

RELATIONSHIP BETWEEN PRO-INNOVATIVE ORGANIZATIONAL CULTURE AND DEVELOPMENT AND PROFITABILITY OF COMPANIES

Anna Aleksandra KARCZEWSKA

Management Department, Politechnika Częstochowska, Poland; anna.karczewska@wz.pcz.pl,
ORCID: 0000-0001-7018-5141

Introduction/background: In the constantly changing economic and social environment, the management of a company aiming at staying competitive on the market becomes a challenge. Constant development and adjustment to the changeable conditions require flexible and pro-innovative organizational culture in a company. There is still a relative paucity of up-to-date knowledge about the relationship between the innovative organizational culture in large Polish companies and their development and profitability.

Aims of the paper: The purpose of this paper is to identify the relationship between pro-innovative organizational culture in large Polish companies and their development and profitability. Several indicators of the above mentioned phenomena have been chosen and investigated in terms of interdependencies.

Material and methods: The research was conducted with the use of the survey method and the tool of questionnaire distributed with the CATI (Computer Assisted Telephone Interview) and CAWI (Computer Assisted Web Interview) technique. The research is of quantitative nature. The research is part of the scientific project conducted in 2019 on 179 largest by revenue companies in Poland.

Results and conclusion: Several interesting relationships between the indicators of pro-innovative culture and the indicators of development and profitability have been observed. Pro-innovative aspects of organizational culture in large Polish organizations facilitate their flexibility and development as well as support their profitability. It is especially evident in the present pandemic situation, where flexibility and innovativeness of companies becomes one of their most important quality.

Keywords: pro-innovative organizational culture, human resources management, large companies, development, profitability.

1. Introduction

Innovation is key to improvement in people's standards of living. Innovative solutions influence both the lives of individuals, as well as the economic sectors, and the entire countries. Global economy forces companies to create innovations which are able to reach consumers fast

in the form of new products or services. It has become very important for managers and employees to learn the mechanisms of new technology and knowledge transfer to enhance innovativeness in companies.

The meaning of innovation for the quality of human life has been highlighted in particular in the times of COVID-19 pandemic. The crisis created opportunities for creativeness in solving new problems. One side effect of the pandemic crisis was an increase of interest in innovative solutions for health, biotechnology, remote work, e-commerce, distance education, and other mobility solutions (Global Innovation Index 2020). In the year 2020 Poland reached 38th place out of 131 countries in the Global Innovation Index ranking. It reached 35th place when considering subcategory Online creativity, 36th place in terms of Knowledge and technology outputs (jump three places up in each subcategory), yet 42nd in the subcategory Infrastructure and 69th in terms of Market sophistication. In the year 2019 generally it took lower, 39th position, which means some progress has been made recently. However, there are fields of innovativeness yet to be improved (Global Innovation Index, 2020).

In the new economic circumstances it has become clear that innovativeness of companies may be their most important quality. The innovative behaviour of people in the workplace is the basis for a high-performance company, hence knowledge on the factors that motivate or enable individuals' innovative behavior is crucial for organization. Creativity is a precursor and basis for innovation. An innovation may be perceived as successful implementing of a creative idea or generating ideas that are both useful and novel (George, 2007, p. 441). An innovation in a business context is "a new or improved product or process (or combination thereof) that differs significantly from the unit's previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process)" (Oslo Manual, 2018, p. 20). It can be given broader, procedural meaning by treating it as a process providing added value and a specific degree of innovation to the organization itself, its suppliers and customers, by developing new solutions, procedures, business processes, products and services (Baruk, 2011, pp. 117-118). Innovativeness may be regarded as an attribute of an organization as its capacity to provide and implement innovation. This is the ability to create something new or make significant changes, to act in a way that uses this capability (Hilami et al., 2010).

