et al.* 2007a); enabling factors and disabling/inhibiting/hindering factors (Bund *et al.* 2013; Hubert *et al.* 2011); enabling framework conditions and disabling framework conditions (Bund *et al.* 2013). The approach in this research is not to divide social innovation influencing factors into promoting or hindering factors. On the contrary, each pair of categories with opposite nature of influence which emerged in the course of the qualitative content analysis served as a basis for forming one social innovation influencing factor. This is justified by the logic that any influence implies both promoting and hindering effects. This speaks of a dual nature of social innovation influencing factors. Duality of the social innovation influencing factors can be manifested in different ways. The researchers of the international project “Social Innovation: Driving Force of Social Change (SI-DRIVE)” funded by the European Union and conducted under the 7th Framework Programme (2014–2017) argue that “...barriers to social innovation can also be drivers or evolve into drivers. Probably, it is also possible vice versa.” (Howaldt *et al.* 2014, p. 155). A similar inference was drawn by the group of researchers of the European Commission project “The theoretical, empirical and policy foundations for building social innovation in Europe” (TEPSIE) under 7th Framework Programme (2012–2014); they state that the same combination of “...conditions can have an enabling effect or a more inhibiting effect on social innovation, and sometimes they are enabling for one organisation and inhibiting for another at the same time.” (Bund *et al.* 2013, p. 34).

The research aim: the determination of factors which influence social innovation processes in Latvia.

The objectives of the research:

- to conduct theoretical analysis of scientific literature and documents on the factors which influence, i.e. promote or hinder social innovation processes;
- to determine social innovation hindering and promoting factors in the Latvian context based on the empirical data obtained in the course of the focus group discussion;
- to compare the findings of the theoretical and empirical parts of the research for interpreting the results and making conclusions.

The research methods

- In the theoretical part of the research: qualitative content analysis of scientific literature and documents and generalisation of the theoretical findings.
- In the empirical part of the research: focus group discussion; qualitative content analysis with open coding; analysis of frequency tables of categories received in the course of coding using AQUAD 6 software.

2. Theoretical background

Social innovation processes are complex as they are conditioned by a web of mutually interacting and influencing domains of human, social, cultural, economic and political character. This complexity causes various barriers on the way of the realization of social innovation projects as most social problems are of difficult and multifaceted nature. On the other hand, the combination of these factors may turn into a favourable force which is able to push the social innovation processes ahead.

Literature analysis shows that social innovation processes are influenced by a multitude of factors which are classified in different ways:

- political, social, economic, and cultural (Antadze & Westley 2010);
- societal climate, resources, institutional, and political (Bund *et al.* 2013);
- external and internal (Antadze & Westley 2010);
- structural and agency (Mendes *et al.* 2012).

There are mutual interdependencies, influences and impacts between these factors (Antadze & Westley 2010; Bund *et al.* 2013; Howaldt *et al.* 2014; Mendes *et al.* 2012). In each social setting the contents, combination and interaction of these factors take a specific form which may have social innovation hindering or promoting effect. Bund and colleagues (2013) conceptualize four different enabling framework conditions: political, institutional, societal climate and resources as enabling social innovation processes. These conditions are stimuli for the innovation processes making an appropriate context for the actors. Within these frameworks individuals and organisations take actions motivated by their entrepreneurial preferences. These actions are explained by their being proactive and willing to take risks in developing solutions for current challenges; in mobilising the necessary resources and in finally putting ideas into practice. This brings to the field specific outputs and outcomes (Bund *et al.* 2013). As the four frameworks make the scope of necessary conditions, within which social innovation processes take place, the characteristic elements of the frameworks may be considered as a scope of social innovation enabling factors related to these conditions (see Table 1).

Table 1. Social innovation enabling factors conditioned by resources, institutional, political and societal climate frameworks

Social innovation enabling factors conditioned by resources framework	Social innovation enabling factors conditioned by institutional framework
<p>Financial resources (dedicated to social purpose)</p> <ul style="list-style-type: none"> – Monetary variables of the social economy – Public social expenditure – Private spending <p>Human resources</p> <ul style="list-style-type: none"> – Voluntary working – Professionalization/creative workplace in social fields <p>Infrastructural resources</p> <ul style="list-style-type: none"> – Academic resources deployed on social innovation – Social innovation relevant networks – ICT and overall infrastructure (as basis for social innovation activities) 	<p>Normative institutions</p> <ul style="list-style-type: none"> – Tolerance – Gender equality – Solidarity – Environmental sustainability <p>Regulative institutions</p> <ul style="list-style-type: none"> – Legislative background for social organisations – Legislative background for social security benefits – Legislative reforms in favour of social innovation – Commissioning and procurement <p>Cultural-cognitive institutions</p> <ul style="list-style-type: none"> – Human rights
Social innovation enabling factors conditioned by political framework	Social innovation enabling factors conditioned by societal climate framework
<p>Policy awareness</p> <ul style="list-style-type: none"> – Policy awareness about social innovation – Policy awareness about social needs <p>Political environment</p> <ul style="list-style-type: none"> – Political stability and democracy – Government effectiveness – Transparency – Legislation – Press freedom 	<p>Needs or demands as reference points for social innovation</p> <ul style="list-style-type: none"> – Interest in shared social needs – Request for change <p>Social engagement and attitudes</p> <ul style="list-style-type: none"> – Political participation – Memberships in civil society organisations – Citizens attitudes towards entrepreneurship – Citizens' openness for something new, risk taking

Source: Tabled by the authors based on Bund *et al.* 2013, p. 42-45

Only through the fruitful interplay of these factors the resources can be mobilized in order to enable social innovation processes. The absence, underdevelopment or lack of the conditions related to each of the factors may cause barriers for social innovation; this will be illustrated with a number of examples:

- “Citizens’ openness for something new, risk taking” is a social innovation enabling factor within the factor group “Social engagement and attitudes” conditioned by societal climate framework (Bund *et al.* 2013) (see Table 1). At the same time Brown and Wyatt (2010) argue that the barriers for social innovation are located in individuals’ mind set since many people have fear of failure and for them it can be difficult to accept that there is nothing wrong with experimentation or failure because they can be used as a source of learning (Brown & Wyatt 2010). Such people are not open to new experience and they don’t usually take risks which makes a barrier for social innovation. In this regard, it is argued that “promoting a learning culture and developing an infrastructure for social innovation is not an easy task. It involves changing minds and practices and taking risks within the public sector, and it calls for ongoing mutual learning.” (Hubert *et al.* 2011, p. 95).

- “Social innovation relevant networks” is a social innovation enabling factor within the factor group “Infrastructural resources” conditioned by resources framework (Bund *et al.* 2013) (see Table 1). On the other hand, lack of networks and network intermediaries (Mulgan *et al.* 2007b; Caulier-Grice *et al.* 2010; Chalmers 2012; Moore & Westley 2011) are determined among the barriers for social innovation.
- “Voluntary working” is a social innovation enabling factor within the factor group “*Human resources*” conditioned by resources framework (Bund *et al.* 2013) (see Table 1). Meanwhile not always social innovation may be wanted or may seem sufficiently useful (Mulgan 2006); that may cause reluctance to work on a voluntary basis.
- “Political stability and democracy” is a social innovation enabling factor within the factor group “*Political environment*” conditioned by political framework (Bund *et al.* 2013) (see Table 1). On the contrary, tight monopolization of power in the society and inhibition of free communication make the barriers for social innovation (Mulgan 2006).

The barriers to social innovation are systemized in two groups by the TEPSIE project partners:

- Structural barriers which include those that correspond to the characteristics of social, political, economic, technologic, etc. context in which social innovators operate.
- Agency barriers which include those that correspond to the characteristics and actions of individuals or organisations involved in social innovation processes and interactions among them (Mendes *et al.* 2012).

The barriers to social innovation can also be systemized as internal and external in relation to an individual or a group of individuals. The internal barriers can be people’s:

- minds (Brown & Wyatt 2010; Miller 2010; Mulgan *et al.* 2007b);
- poorly developed skills (Koch & Hauknes 2005; Mulgan & Albury 2003);
- distrust to the innovators (van der Geest & Heuts 2008);
- resistance to change (Koch & Hauknes 2005; van der Geest & Heuts 2008), etc.

The external barriers to social innovation are conditioned by more complex challenges such as:

- insufficient independent source of money and funding (Caulier-Grice *et al.* 2010; Hubert *et al.* 2011; Koch & Hauknes 2005; Mulgan 2006);
- too many bureaucratic rules, delivery pressures and administrative burdens (Clark, Good & Simmonds 2008; Chapman 2004; Koch & Hauknes 2005; Mulgan 2007; Mulgan & Albury 2003);
- preference for command and control forms of power (Chapman 2004);
- high walls dividing departments, agencies and professions or linked services (Mulgan 2007);
- turf wars between departments (Chapman 2004);
- absence of capacity for organisational learning at all levels (Clark, Good & Simmonds 2008; Koch & Hauknes 2005), etc.