One of the factors contributing to the creativity and innovativeness of people in a company is the culture of an organization (Martins, Terblanche, 2003, p. 64). The first definition by E. Jaques took this concept as "a customary and traditional way of thinking and acting, shared in greater or lesser extent by all members" (Aniszewska, 2007, p. 13). One of the most common theory of organizational culture defines it as "shared assumptions and beliefs of employees about the organization and its environment" (Schein, 2004). While investigating the relationship between organizational culture and innovation, the researchers indicate the need to combine activities including seven areas such as: organization strategy, trust relationships, staff orientation on organizational goals, behaviour stimulating innovation, customer orientation,

work environment, and support from management for creating pro-innovative organizational culture (Martins, Terblanche, 2003).

In the age of information society and digital economy the processes of digitalization and data management are very important in appropriate knowledge management, which is crucial for innovative processes. A culture which enhance innovativeness is also oriented on knowledge. It appreciates constant learning and ranks innovativeness highly in the hierarchy of values. It offers incentives for creative people to share their knowledge and appreciates teamwork. In this kind of organizational culture, the employees are eager to explore and create and do not think that sharing knowledge will lower their position in a company (Davenport, De Long, and Beers, 1998).

In the newest research the subject of the relationship between the investigated issues received little attention in terms of large Polish companies. The aim of this paper is to identify the relationship between pro-innovative organizational culture in large companies and their development and profitability. Presented study is an attempt to provide more insight into these issues.

2. Pro-innovative organizational culture and its meaning for the company's activity. Literature review

The subject of organizational culture and its influence on innovativeness has been undertaken in numerous researches. The literature presents the characteristics of an organizational culture which enhance and generate innovative solutions. These issues has been studied by Martins, Terblanche (2003), Chang & Lee (2007), Zimmer et al. (2018). Botelho (2019) proves that human resources practices have a significant effect over organizational culture which can promote organizations' innovative capability. Organizational culture has been acknowledged as key to managing innovation, particularly by directing personnel attitudes and behaviors toward creativity and innovation (Dutch, 2013; Seeck, and Diehl, 2017).

In Poland these issues was investigated by Kamiński (2002), Pierzchawka (2004), Huczek (2011), Jończyk (2011), and recently by Sitko-Lutek (2015) and Stefaniuk (2019). The subject was researched in Polish small and medium enterprises by Szymańska (2014) and Mazur & Zaborek (2016), Żołnierski (2018) studied the organizational culture of innovative entities in both public and private sector. The influence of organizational culture on the strategic decision-making in the Polish logistics, pharmaceutical and touristic industries has been researched (Dubas-Matela, 2018). Wojkowicz et al. (2018) analyzed the organizational and cultural conditions of innovativeness of companies in Poland. As the empirical results show, cultural

and organizational factors have a significant impact on the innovative ability of companies, and as a result on innovative activity (number of introduced innovations).

Innovation management concerns the variety of activities aimed at initiating, developing, and achieving desirable results from innovation. The appropriate competencies are strongly connected with general organizational and managerial capabilities in a company. They are as follows:

- recognizing, generating, and following ideas for innovation,
- organizing innovation activities within the company,
- allocating resources to activities connected with creating innovation,
- conducting innovation activities in cooperation with external partners,
- integrating external knowledge into a company innovation activities,
- controlling the results of innovation activities and learning from acquired experience,
- using and managing innovations and knowledge, including protecting knowledge and innovation assets (Oslo Manual, 2018; Park et al., 2014; Stańczyk, 2004).