3. The methodology and results of the empirical part of the research

The empirical data were obtained from the video recording of a focus group discussion on social innovation organised in Riga Technical University on 20 May, 2015 within the project “Involvement of the society in social innovation for providing sustainable development of Latvia” of the National Research Program 5.2. EKOSOC-LV. The researchers invited eight experts who represented the fields of entrepreneurship, education, communication, sport and charity. The questions discussed were related to: the understanding of the matter, examples and role of social innovation; factors which promote or hinder the development of social innovation in the Latvian society; the conditions which motivate governmental and non-governmental organisations, enterprises and individuals to participate in the solving of social problems; the changes which should be made in the system of education to motivate students to initiate and realise projects on social innovation. The focus group discussion was planned as a preliminary research for getting the first empirical insight into the Latvian context of these questions and forming the platform for a further larger scale research in both quantitative and qualitative perspectives with the participation of a bigger number of respondents with various demographic characteristics.

The scripts which were made based on the video-records of the focus group discussion were organised in 13 files each containing the text of the discussion on one question. The qualitative content analysis was conducted using AQUAD 6 software (Huber & Grtler 2004). The demographic codes encompassed the gender: ‘Male’ and ‘Female’ and the field represented by the participants of the focus group discussion: ‘Education’, ‘Communication’, ‘Sport’, ‘Charity’ and ‘Entrepreneurship’. In the course of the qualitative content analysis the conceptual codes were grouped into fifteen metacodes which contain from three to twenty two conceptual codes each. This paper presents the analysis of the categories which were included in the metacodes: ‘Social innovation promoting factors’ and ‘Social innovation hindering factors’. It is important to emphasize that these categories were developed in the course of the qualitative content analysis while coding the texts connected not only to the questions on social innovation promoting or hindering factors, but also on the other questions discussed. This can be explained by the openness and motivation of the speakers to share their experience, sometimes coming out of the frame of the question under consideration.

The categories which were developed in the qualitative content analysis were paired, each pair consisting of categories with opposite meanings like: “Passivity” vs. “Activeness”; “Conservative thinking” vs. “Creative thinking”; “Proactive thinking” vs. “Short-term thinking”, etc.

The emergence of such pairs of categories could be expected logically as these categories characterise two opposite phenomena - promoting and hindering, which in their turn are two opposite sides of influence. As the aim of the research was the determination of the factors which influence social innovation processes in Latvia, the main approach in this research was to:

- determine categories related to the promotion of social innovation processes;
- determine categories related to the hindrances to social innovation processes;
- unite these two groups of categories to form factors which influence social innovation processes deciding which category in each pair will make the base for each factor.

In the course of the qualitative content analysis the authors faced the challenge of deciding which of the categories with opposite meanings should be taken as the base. For instance, in the text of the discussion on the social innovation hindering factors the conceptual codes: “Inactivity”, “Passivity” and “Indifference” were assigned forty three times (see Table 2); they were united into the category “Passivity”. As for the conceptual code “Activeness” with the opposite meaning which emerged in relation to the promotion of social innovation, it was assigned twenty five times (see Table 2). Therefore it was decided to take “Passivity” as the basic category renaming “Activeness” into “Passivity neg.”. In the result ten pairs of categories were developed (see Table 2).

Table 2. Pairs of opposite categories related to promotion and hindering of social innovation and their frequencies

No.	Categories related to the promotion of social innovation	Frequencies of categories	Categories related to the hindering of social innovation	Frequencies of categories
1.	Openness to novelty	76	Openness to novelty neg.	30
2.	Proactive thinking	62	Proactive thinking neg.	14
3.	Consciousness	36	Consciousness neg.	5
4.	Responsibility	33	Responsibility neg.	7
5.	Lifelong learning	28	Lifelong learning neg.	4
6.	Positive experience	10	Positive experience neg.	8
7.	Passivity neg.	25	Passivity	43
8.	Conservative thinking neg.	6	Conservative thinking	18
9.	Power distance neg.	9	Power distance	13
10.	Bureaucracy neg.	5	Bureaucracy	8

Source: constructed by the authors

In order to illustrate the course of the open coding, in the result of which Table 2 was created, an example of assigning the conceptual codes “Proactive thinking” and “Proactive thinking neg.” will be considered. The fragment of a text which belongs to one of the participants who represents entrepreneurs: “I always emphasize that we shouldn’t be afraid of clever specialists! We need them as they are promoters and change agents. Even if they wish to work with others in other companies where they may be promoted to higher positions, we shouldn’t feel offended or create obstacles for them. On the contrary, we should respect their choice and act in a forward-thinking manner. Be sure all the new ties which they create, may be useful for us in the future...” was coded as “Proactive thinking”. But another fragment of a text expressed by a representative of education: “In my opinion organisers of charity campaigns sometimes don’t even think over in detail how all should take place. People lose their trust towards them; they won’t will to donate any money in the future as they aren’t sure that it will be used in a proper way for solving urgent social problems...” is about the short-term thinking or lack of proactive thinking as a hindering factor to social innovation processes. Therefore this text fragment was coded as “Short-term thinking” and further on renamed as “Proactive thinking neg.”.

The first six categories: openness to novelty, proactive thinking, consciousness, responsibility, lifelong learning, and positive experience, were spoken about by the participants of the focus group discussion in connection with the promotion of social innovation (see column 2 of Table 2). Meanwhile, the lack or absence of such qualities in individuals categorized as: ‘Openness to novelty neg.’, ‘Proactive thinking neg.’, ‘Consciousness neg.’, ‘Responsibility neg.’, ‘Lifelong learning neg.’, and ‘Positive experience neg.’, were mentioned by the speakers in the context of social innovation hindering effect (see column 4 of Table 2).

As to the rest four categories: conservative thinking, passivity, power distance, and bureaucracy, on the contrary, they have social innovation hindering effect (see column 4 of Table 2). However, human qualities or social phenomena opposite to the meanings of these categories which were mentioned by the participants of the social group discussion, and categorised as: ‘Conservative thinking neg.’, ‘Passivity neg.’, ‘Power distance neg.’, and ‘Bureaucracy neg.’, were considered in relation to social innovation promoting effect (see column 2 of Table 2).

3.1. Illustration of the emerging of the categories

Depending on the content of text fragments, one or more categories could correspond to them. For the illustration, a few episodes from the qualitative content analysis will be provided.

When the participants of the focus group discussion were speaking of the collaboration between science and entrepreneurship for solving social problems, one of the entrepreneurs shared his experience: “I had long term discussions and regular meetings twice a week with one scientist until finally I managed to convince him to collaborate and realise his ideas into new products in our company (*Passivity neg., Proactive thinking, Conservative thinking neg.*). In the beginning he couldn’t take any decisions as he didn’t see the possibilities (*Proactive thinking neg.*). In the course of time the results of our collaboration turned out to be successful; an innovative product – chocolate for tense nerves, high blood pressure and cold was created. Today it is sold in our drug stores (*Positive experience.*)”

The representative of the field of communication spoke on difficulties related to the inactivity of young people. He emphasized the role of “draugiem.lv”, the largest social networking website in Latvia at the same time expressing his anxiety about apathy and lack of initiative from young people: “Why does Ghetto Games, the biggest street culture and youth movement in Latvia which propagandizes sport and healthy life style need such a partner like “draugiem.lv”? To inform! To ask young people ‘Please, come to us! We have all now! Absolutely everything is provided! Everything has been done for you! Come and participate without paying for anything! Balls will be provided for basketball players!’ (*Responsibility, Passivity neg.*). Why on the earth do we have to convince young people? (*Passivity, Openness to novelty neg.*)”.

When speaking about factors which hinder social innovation processes in Latvia, another participant of the focus group discussion who represents the field of sport said: “We had a new initiative for children and their parents. We organised different games and sport activities for families at weekends. Unfortunately parents don’t attend

such sport events (*Openness to novelty neg., Passivity*). I don't know why but this is the reality. Maybe they are very busy, tired or they don't care. Therefore we had to change the days. Now we organise all activities on working days. Thus also this load has been put on teachers' shoulders (*Responsibility*)".

Conservative thinking was mentioned among the obstacles on the way of realisation of social innovation ideas in practice: "We established the Latvian Disabled Children's and Youth Sport Federation in 1993. For a long time I had to hear questions and arguments like 'A disabled child and sport are two incompatible things. How do you imagine that? You know disabled children don't even sport in school!' These people can't get rid of stereotypes! (*Conservative thinking*)".

Another example of conservative thinking was given related to the attempts to educate school children concerning Paralympic Sports: "I always hear different arguments against, as some parents have prejudice and don't let their children even sit in the wheelchairs to try and feel how it is to be disabled and how disabled people may participate in sport games (*Conservative thinking, Openness to novelty neg.*). Young people are more open minded (*Conservative thinking neg., Openness to novelty*) than people of the generation of their parents."