The areas and factors that indicate a pro-innovative organizational culture are among others: the organization strategy, the organizational structure, orientation of staff on organizational goals, communication based on trust relationships, behaviour stimulating innovation, work environment, orientation on customer needs and management methods (Martins, Terblanche, 2003, Jończyk, 2011, Zimmer et al., 2018) The following five pillars have been distinguished:

- Organizational strategy – supporting generating and implementing new products and services. A vision and mission of a company focused on the future. Orientation of staff on mission of an organization and organizational goals.
- Organizational structure – ensuring flexibility and freedom, which gives the employees the sense of empowerment, autonomy and influence on decision-making. Providing opportunity to cooperative teamwork and group interaction.
- Support mechanisms – employees should be rewarded for risk taking and experimenting. The access to the resources of time, technology and creative coworkers should be provided.
- Behaviour encouraging innovation – handling mistakes as an opportunity to learn, not a reason to punishment, tolerance towards mistakes and risk taking. Promoting learning culture by supporting continuous learning orientation. Tolerance of conflict and handling it constructively to promote creativity, especially in terms of conflict of ideas and thinking styles.
- Communication – open communication, based on trust and easy flow of information and access to knowledge. (Martins, Terblanche 2003; Flamholtz 2001).

A significant role in creating innovative organizational culture in a company plays human resources management department. It is crucial in conveying the standards of behaviour in organization, informing about desired attitudes, transforming norms and patterns of behavior in

the desired direction. It convey company's main values from the very beginning, in the recruitment and selection processes, and later in employment, adaptation and employee evaluation system, incentive system, promoting the acceptance of changes as well as loyalty to the organization (Stańczyk, 2004, p. 454). The basis for efficient knowledge and innovation management is making managers aware of what knowledge and innovation is, how it affects business development and competitiveness and how systemic knowledge acquisition leads to innovation creation and implementation processes (Baruk, 2011, p. 125). There is a number of activities aiming at stimulation of creative and innovative ideas: introducing proper knowledge management systems, idea management platforms, gathering employees suggestions, financial and non-financial incentives for employees for innovative solutions, delegating decision-making to innovation project managers and innovation staff, activities identifying, promoting and motivating key individuals or teams to drive innovation (Oslo Manual, 2018, p. 111).

There are numerous researches from different countries investigating the subject of the influence of the innovative culture on the performance of companies, using different methods and scientific approaches. Flamholtz (2001) proved at the case of US company, that there is a statistically significant relationship between the company's culture and its financial performance (measured by earnings before interest and taxes). Ramdhany et al. (2018) researched the organizational culture and effectiveness at public universities in Indonesia. Sitko-Lutek (2015) compared the innovativeness of a few national cultures like Poland, Slovenia, Ukraine and Thailand to indicate that countries with a higher score in the Global Innovation Index reach a higher level of regional development. The research conducted on Spanish companies shows that the innovation culture enables companies to be more resilient but does not automatically leads to higher returns (Koller et al., 2017). A study on the banking sector in Turkey investigated relationship between organizational culture and innovations of the organizations' performance. Organizational culture and an organization's innovations had a significantly positive relationship with company's performance (Uzkurt et al., 2013).

In Poland Piłka (2019) studied the influence of innovations on the development of the Polish industry. According to the researcher, they strengthen the company's position on the market, and often enable gaining a significant advantage over the competition. Kamiński (2000) focused on the influence of organizational culture on the efficiency of an organization in general, yet not addressing specifically to the innovativeness. Marchewka (2013) analyzed the effectiveness of an organization including the examination of different types of organizational culture. The latest research conducted on Polish companies in terms of influence of the organizational culture on the performance of a company rarely focuses both on the innovativeness and the aspects such as development and profitability of large companies. The presented paper aims at completing this piece of knowledge in the field.

3. Methodology

The purpose of the paper is to investigate the relationship between pro-innovative organizational culture in largest by revenue companies in Poland and some indicators concerning development and profitability of these companies. Hence, the research question posed by the author of the article was: what is the relationship between pro-innovative culture and development and profitability of large companies in Poland?

The adopted method was survey method with the use of the tool of questionnaire. The survey of the managers and representatives of the companies with the largest profit chosen from the 500 companies in Poland (based on the ranking of Rzeczpospolita newspaper, which served as a sampling frame) was conducted in 2019. The research was conducted using quantitative research methods and mixed techniques such as: the CAWI technique (Computer Assisted Web Interview – electronic questionnaire filled in by the respondent) and the CATI technique (Computer Assisted Telephone Interview – interview with the respondent by the phone). The combination of these two quantitative methods was adopted to increase response rate. Research was started with the use of CATI method. Those respondents who refused to participate in the study or who interrupted the survey had the opportunity to complete the survey through dedicated online platform (CAWI method).

Nearly 42% of the researched companies were manufacturing companies, 27% of them were service enterprises, 14.5% were manufacturing and service enterprises, 8.5% were trading enterprises and the last 8% - manufacturing and trading enterprises. The respondents consisted of managers and representatives from the human resources management who provided facts and opinions on the issues regarding the whole company. The random sampling was used. Statistical data analysis was carried out with the use of Statistica software. The answers to the questions were created with the use of the Likert scale (ranging from “I strongly agree” to “I strongly disagree”). For the statistical testing purpose in the comparisons, $p < 0,05$ was adopted. To measure the statistical correlations between the variables Spearman's rank correlation coefficient (Spearman's ρ /rho) was used.

4. Results and discussion

Process of innovation generation and implementation in a company is usually complex and involving several departments and business processes. One of the most important part of innovation management is pro-innovative organizational culture. For the purpose of this study, the following behaviours and characteristics have been researched in terms of this type of culture:

- availability of mission, aims, and rules concerning innovation to every employee,
- encouragement to take the challenges if it provides benefit,
- company is able to transform ideas into profitable ventures,
- the suggestions of the customers or competitors are used to enable product improvement,
- free access to information and knowledge is provided,
- each employee's contribution into the innovative venture is appreciated,
- allowing the employees to express atypical and unique ideas conducive to innovations,
- expecting from the employee to be flexible and adapt quickly to changes.

The respondents have been asked to assess the process of creating innovation in their company on a scale ranging from “very low” to “very high”. The answers are depicted in figure (Figure 1).

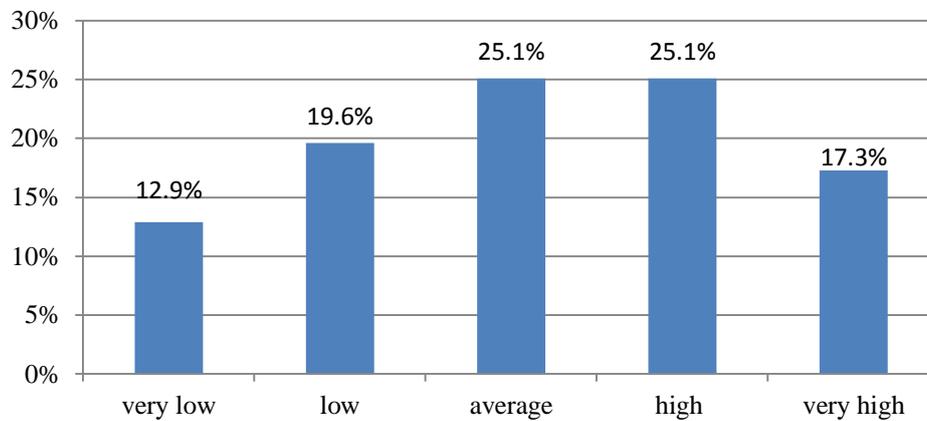


Figure 1. The assessment of the process of creating innovation in the company, N = 179.

The majority of Polish largest companies assess the creating innovation process in their companies as at least average (together over 67%), and only around 32% is of opinion that it is very low or low. High or very high assessment of this process concerned over 42% of companies.

Another question involved one of the most significant aspect of managing human resources towards the innovation, which is the support which employees receive from the managers in overcoming the barriers in implementing innovative ideas and solutions. The answers of the respondents are shown in figure (Figure 2).