Conservative thinking and lack of openness to novelty were pointed out through many different contexts. Another example provided, said: "Family doctors still write diagnosis and prescriptions manually with such an awful handwriting that sometimes it is impossible to read what is written on the paper. It is difficult to make them use technologies (*Openness to novelty neg., Conservative thinking*)".

At the same time the participants of the focus group discussion spoke of various novelties in social relationships in Latvia; one of them concerning the relationship between schools, enterprises and banks: "Representatives of enterprises and Swedbank regularly come to schools and inform school principals about their work (*Proactive thinking*). The school authorities say that it inspires them as they see how useful this collaboration is for organisation of work in school (*Openness to novelty, Proactive thinking*). Such cooperation broadens the perspectives of school teachers and authorities as the meetings with successful people of different professions bring social innovation, creativity and novelties to schools (*Positive experience, Lifelong learning*). This is especially important as the school environment is sometimes too limited; the school staff contacts mainly with colleagues from neighbouring schools."

Speaking about different social innovation campaigns, one of the participants of the focus group discussion said: "Lielā talka" (Great Clean-up) is a fantastic initiative which unites cities, villages and organisations all over Latvia (*Consciousness, Responsibility*). Yes, we go to "Lielā talka", because it is stylish and it is broadly shown on TV; even the president goes there. At the same time, what do we do there? We drink coffee from plastic cups, throw work gloves somewhere on the ground or into sacks; thus we create bigger rubbish! (*Consciousness neg., Proactive thinking neg., Responsibility neg.*)".

It was pointed out that even being within social innovation processes people don't always understand to the full extent what real values are. Therefore their actions may be caused by the wish to impress rather than give a hand to those people who really need help: "When charity campaigns are organised, we go and donate 10 EUR as we see how nicely all is organised! Somebody is singing, some others are dancing and everything looks so soul-stirring! At the same time an old woman just living next door may really need 3 EUR for her survival but we don't see that and don't help her! (*Consciousness neg.*)" Or another example from the case of young people: "They sometimes dream of becoming worldwide known sportsmen and train their bodies all day long. At the same time when walking in the university, they won't bend to pick a piece of paper from the floor, saying 'It's not my job. May the cleaner do that! (*Consciousness neg., Responsibility neg.*)'."

One of the key thoughts expressed in the focus group discussion was about the importance of understanding one's own role in the promotion of social innovation processes for the sustainable development of the society: "I would like to say that each of us should have his/her own input in the development of our country (*Responsibility*)".

When the question about bureaucracy in governmental organisations was raised concerning hindrances to social innovation processes, there were opposite opinions expressed by the participants of the focus group discussion: “Entrepreneurs often experience difficulties because of strict observance of rules in different organizations and too many formalities to be followed when they want to develop their businesses (*Bureaucracy*)”. On the other hand, there were also optimistic experiences shared: “I am positively surprised by how open our people are to collaboration! In Pārdaugava board of directors, to whom we went to speak about the festival which we are going to organise in Lucavsala, they showed genuine interest in the idea of the festival, asked some questions and lent real support (*Bureaucracy neg., Openness to novelty, Positive experience*)” or “In Tukums the authorities of the regional government work perfectly. When we need to adopt a decision, we can always expect support from the Tukums Council as within two hours a special meeting can be organised and appropriate documents can be signed (*Bureaucracy neg., Positive experience*).”

However there was also a sceptical opinion about a related category: “I don’t think so positively about governmental organisations, though when I go to them now, they are so polite and attentive. But five years ago, when we weren’t well known yet, it was not so. Some friends of mine still say that they can’t reach the due authorities until they get some powerful contact persons (*Power distance*).”

Several times the participants of the focus group discussion emphasized the importance of lifelong learning and developing regardless of the age and profession: “We have a motto! Those who don’t learn, won’t work in our company! My team and I constantly learn what is new in our field in the world (*Lifelong learning*). We have always tried to bring in something new in our company. When we started, each day we had new ideas. We have never been afraid to experiment and produce new types of chocolate even if at that moment we were the first ones in the world who dared to try out the idea (*Openness to novelty, Passivity neg.*)”. It was emphasized that the means for lifelong learning can be very different especially today when the world is becoming more open and accessible with each new day: “I would recommend all the entrepreneurs to attend exhibitions and participate in them with their products or services not only in Latvia or in the Baltic countries but also in the entire world. There is huge exchange of information and opportunities to learn from all over the world (*Lifelong learning*). I have participated in an exhibition in China. I am really satisfied with the effect it had for our company. At this moment my colleagues are in Chicago with our chocolate (*Positive experience, Passivity neg.*)”.

Speaking on the pedagogical aspects of developing qualities and behaviours in students required in the context of social innovation, one of the entrepreneurs mentioned: “I remember when I was a teenager, my Dad made me wash cars in his enterprise. I sometimes had to do it even through tears. Only now I understand how important that was for me (*Positive experience*). Children should be taught to understand what it is to come to work at 9 o’clock when you are to come to work at 9 o’clock (*Responsibility*).”

Passivity and conservative thinking were mentioned among the key problems in today’s schools: “Students often attend the Museum of Pure chocolate. As a rule I speak to them and ask questions about where they plan to go after the Museum. They often give some vague answers. Then I say ‘Oh my God! That is so boring!’ They explain that the teacher said that they had to do so (*Power distance*); therefore they would go” (*Passivity*). Then I ask the teacher why they have to go there. The answer usually is something like ‘We must fill the day somehow and that is all!’ (*Conservative thinking*). The teachers complains that there is no initiative from the students! (*Passivity*). Then I offer that they can change their plans and go to some interesting places. She gets surprised and asks whether it is allowed (*Conservative thinking*). See, neither the teacher, nor the students express themselves or show real initiatives! (*Passivity*)”.

3.2. Factors influencing social innovation processes in Latvia

As it has already been mentioned, both promoting and hindering are two opposite sides of influence. Therefore the factors which influence social innovation processes in Latvia: ‘Openness to novelty’, ‘Proactive thinking’, ‘Consciousness’, ‘Responsibility’, ‘Lifelong learning’, ‘Positive experience’, ‘Passivity’, ‘Conservative thinking’, ‘Power distance’ and ‘Bureaucracy’ were determined based on the basic categories shown in Table 1. For

illustration purposes Figure 1 is constructed to analyse how frequently the categories were spoken about by the participants of the focus group discussion. For that, the frequencies of the categories with the index *neg.* were provided with the minus sign “-”.

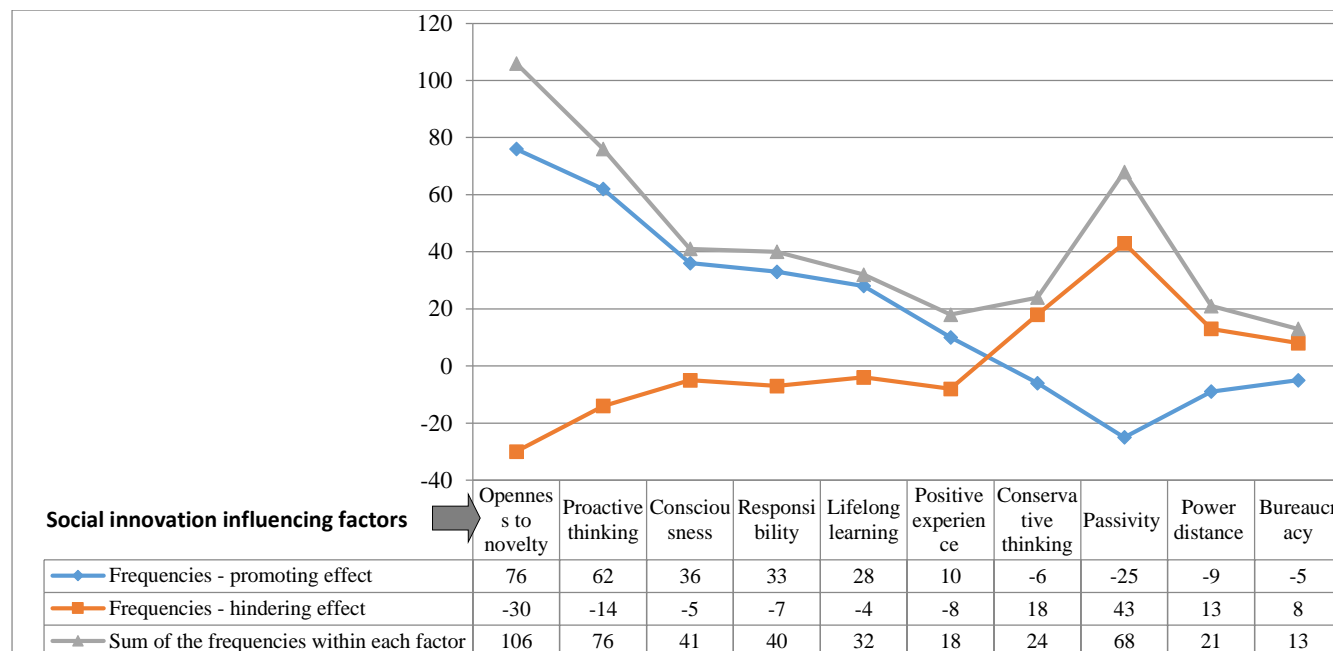


Fig.1. Social innovation influencing factors in Latvia: the results of the preliminary research

Source: constructed by the authors

The categories with social innovation promoting effect are marked with blue rhomb-shaped bullets in the chart line and the categories with social innovation hindering effect are marked with orange square-shaped bullets (see Figure 1). The chart line marked with the grey triangle-shaped bullets depicts the sums of the frequencies of the opposite categories within each social innovation influencing factor (see Figure 1). As social innovation influencing factors are formed based on these categories, in order to decide how many times each factor was spoken about, the frequencies of the opposite categories within each factor were summed up taking only their absolute values regardless of their social innovation promoting or hindering effects. Then the weight of each factor was calculated in percent assuming that the sum of all the frequencies corresponds to 100 % (see Figure 2).

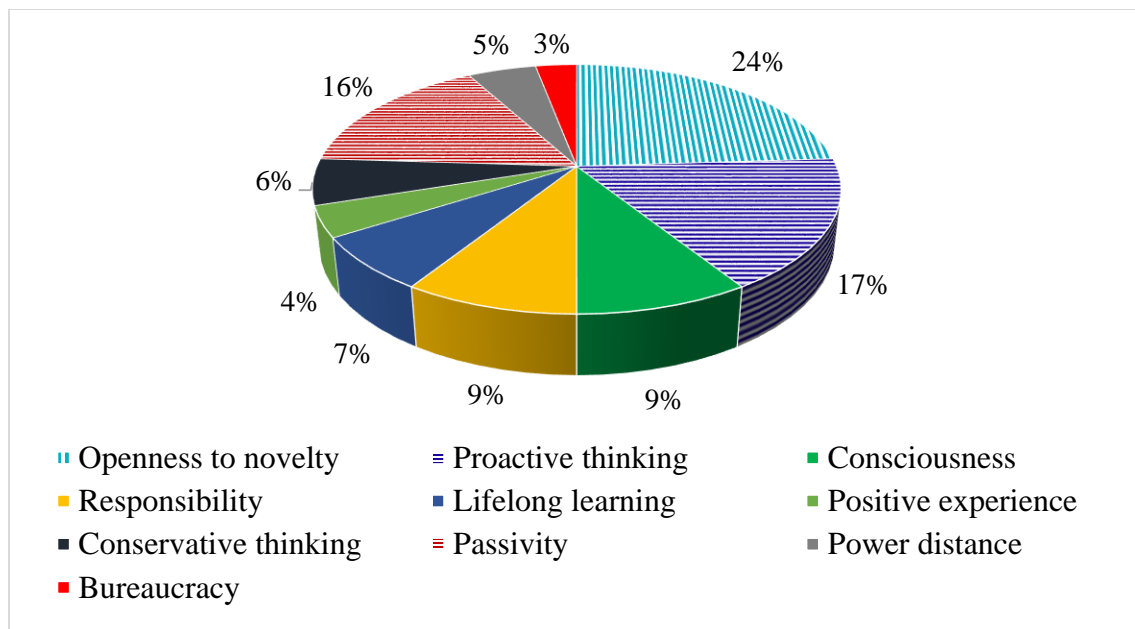


Fig. 2. The weight of the social innovation influencing factors (%)

Source: constructed by the authors

That shows that ‘Openness to novelty’ (n=24%), ‘Proactive thinking’ (n=17%) and ‘Passivity’ (n=16%) were spoken about more frequently than the other factors by the participants of the focus group discussion. However, it is very important to underline that each social innovation influencing factor has dual nature with both promoting and hindering effect. The factor ‘Openness to novelty’ encompasses both openness to novelty as a promoting force and lack of the openness to novelty as a hindering force; the factor ‘Proactive thinking’ implies both proactive thinking as a promoting force and lack of proactive thinking, i.e. short-term thinking as a hindering force; the factor ‘Passivity’ means both passivity as a hindering force and lack of passivity, i.e. activeness as a promoting force.

The duality is also in the nature of the rest of the social innovation influencing factors: ‘Consciousness’ (n=9%), ‘Responsibility’ (n=9%), ‘Lifelong learning’ (n=7%), ‘Positive experience’ (n=4%), ‘Conservative thinking’ (n=6%), ‘Power distance’ (n=5%) and ‘Bureaucracy’ (n=3%).

4. Conclusions

The research revealed the dual nature of social innovation influencing factors which may have both promoting and hindering effects depending on the presence and development level of specific characteristics of the factor, as well as on the context within which the factor acts.

The social innovation influencing factors for the Latvian context which were determined within this research show that the participants of the focus group discussion consider them mainly as internal factors in relation to an individual or a group of individuals: openness to novelty, consciousness, responsibility, proactive thinking, lifelong learning, positive experience, passivity, conservative thinking; only two factors: power distance and bureaucracy are external social innovation influencing factors in relation to an individual or a group of individuals.

Openness to novelty, proactive thinking and passivity as social innovation influencing factors were emphasized by the participants of the research more often than the other seven factors; this may serve as a basis for hypothesizing that these three factors can be especially topical for the Latvian context.

As this research has a preliminary character and it was organized with the participants who represent the fields of entrepreneurship, education, communication, sport and charity, the findings will make a platform for starting a survey – larger scale research both in quantitative and qualitative perspectives with the participation of a bigger number of respondents with various demographic characteristics. Besides, in-depth interviews are to be organized with experts of the social innovation field in order to explore the questions which were not disclosed in this stage of the research yet.

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References

- Antadze, N.; Westley, F. 2010. Funding social innovation: How do we know what to grow? *The Philanthropist* 23(3): 343–356. Available on the Internet: <<http://sig.uwaterloo.ca/sites/default/files/documents/Funding%20Social%20Innovation%20-%20Antadze%20and%20Westley%20-%20The%20Philanthropist%20Pub.pdf>>.
- Bund, E.; Hubrich, D.-K.; Schmitz, B.; Mildenerberger, G.; Krlev, G. 2013. *Blueprint of social innovation metrics – contributions to an understanding of opportunities and challenges of social innovation measurement*. A deliverable of the project: “The theoretical, empirical and policy foundations for building social innovation in Europe” (TEPSIE), European Commission – 7th Framework Programme. Brussels: European Commission, DG Research. Available on the Internet: <http://www.tepsie.eu/images/documents/D2.4_final.pdf>.
- Caulier-Grice, J.; Kahn, L.; Mulgan, G.; Vasconcelos, D. 2010. *Study on social innovation*. A paper prepared by the Social Innovation eXchange (SIX) and the Young Foundation for the Bureau of European Policy Advisors. Available on the Internet: <<http://youngfoundation.org/wp-content/uploads/2012/10/Study-on-Social-Innovation-for-the-Bureau-of-European-Policy-Advisors-March-2010.pdf>>.
- Chalmers, D. 2012. Social innovation: An exploration of the barriers faced by innovating organizations in the social economy, *Local Economy* 28(1): 17–34. DOI: <http://dx.doi.org/10.1177/0269094212463677>
- Chapman, J. 2004. *System Failure. Why governments must learn to think differently*. London: DEMOS. Available on the Internet: <<http://www.demos.co.uk/files/systemfailure2.pdf>>.
- Clark, J.; Good, B.; Simmonds, P. 2002. *Innovation in the public and third sectors*. NESTA Innovation Index Working Paper. Available on the Internet: <<https://www.nesta.org.uk/sites/default/files/kcfinder/files/4.2.InnovationinthePublicandThirdSectors.pdf>>.
- Brown, T.; Wyatt, J. 2010. Design thinking for social innovation, *Stanford Social Innovation Review*, Winter: 30–35. Available on the Internet: <http://www.ssireview.org/articles/entry/design_thinking_for_social_innovation>.
- Howaldt, J.; Butzin, A.; Domanski, D.; Kaletka, C. (Eds.) 2014. *Theoretical approaches to social innovation - A critical literature review*. A deliverable of the project: ‘Social Innovation: Driving Force of Social Change’ (SI-DRIVE). Dortmund: Sozialforschungsstelle. Available on the Internet: <http://www.si-drive.eu/wp-content/uploads/2014/11/D1_1-Critical-Literature-Review.pdf>.
- Huber, G.; Gürtler, L. 2004. *AQUAD 6: Manual for the analysis of qualitative data*. Tübingen, Germany: Ingeborg Huber Verlag.
- Hubert, A. (coord.) et al. 2011. *Empowering people, driving change: Social innovation in the European Union*. Bureau of the European Policy Advisers, European Commission. DOI: <http://dx.doi.org/10.2796/13155>
- Koch, P.; Hauknes, J. 2005. *On innovation in the public sector – today and beyond*. Publin Report No. D20, 2nd revised edition. Oslo: NIFU STEP. Available on the Internet: <<http://brage.bibsys.no/xmlui/bitstream/handle/11250/226573/d20-innovation.pdf?sequence=1>>.
- Mendes, A.; Batista, A.; Fernandes, L.; Macedo, P.; Pinto, F.; Rebelo, L.; Ribeiro, M.; Ribeiro, R.; Sottomayor, M.; Tavares, M.; Verdelho, V. 2012. *Barriers to Social Innovation*. A deliverable of the project: “The theoretical, empirical and policy foundations for building social innovation in Europe” (TEPSIE), European Commission – 7th Framework Programme, Brussels: European Commission, DG Research. Available on the Internet: <<http://www.tepsie.eu/images/documents/tepsie.d3.1barrierstosocialinnovation.pdf>>.