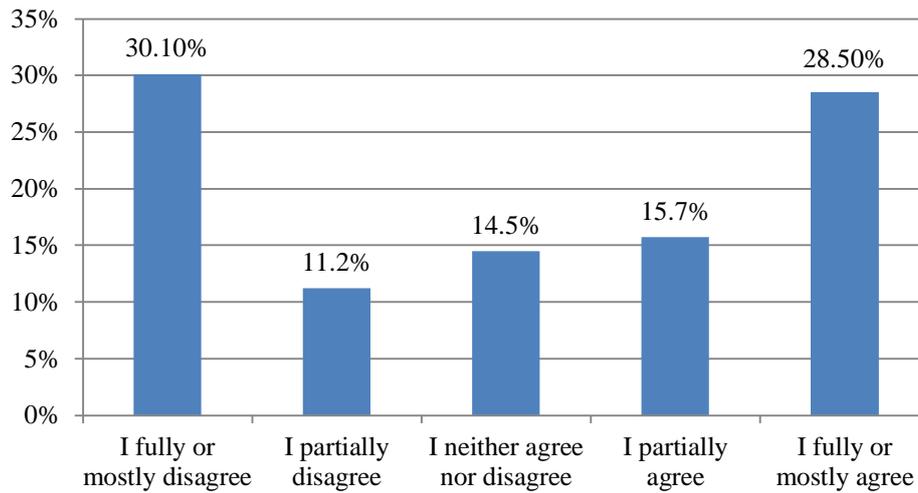


Figure 2. Receiving support from the managers to overcome barriers in implementing innovations. The level of agreement with the statement: “in our company the manager provide support to overcome barriers in implementing innovations”, N = 179.

Around 44% of employees of large companies are provided with the support from managers in overcoming the barriers in implementing innovations. However, one third definitely claims that they do not receive it and nearly 15% has no clearly defined opinion on this matter.

One of the crucial aspect of generating innovative, improved goods and services is openness to the opinion and ideas received from the external sources like customers. The research included question on this matter. The answers are presented in figure (Figure 3).

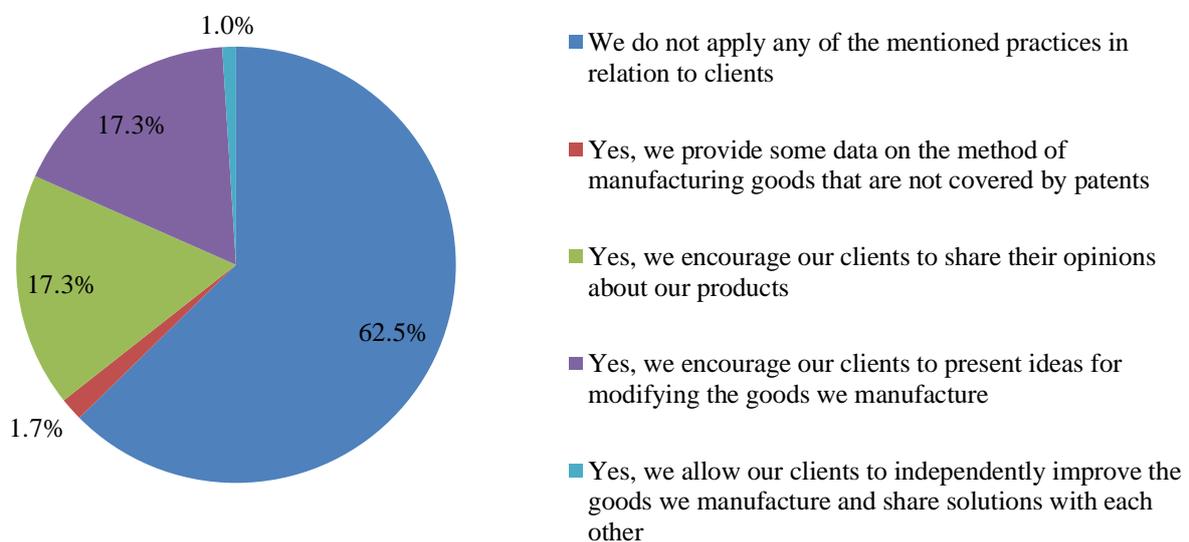


Figure 3. The use of the practices of involving customers in the process of creating goods/services, N = 179.