Miller, M. L. 2010. *Obstacles to innovation: Experience of the family independence initiative*. Working paper prepared for the Executive Session on Transforming Cities through Civil Entrepreneurship. Cambridge: MA.

Moore, M.-L.; Westley, F. 2011. Surmountable chasms: Networks and social innovation for resilient systems, *Ecology and Society* 16(1): 5. Available on the Internet: <<http://www.ecologyandsociety.org/vol16/iss1/art5/>>.

Mulgan, G. 2006. The process of social innovation, *Innovations: Technology, Governance, Globalization* 1: 145–162. Available on the Internet:

<http://www.policyinnovations.org/ideas/policy_library/data/TheProcessofSocialInnovation/_res/id=sa_File1/INNOV0102_p145162_mulgan.pdf>.

Mulgan, G. 2007. Ready or not? Taking innovation in the public sector seriously, *NESTA Provocation* 03, April. Available on the Internet: <http://www.nesta.org.uk/sites/default/files/ready_or_not.pdf>.

Mulgan, G.; Albury, D. 2003. *Innovation in the public sector*. London: Prime Minister's Strategy Unit/Cabinet Office. Available on the Internet: <<http://www.childrencount.org/documents/Mulgan%20on%20Innovation.pdf>>.

Mulgan G.; Ali, R.; Halkett, R.; Sanders, B. 2007a. *In and out of sync: The challenge of growing social innovations*. Available on the Internet: <<http://youngfoundation.org/wp-content/uploads/2013/03/In-and-out-of-sync-the-challenge-of-growing-social-innovations-Sept-2007.pdf>>.

Mulgan, G.; Tucker, S.; Rushanara, A.; Sanders, B. 2007b. *What it is, why it matters, how it can be accelerated*. Oxford: Oxford Said Business School. Available on the Internet: <<http://www.nj.gov/state/programs/pdf/faith-based-social-innovation.pdf>>.

van der Geest, L.; Heuts, L. 2008. Barriers to innovation, in Nooteboom, B.; Stam, E. (Eds.). *Micro-foundations for Innovation Policy*. Amsterdam: Amsterdam University Press, 173–198.

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**FINANCIAL LITERACY: THE CASE OF MIGRANT AFRICAN-AUSTRALIAN WOMEN
 ENTREPRENEURS IN THE CAIRNS REGION**

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Abstract. Purpose: To explore the financial literacy of eleven migrant African-Australian women entrepreneurs in the Cairns region. **Methods:** A qualitative case study approach was used to investigate financial literacy of eleven women via semi-structured interviews; survey questionnaire; and researcher's reflective journal. **Findings:** revealed that: (1) all the participating women had a high level of financial literacy; (2) the higher the level of education and English language proficiency of the women, the higher the level of financial literacy. **Research limitations/Implications:** The data was gathered from migrant women in one geographical region, so the results are limited in applicability and cannot be inferred to be similar to different regions and cultures. Similar research could be undertaken and cover a wider region, in order to gather more substantial data from a larger number of women and obtain more representative findings. **Originality/value:** This study provides empirical data of financial literacy among participating women, contributes to a new body of knowledge and provides a foundation for further research in this area. The study serves to inform aspiring migrant African-Australian women entrepreneurs themselves and may inform policymakers.

Keywords: African-Australian, Cairns region, case study, entrepreneurship, financial literacy, migrant, qualitative analysis, women

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JEL Classifications: M12; M53

1. Introduction

There is increasing recognition in the literature of the relevance and importance of financial literacy for migrant women from developing countries who have settled in developed economies. This study investigates financial literacy among Migrant African-Australian Women Entrepreneurs (MAAWEs) in the Cairns region. Researching financial literacy is a growing area in educational and social research (Organisation for Economic Co-operation and Development [OECD] 2014).

This research examines the financial literacy of 11 participating women and, therefore, contributes to an emerging body of knowledge on the migrant experience. It provides a foundation for further research in this area. The research focuses on the experiences of migrant women who are considering establishing a new business venture and who have been able to establish a business. In the study, MAAWEs are defined as those women who: (1) were born in an African country and migrated to Australia; (2) are aged 18 years and above; (3) hold Australian permanent residency or Australian citizenship; and (4) aspire to become an entrepreneur or already have a small business.

There is limited literature on financial literacy among MAAWEs in Australia, highlighting the need for an exploratory study. As a Migrant African-Australian Woman (MAAW), I am motivated to better understand this situation as an insider. The study serves to inform aspiring migrant African-Australian women entrepreneurs in regional Australia and may inform policymakers. This case study is exploratory and seeks to gain an understanding of financial literacy in the Cairns region. The purpose of this research was to learn from the participants' experiences in the area of financial literacy, their interpretations of these experiences, and the meaning they attribute to it. Hence, qualitative methods to discover and understand their perceptions and the complexity of their experiences as local businesswomen was most appropriate.

Research question. What is the financial literacy of migrant African-Australian women entrepreneurs in the Cairns region?

2. Literature Review

2.1 African Australian

There is an increasing number of people in Australia of African descent. These migrants bring with them potentially valuable cultural, social and economic ties to the region (Negin & Denning, 2008). International migration between Africa and Australia has a long history and has accelerated in recent years (Hugo, 2009). Hugo describes African Australians as Australian citizens and residents born in, or with recent ancestors from Africa. African migrants come to Australia as skilled migrants, refugees, asylum seekers, through family reunion, or as secondary migrants from other countries (Australian Bureau of Statistics [ABS] 2011).

Migrant settlement in Australia is seen as a state responsibility requiring public provision and supervision. Improving the English language proficiency and financial literacy skills of the migrants is an important factor in migrant settlement and individual financial wellbeing (Ogbor 2000). Importantly, this study investigates the financial literacy component. The ABS (2011) statistics show a total of 1,410 migrants from Africa (653 males and 757 females) of age 18 years and upwards living in the Cairns region. This study focused on a population of 757 women of 18 years and over, with their ancestry in Africa, currently living in the Cairns region.

2.2 Definitions of financial literacy

Financial literacy is a broad concept encompassing an understanding of economics and how household decisions are affected by economic conditions and circumstances (Beal & Delpachtra 2003; Hogarth 2002; OECD 2011). Intergovernmental bodies like the World Bank (2012) and the OECD (2011) define financial literacy as a combination of the awareness, knowledge, skills, attitudes and behaviours necessary to make sound financial decisions and ultimately achieve individual financial wellbeing. Most definitions of financial literacy include knowledge, understanding of basic financial concepts, and the ability to use the concepts to plan and implement financial decisions (Worthington, 2006).

The Australian Bankers' Association (ABA) (2013) point out that financial literacy is not just about numeracy. According to ABA (2013), individuals may be good with numbers but might not be good at managing their money. Developing financial literacy is when people gain a practical understanding of financial matters and the consequences of their own decisions and behaviours that will affect their financial wellbeing (ABA 2013). This study adopts the definition of financial literacy commonly used in Australia by the Australia and New Zealand

Bank (ANZ) in the triennial series of national adult financial literacy surveys conducted since 2003 (ANZ 2003; 2005; 2008; 2011). The ANZ defines financial literacy as “the ability to make informed judgements and to make effective decisions regarding the use and management of money” (ANZ 2011, p. 6).

Basic concepts associated with financial literacy include budgeting, spending, and saving. Advanced concepts include borrowing, investing, home ownership, retirement planning, insurance, and planning for the future (ANZ 2011). The ANZ surveys agreed that financial literacy was about people being informed and becoming confident decision makers in all aspects of their budgeting, spending and saving (Worthington 2013). Worthington argued that measures of financial literacy should reflect individual circumstances and are therefore relative. Knowledge was only to be tested against an individual’s needs and circumstances rather than against the entire array of financial products and services, some of which individuals will neither use nor need (ANZ 2003). The ANZ (2011) suggests that most consumers lack the financial literacy necessary to make important financial decisions in their best interests. Importantly, new international research demonstrates that financial illiteracy is widespread in both well-developed economies like Australia, where this research is being conducted, and in rapidly changing markets (Lusardi & Mitchell, 2011). Lusardi and Mitchell found that the financially literate are more likely to plan for retirement, hence, around the world financial literacy is critical to retirement security. Financial literacy is the ability to make informed judgements and to make effective decisions regarding the use and management of money (Australian Securities and Investments Commission [ASIC], 2011; ANZ, 2011; Beal & Delpachitra, 2003). Financial literacy is therefore a combination of a person’s skills, knowledge, attitudes, and their behaviours in relation to money (ANZ, 2011). This definition places emphasis on the skills and areas of knowledge that are likely to be necessary to make informed judgments. A framework of these skills was developed as part of the ANZ survey of adult financial literacy in Australia.

According to Hogarth (2002), the consistent themes that run through various definitions of financial literacy include:

1. Being knowledgeable, educated, and informed on the issues of managing money and assets, banking, investments, credit, insurance, and taxes.
2. Understanding the basic concepts underlying the management of money and assets (e.g. the time value of money in investments and the pooling of risks in insurance).
3. Using that knowledge and understanding to plan and implement financial decisions.

Beal and Delpachtra (2003) argued that the financially literate should have the ability to understand key concepts in money management, a working knowledge of financial institutions, systems and services and a range of analytical skills. Additionally, they possess a facilitating attitude to the effective and responsible management of financial affairs. Whereas JumpStart Coalition (2011) defined financial literacy as the ability to use knowledge and skills to manage financial resources effectively for lifetime financial security. It is clear that the definition of financial literacy commonly used in Australia is mostly consistent with that commonly applied by intergovernmental bodies like the World Bank (2012) and the OECD (2011). This study used self-reported behaviour, attitudes, and knowledge of financial products to determine financial literacy as recommended by Hung and colleagues (2012).

2.3 Financial literacy and entrepreneurship

Financial literacy improves women’s management of their personal and household finances, and empowers them to choose and access appropriate financial services and products, as well as to develop and manage entrepreneurial activities (OECD, 2005). Jiyane and Zawada (2013) found informal sector entrepreneurs are often characterised by low levels of skills, limited access to organised markets, and low and unstable incomes. By improving financial literacy, other foundational life skills such as numeracy and literacy, communication skills and information searching skills will also be improved which, in turn, will improve confidence, generate good income and help women to alleviate poverty and gain equal education opportunities.

The OECD (2015) argues that:

Financial literacy is relevant for consumers as well as entrepreneurs. There is growing recognition that properly designed financial education has the potential to encourage innovation and help entrepreneurs improve their access to and use of financial services. It can also enhance their financial management practices and help scale up their business. The financial literacy needs of entrepreneurs and business owners are potentially wide and depend on their confidence and risk profile, the scope and stage of development of their business, as well as the financial and economic landscape. Financial literacy needs can span from understanding key financial concepts and financing options available to more sophisticated financial management skills.

For many marginalised groups in Australian society, lack of financial literacy is a barrier to their making effective use of financial services and income generating opportunities, as well as hindering personal wellbeing, and social inclusion. Improvements in financial literacy improves social inclusion and enhances the contribution that the financial services sector makes to the nation's wellbeing (ANZ, 2003). Entrepreneurs, regardless of their age, are routinely involved in decision-making activities concerning resource acquisition, allocation and utilisation. Such activities almost always have financial consequences and thus, in order to be effective, entrepreneurs need to be financially literate (Oseifuah 2010).

2.4 Assessing financial knowledge

The Australian Securities and Investments Commission [ASIC] (2011) urges that researchers use terms such as ability, understanding, attitudes, awareness and skills interchangeably when assessing people's knowledge of financial products and services. The available studies have used various methods to measure people's level of financial knowledge, most commonly via survey instruments such as phone questionnaires (ASIC 2011). Within the survey instruments used, literacy levels are measured via subjective, objective and combination tests (ASIC 2011). Subjective tests rely on people's perceptions, attitude and self-assessed level of financial knowledge or capability (ASIC 2011). Objective tests rely on more neutral methods to measure people's knowledge, such as using quiz-like or true/false questions to test people's understanding of financial terms and/or their ability to apply financial concepts to particular situations (ASIC 2011). Combination tests use both subjective and objective measures. For example, the ANZ conducted surveys in 2003, 2005, 2008 and 2011 to measure people's numeracy, financial understanding, financial competence, and financial responsibility. The 2011 survey asked questions to test both financial knowledge as well as respondents' perceptions and opinions (ASIC 2011). The OECD (2005) found that combining both subjective and objective measures reveals the gaps between what people believe they know and what they actually know. More recently ASIC (2011) suggest that objective tests of financial concepts are a better way of measuring financial literacy than are surveys which ask respondents to provide a self-assessment of their understanding of financial matters. However, a comparison of consumers' self-assessment with their response to objective questions that test their financial understanding could indicate to policymakers where the largest discrepancies are between what consumers believe they know and what they actually know (OECD 2012). Regardless of the method used, financial literacy findings sometimes conflict, both within and across individual studies (ASIC 2011). This study adopted the same methodology of the ASIC and ANZ (2011) studies to assess financial literacy.

3. Methodology

To better understand financial literacy, of the women, this study adopted a qualitative research methodology.

3.1 Qualitative design

The study used qualitative approach to explore the experiences of the women in the Cairns region. I adopted the qualitative research methods for this research as the most appropriate because I could engage with the participating women, learn their experiences, feelings and needs through in-depth conversations as recommended by Creswell (2014). I used open-ended questions which Braun and Clarke (2013) advise, helps to encourage participants to provide in-depth and detailed responses and discuss what was important to them. The interviews were audio

recorded and transcribed verbatim (Braun & Clarke 2013). Recorded notes were added to the data, also suggestion made by Braun and Clarke.

3.2 Case study methodology

This study can be defined as a single exploratory case study, utilising qualitative data to investigate the research question. I employed a case study methodology as I sought to gain a deep understanding of participating women in the Cairns region regarding financial literacy. Based on my reading of Yin (2014) and Creswell (2014) I felt that, this was best achieved using migrant African-Australian women who were aspiring entrepreneurs as informants in a 'semi-structured interview' situation (Patton 2002). This research study drew on the participants' views. I listened to the women and coded the transcripts to reveal insights and build a picture based on data gathered from the research participant's interviews. I sought to understand the reality of the women's experiences, and their interpretations of those experiences in the area of financial literacy.

3.3 Participants

Purposeful sampling (Patton 2002) was used to select MAAWEs for personal interviews. The invited participants satisfied the following criteria:

1. Born in an African country, and migrated to Australia.
2. Aged 18 years and above.
3. Held Australian permanent residency or Australian citizenship.
4. Lived in the Cairns region.
5. Aspired to become an entrepreneur or already had a small

3.4 Data collection methods

This case study employed three different data collection methods to strengthen validity and reliability of this study: semi-structured (in-depth) interviews, survey questionnaires and researcher's reflective journal. The in-depth interview captured information on major aspects of financial literacy, including financial attitude, financial knowledge and financial behaviour (see ASIC 2011). A structured questionnaire was developed based on previous studies (Halkias *et al.* 2011). Semi-structured interviews were used as the primary means of data collection. Semi-structured and in-depth interviews have been identified with qualitative research, and "the aim is to achieve both breadth of coverage across key issues, and depth of content within each" (Ritchie *et al.* 2014, p. 190). During the interviews, the participants were asked to complete a demographic survey. The demographic survey also measured the level of English language skills. The respondents were requested to rate themselves on a scale of 1 to 5: 1 (low), 2 (below average), 3 (average), 4 (above average), or 5 (high). I further grouped the levels into two groups (low–below average and average–high). I used the semi-structured interview approach (Patton, 2002) and a uniform set of open-ended questions to obtain: (1) demographic information on the participants, and (2) participants' perceptions and experiences with financial literacy in the Cairns region. To ensure transcript accuracy, I reviewed each transcript while listening to the audio recorded interviews. I kept a journal throughout the data collection process. The journal was used as a form of triangulation to support information gathered through interviews. The journal also provided me with the opportunity to conduct 'member checks' (Denzin & Lincoln 2013; Lincoln & Guba 2013) on my readings of participants' comments. In the journal I asked for and noted clarification, examples and comments on my understandings.