In terms of the involvement of customers in the process of creating goods or services, the majority of large Polish companies (62%) do not apply any of this kind of practices. Only around 17% of companies encourage clients to share their opinions on the produced goods and encourage them to present ideas for modifying manufactured goods.

One of the main investigated aspects was the relationship between the pro-innovative organizational culture and characteristics concerning the development of the company. The development was investigated with the use of several indicators like: occurrence of new investments, implementation of new technologies, the increase in the innovativeness of the employees, acquisition of new sales markets, an increase in product sales, an increase of the resources of the company, an increase in the number of customers of the company. Table 1 presents all the obtained results in detail.

Table 1.

The Spearman's rho correlation between chosen variables: organizational culture-development, (N = 179)

Chosen aspects of innovative organizational culture	Chosen characteristics concerning development						
	new investments have occurred	implementation of new technologies has occurred	innovativeness of the employees has increased	new sales markets have been acquired	product sales has increased	resources of the company has increased	the number of customers has increased
mission, aims and rules concerning innovations are easily available to every employee	x	x	x	x	x	0,194111	0,227743
company is able to transform ideas into profitable ventures	x	x	0,165269	0,214081	x	0,213864	0,208264
the suggestions of the customers or competitors are used to enable product improvement	x	0,181666	x	x	x	0,153918	x
free access to information and knowledge	0,204581	x	x	x	0,240040	0,207345	x
appreciation of each employee's contribution into the innovative venture	0,239987	x	0,211158	0,153728	0,148624	x	0,211044
encouragement to take the challenges if it provides benefit	0,158822	x	0,148013	x	x	x	x
allowing the employees to express atypical and unique ideas conducive to innovations	x	0,165317	0,072033	0,188133	0,198046	0,221321	0,200016
the employee is expected to be flexible and adapt quickly to changes	x	x	x	x	0,168684	x	x

The values of the Spearman's rho correlation coefficient confirms that there appears to be a positive correlation of weak or medium strength between several of the presented variables. The indicators of innovative culture which correlated with the largest number indicators of development were: appreciation of each employee's contribution into the innovative venture, allowing the employees to express atypical and unique ideas conducive to innovations and the ability of a company to transform ideas into profitable ventures.

Other investigated issues were the correlations between the relationship between the pro-innovative organizational culture and characteristics concerning the profitability of the company. The profitability of the company was investigated with the use of several indicators like: an increase in company's income last year comparing to the previous year, achieving positive financial result last year, bringing greater profit than the competition, incurring lower costs comparing to the competition, an increase in the value of company's assets last year comparing to the previous year, an increase in the market value of the company last year, and achieving an increasing net profit in recent years. Further data are presented in table 2.

Table 2.

The Spearman's rho correlation between chosen variables: organizational culture – profitability, (N = 179)

Chosen aspects of innovative organizational culture	Chosen characteristics concerning profitability						
	the company brings greater profit, compared to the competition	the company incurs lower costs, compared to the competition	the company achieved a positive financial result last year	last year, the company's income increased compared to the previous year	last year, the value of the company's assets increased compared to the previous year	last year, the market value of the company has increased	in recent years, the company has achieved an increasing net profit
mission, aims and rules concerning innovations are easily available to every employee	x	x	x	0,178370	x	0,152774	x
company is able to transform ideas into profitable ventures	0,253993	0,186004	0,181828	x	0,210626	0,168422	0,174327
the suggestions of the customers or competitors are used to enable product improvement	0,150177	x	x	0,167927	0,170541	x	0,190799
free access to information and knowledge	x	0,225049	0,234948	0,147574	x	0,157025	0,188175
appreciation of each employee's contribution into the innovative venture	0,205842	0,173658	x	x	0,189166	x	x