3.5 Data analysis

The data obtained from the survey questionnaire, semi-structured interviews and researcher's journal were analysed following Creswell (2014) four steps analysis process. The first step involved transcribing the interviews. During this step, I transcribed all the relevant parts of the recorded interview data from an audio to a text format and typed handwritten notes. In the second step, I read through these data and reflected on the overall meaning in order to get a general sense of the information and ideas the participants conveyed. The third step involved

generating codes and emergent themes. This step was done using NVivo and involved organising the transcripts into segments by taking text data and segmenting sentences into categories or themes (Creswell 2014). The final step involved interpreting the meaning of the themes. After structuring and presenting the interview data, I interpreted the meanings of the coded data against the backdrop of my own culture, history and experiences and compared these findings “with information gleaned from the literature or theories” (Creswell 2009, p. 189). The validation of the accuracy of the information occurred throughout the different steps of the research process.

4. Findings, analysis and discussion

4.1 Demographic level of financial literacy

The demographic characteristic of the study participants include: region of origin, age, marital status, number of years in Australia, visa on arrival, current residency status, level of education, and level of English language skills (Table 1).

Table 1. Participant’s profile: Demographic data of the study participants

Participants	Region of origin	Age	Marital status	No of years in Australia
Abrielle	West Africa	39	Single	6
Callisto	Southern Africa	45	Married to an Australian	41
Emy	East Africa	41	Married to an Australian	14
Lana	Central Africa	31	Married to an African	5
Madilyn	Southern Africa	52	Married to an Australian	21
Mandube	Southern Africa	45	Married to an African	8
Patina	Southern Africa	43	Single	11
Purity	East Africa	48	Married to an African	8
Ramonita	East Africa	53	Married to an African	26
Reina	East Africa	49	Married to an African	6
Velvet	East Africa	69	Married to a Scotsman	41

Note. Pseudonyms have been used. The research study participants represent four regions in Africa. Only two women below the age of 40 years were engaged in business. Self-employment rates among the women migrants increased with the duration they lived in the settlement country. Six of the respondents had lived in Australia for over ten years, while five had lived in Australia for less than 10 years.

Table 2. Demographics (Visa on arrival, current residency status, highest level of education, and English language skills) of the study participants.

Participants	Visa on arrival	Residency status	Education	English language skills
Abrielle	Refugee	Permanent resident	TAFE Cert 3	Low
Callisto	Visitors	Citizen	Year 12	Above average
Emy	Spouse	Citizen	TAFE Cert 3	Above average
Lana	Refugee	Permanent resident	Degree	Low
Madilyn	Spouse	Citizen	Degree	High
Mandube	Working	Citizen	Degree	Above average
Patina	Working	Citizen	Degree	Above average
Purity	Skilled	Citizen	Diploma	Low
Ramonita	Skilled	Citizen	Diploma	Above average
Reina	Skilled	Permanent resident	Degree	Above average
Velvet	Business	Citizen	Year 6	Low

[TAFE (Training and Further Education)]

The respondents entered Australia on different visas (Table 2). Different categories of visa on entry indicate different individual migrant's characteristics. The three participants who were permanent residents explained that they were eligible to apply for citizenship and would apply soon. The majority of the respondents held a post-secondary or a university degree (10). Generally, most of the respondents (6) had above average English language skills.

4.2 Financial literacy

The financial literacy of MAAWEs in the Cairns region was assessed and analysed/ categorised according to adaptations of ASIC and ANZ (2011) survey.

4.2.1 Level of financial ability and understanding of everyday money management issues

As ANZ (2011) recommend, it is important to understand everyday money management issues. Nine respondents had average to high level and two respondents had a low to below average level of financial literacy. The respondents were requested to rate themselves on a scale of 1 to 5: 1 (low), 2 (below average), 3 (average), 4 (above average) or 5 (high) regarding their ability and understanding of everyday money management issues. In addition, I used the following incidences of attitude, behaviour or beliefs in determining their level of financial ability and understanding of everyday money management issues. Adopted from (ANZ, 2011).

4.2.2 Financial knowledge on money transacting methods.

Then going one step further ASIC (2011) urged researchers to understand various methods to measure people's level of financial knowledge on money transaction methods. The findings revealed that eight respondents had average to high level, and three respondents had low to below average level of financial knowledge on money transacting methods. The respondents were requested to rate themselves on a scale of 1 to 5: 1(low), 2(below average), 3(average), 4(above average) or 5(high) regarding their level of financial knowledge on money transacting methods. In addition, I used the respondents' knowledge and understanding of the transaction methods that they know to determine the level of financial literacy. Adopted from (ASIC, 2011).

4.2.3 Financial knowledge on saving and budgeting.

ASIC (2011) financial literacy and behaviour change report highlighted the importance of financial knowledge/numeracy, and financial attitudes with regard to saving and budgeting. This study found that all the respondents had an average to high level of literacy of savings and budgeting. The respondents were asked to rate themselves on a scale of 1 to 5: 1 (low), 2 (below average), 3 (average), 4 (above average) or 5 (high) regarding their level of financial knowledge on saving and budgeting. In addition I used mentioned incidences of attitude, behaviour or beliefs in determining the level of financial knowledge on saving and budgeting. Adopted from (ASIC, 2011).

4.2.4 Comparison between English language proficiency and financial literacy.

English is the dominant language of business and education in Australia. It is difficult to participate successfully in the Australian society without proficiency in both spoken and written English (Burnett, 1998). Four of eleven women with low to below average level of English language proficiency had low to below average level of financial literacy. Five women with average to high level of English language proficiency had average to high levels of financial literacy. Two women with low to below average levels of English language proficiency had average to high level of financial literacy. This can be explained by the fact that one of the women had experience working in an accounts job and the other had experience in administration. As Purity explained: *English is really a problem because learning to read and write English at forty is really difficult*. The higher the level of English language proficiency, the higher the level of financial literacy. This meets expectations, as in order to understand business matters, it is essential that one has a good level of English language proficiency. In their studies of the

attitudes and behaviours of Turkish female entrepreneurs in Amsterdam, Levent *et al.* (2003) identified English language as an obstacle to entrepreneurship and thus it is feasible to view English language proficiency as an enabling factor to financial literacy and economic survival.

4.2.5 Financial literacy of migrant African-Australian women entrepreneurs.

All women in this small study had a high level of financial literacy. Keeping a close watch on everyday financial expenses is a first step in building long-term financial security and avoiding unsustainable levels of debt (OECD, 2013). Lana said: I have good basic mathematical skills. I am able to budget with the money that I receive. Velvet said: I spend wisely and I buy what is extremely necessary. I save all that I can. Patina said: I mostly use EFTPOS. I avoid carrying cash money on me to avoid getting the money stolen. According to Lusardi and Mitchell (2011), financially literate individuals do better at budgeting, saving money, and controlling spending; handling mortgage and other debts and participating in financial markets; planning for retirement and successfully accumulating wealth. Mandube explains: When I have money, I spend some of it, save 25 percent of it just to cater for emergencies. I practise this and that is my policy. I protect my money by keeping it in a bank. The participants in this study were purposefully selected. This purposeful selection expected the participating women to have a good level of financial literacy. The findings have confirmed this expectation.

4.2.6 Comparison between level of education and financial literacy.

Over 30 years ago, Evans (1984) noted that migrant women bring a wide range of educational endowments to Australia. Six womens' level of education was either a diploma or degree, and had average to high level of financial literacy, while three womens' level of education was TAFE Certificate 3 or below and had low to below average level of financial literacy. For Purity: For you to do business you need some level of education, to run a business is not easy. You need education on how to deal with your money or how to deal with customers, need to know what areas to check so that your business can get profits or what you can do to attract customers.

One respondent had a degree but low to below average level of financial literacy. This respondent studied her degree in French and this could explain her low to below average level of financial literacy. This study found that the higher the level of education, the higher the level of financial literacy.

5. Conclusions

This study found that migrant African-Australian women entrepreneurs in the Cairns region have a high level of financial literacy. The study provides empirical data of financial literacy among participating women, contributes to a new body of knowledge and provides a foundation for further research in this area. The study serves to inform aspiring migrant African-Australian women entrepreneurs themselves and may inform policymakers.

The data was gathered from migrant women in one geographical region, so the results are limited in applicability and cannot be inferred to be similar to different regions and cultures. The study is limited to 11 migrant African-Australian women entrepreneurs in the Cairns region aspiring to be in business or in business who hold Australian permanent residency or citizenship, aged 18 years and above.

The survey deployed subjective assessment which relied on the respondents' perceptions, attitudes, self-reported behaviour and self-assessed level of financial knowledge. It did not undertake an objective assessment, which measures and tests people's understanding of financial terms using multiple choice, true/false questions (Worthington 2013). Worthington argues that these differences in methodology allow us to compare what people actually know, and what they can theoretically apply, with what they think they know. A larger study could provide an opportunity for objective studies of financial literacy. There is definitely a role for business organisations in the development of financial education programmes for the migrant African-Australian women entrepreneurs in the Cairns region. Similar research could be undertaken and cover a wider region, in order to gather more substantial data from a larger number of MAAWEs and obtain more representative findings.

List of abbreviations

ABS	Australian Bureau of Statistics
MAAW	Migrant African Australian Woman
MAAWE	Migrant African Australian Women Entrepreneurs
OECD	Organisation for Economic Co-operation and Development
TAFE	Technical and Further Education

References

- Australia and New Zealand Bank. 2003. ANZ survey of adult financial literacy in Australia. Retrieved from <http://www.financialliteracy.gov.au/media/465156/anz-survey-of-adult-financial-literacy-2003.pdf>
- Australia and New Zealand Bank. 2005. ANZ survey of adult financial literacy in Australia. Retrieved from <http://www.anz.com.au/resources/f/2/f250d3004f1d3e66a546b558b54e5b8d/GlobalBenchmarking-Report-Sep-2005.pdf?MOD=AJPERES>
- Australia and New Zealand Bank. 2008. ANZ survey of adult financial literacy in Australia. Retrieved from <http://www.anz.com/resources/5/4/54a7b400413360d8b5d8bda2fd298cdf/SurveyAdult-Financial-Literacy-2008.pdf>
- Australia and New Zealand Bank. 2011. ANZ survey of adult financial literacy in Australia. Retrieved from <http://www.anz.com.au/resources/f/9/f9fc9800493e8ac695c3d7fc8cff90cd/2011Adult-Financial-Literacy-2011.pdf>
- Australian Bankers' Association. 2013. Financial Literacy Program. Retrieved from www.bankers.asn.au
- Australian Bureau of Statistics. 2011. Census of population and housing: Retrieved from <http://www.abs.gov.au/websitedbs/censushome.nsf/home/Census>
- Australian Securities Investment Commission. 2011. Financial literacy and behavioural change. Report 230. Retrieved from <http://www.financialliteracy.gov.au/media/218309/financial-literacy-and-behavioural-change>
- Beal, D. J., & Delpachitra, S. B. 2003. Financial literacy among Australian university students, *Economic Papers* 22(1), 65-78. doi: 10.1111/j.1759-3441.2003.tb00337.x
- Braun & Clarke. 2013. Successful qualitative research: A practical guide for beginners. Thousand Oaks, CA: Sage.
- Burnett, L. 1998. Issues in immigrant settlement in Australia (Vol. 10). Sydney, Australia: National Centre for English Language Teaching And Research Publishers.
- Creswell, J. W. 2009. Research design: Qualitative, quantitative, and mixed methods approaches (3rd ed.). Thousand Oaks, CA: Sage.
- Creswell, J. W. 1994. Research design: Qualitative & quantitative approaches. Thousand Oaks, CA: Sage Publications.
- Creswell, J. W. 2014. Educational research: Planning, conducting and evaluating quantitative and qualitative research (4th ed.). Harlow, England: Pearson.
- Creswell, J. W. 2014. Research design: Qualitative, quantitative, and mixed method approaches (4th international student ed.). Thousand Oaks, California: SAGE Publications, Inc.

- Creswell, J. W. 2014. Research design: Qualitative, quantitative, and mixed method approaches (4th international student ed.). Thousand Oaks, California: SAGE Publications, Inc.
- Denzin, N. K., and Lincoln, Y. S (Eds.). 1994. Handbook of qualitative research. Thousand Oaks, CA: Sage.
- Denzin, N. K., and Lincoln, Y. S (Eds.). 2005. The SAGE handbook of qualitative research, Thousand Oaks, CA: Sage.
- Denzin, N. K., & Lincoln, Y. S. (Eds.). 2013. Strategies of qualitative inquiry (4th ed.). Thousand Oaks: SAGE Publications.
- Evans, M. D. R. 1984. Immigrant women in Australia: Resources, family, and work, *International Migration Review* 18(4): 1063-1090. doi: 10.2307/2546073
- Halkias, D. (Ed.). 2011. Female immigrant entrepreneurs: The economic and social impact of a global phenomenon. London, England: Gower Publishing, Ltd
- Hogarth, J. M. 2002. Financial literacy and family & consumer sciences, *Journal of Family and Consumer Sciences* 94(1): 14-28. Retrieved from <http://search.proquest.com/docview/218195497?accountid=16285>
- Hugo, G. 2009. Migration between Africa and Australia: A demographic perspective. Retrieved from http://www.humanrights.gov.au/sites/default/files/content/Africanaus/papers/africanaus_paper_hugo.pdf
- Hung, A., Yoong, J., & Brown, E. 2012. Empowering women through financial awareness and education. OECD working papers on finance, insurance and private pensions, no.14. doi: 10.1787, 5k9d5v6kh56g-en
- Jiyane, G., & Zawada, B. 2013. Sustaining informal sector women entrepreneurs through financial literacy, *Libri* 63(1): 47-56. doi:10.1515/libri-2013-0004
- Jump\$Start Coalition. 2011. Survey of personal financial literacy among students. Retrieved from <http://www.jumpstart.org/survey.html>.
- Jump\$Start Coalition. 2011. Council for economic education, national endowment for financial education, and other financial leaders. Retrieved from <http://search.proquest.com/docview/887953444?accountid=16285>
- Lincoln, Y. S., & Guba, E. G. 2013. The constructivist credo. Walnut Creek, CA: Left Coast Press, Inc.
- Lincoln, Y.S & Guba, E.G. 1985. Naturalistic inquiry. London, UK: Sage Publications.
- Lusardi, A., & Mitchell, O. S. 2011. Financial literacy around the world: An overview, *Journal of Pension Economics and Finance* 10(4): 497-508. doi: 10.1017/S1474747211000448
- Negin, J., & Denning, G. 2008. Shared challenges and solutions: Australia's unique contribution to the future of African development. Retrieved from http://www.lowyinstitute.org/files/pubfiles/Negin_and_Denning,_Shared_challenges__web.pdf
- OECD. 2005. Improving financial literacy: Analysis of issues and policies. doi: 10.1787/9789264012578-en
- OECD. 2011. Improving financial education efficiency: OECD-bank of Italy symposium on financial literacy. doi: 10.1787/9789264108219-en
- OECD. 2012. Endorsed by G20 Leaders and supported by APEC ministers of finance in 2012. Retrieved from <http://www.oecd.org/daf/fin/financial>
- OECD. 2012. High-level principles on national strategies for financial education. Paris, France: OECD Publishing.
- OECD. 2012. Improving financial literacy: Analysis of issues and policies. Paris, France: OECD Publishing.
- OECD. 2012. Programme for international student assessment. Financial literacy assessment framework. Retrieved from <http://www.oecd.org>
- OECD. 2013. Closing the gender gap: Act now. Retrieved from <http://www.oecd.org/gender/closingthegap.htm>
- OECD. 2014. New approaches to SME and entrepreneurship financing: Broadening the range of instruments. OECD report to G20 finance ministers and Central Bank governors. Retrieved from <http://www.oecd.org/cfe/smes/New-Approaches-SME-synthesis.pdf>

- OECD. 2015. Global policy research symposium to advance financial literacy: Harnessing financial education to spur entrepreneurship and innovation. Retrieved from <http://gflec.org/wp-content/uploads/2015/05/FinLit-Paris-May2015-DraftAgenda.pdf>
- Ogbor, J. O. 2000. Mythicizing and reification in entrepreneurial discourse: Ideology critique of entrepreneurial studies, *Journal of Management Studies* 37(5): 605-635. doi: 10.1111/1467-6486.00196
- Oseifuah, K. E. 2010. Financial literacy and youth entrepreneurship in South Africa, *African journal of Economic and management studies* 1(2): 164-182. doi:10.1108/20400701011073473
- Patton, M. Q. 2002. Qualitative research and evaluation methods (2nd ed.). Thousand Oaks, CA: Sage
- Patton, M. Q. 2015. Qualitative research & evaluation methods: Integrating theory and practice (4th. ed.). Thousand Oaks, CA: Sage.
- Ritchie, J., Lewis, J., McNaughton Nicholls, C., & Ormston, R. 2014. Qualitative research practice: A guide for social science students and researchers. London: Sage.
- World Bank Group (Ed.). 2012. World development indicators 2012. Washington, DC: World Bank Publications.
- Worthington, A. C. 2006. Debt as a source of financial stress in Australian households, *International Journal Of Consumer Studies* 30(1): 2-15. doi: 10.1111/j.1470-6431.2005.00420.x
- Worthington, A. C. 2006. Predicting financial literacy in Australia, *Financial Services Review* 15(1): 59-79. Retrieved from <http://search.proquest.com/docview/212010239?accountid=16285>
- Worthington, A. C. 2013. Financial literacy and financial literacy programmes in Australia. *Journal of Financial Services Marketing*, 18(3), 227-240. doi:10.1057/fsm.2013.18
- Yin, R. K. 2014. Case study research: Design and methods (5th. ed.). Los Angeles, CA: Sage.

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