Cont. table 2.

encouragement to take the challenges if it provides benefit	0,151432	0,183221	0,172880	0,195780	0,229556	x	0,184690
allowing the employees to express atypical and unique ideas conducive to innovations	x	x	0,294706	x	0,151219	0,192780	0,173968
the employee is expected to be flexible and adapt quickly to changes	x	x	x	x	x	0,171605	0,203624

The values of the Spearman's rho correlation coefficient confirms that there appears to be a positive correlation of weak or medium strength between several of the presented variables. The indicators of innovative culture which correlated with the largest number indicators of profitability were: providing free access to information and knowledge, ability of a company to transform ideas into profitable ventures, encouragement to take the challenges if it provides benefit, allowing the employees to express atypical and unique ideas conducive to innovations, and using the suggestions of the customers or competitors to enable product improvement.

As illustrated in the presented research results, in the majority of Polish largest by revenue companies the assessment of the process of creating innovation in the company is at least average. However, the majority of the employees in these companies cannot definitely agree with the opinion that the managers provide them support in overcoming barriers during innovation processes. Moreover, the prosumer activity of customers still remains underestimated for the majority of companies (60% do not make use of the knowledge input from the customers). These important for the innovation aspects of organizational culture (Martins, Terblanche, 2003; Stańczyk, 2004) may be a large potential in the improvement of the level of innovativeness of Polish companies.

The results show that there are statistically significant positive correlations of weak or medium strength between several of the indicators of innovative organizational culture and development and profitability of the companies. Not all of them correlated with all the indicators, however the tendency is in line with other studies indicating existing relationships between the innovative organizational culture and performance. E.g. Uz Kurt et al. (2013) proved that innovation has a direct and positive effect on the performance dimensions (profitability, market share and market value) of Turkish companies. In case of US companies Flamholtz (2001) also proved that there is a statistically significant relationship between the company's culture and its financial performance (measured by earnings before interest and taxes). What is more, the countries with a higher score in the Global Innovation Index reached a higher level of regional development (Sitko-Lutek, 2015).

The characteristics of innovative cultures which correlated with largest number of development and profitability indicators were as follows: providing free access to information and knowledge to the employees, encouragement of the employees to take the challenges if it provides benefit, allowing the employees to express atypical and unique ideas conducive to innovations, appreciation of each employee's contribution into the innovative venture, and using

the suggestions of the customers or competitors to enable product improvement. These results are in accordance with the proposals of the Oslo Manual (2018), providing guidelines for innovation, among others concerning human resources management.

Some activities of HR managers or knowledge managers in terms of shaping the organizational culture and work environment in Polish companies might be recommended. These solutions may be beneficial for the innovation processes and finally for the financial outcome and development of a company. As many researchers point out, recommended activities include involving staff in the decision-making process, employee recruitment policies seeking creativity traits and skills, setting standards of work performance and providing regular feedback to the employees, promotion and career development opportunities and incentives for innovative ideas (Flamholtz, 2001; Jończyk, 2011; Zimmer et al., 2018; Oslo Manual, 2018). What may be especially taken into account by the Polish HR managers is including employees' pro-innovative attitudes and behaviour in the motivational and assessment systems. All mentioned solutions translate into improved communication, learning and professional development, as well as enhanced creativeness of the employees.

5. Conclusions

The issues discussed in the paper are particularly important for the contemporary managers of companies which try to build resilience and adapt to changing conditions of the present situation. Well built organizational culture may enhance innovativeness of the companies. This, in turn, can positively influence performance of companies, including the financial one. What is more, these aspects facilitate the development of a company and may have positive impact on its competitiveness on the market.

In the conducted research these relationships have partly confirmed. The positive correlations have been observed between chosen aspects of innovative organizational culture and chosen characteristic of development and profitability. As the presented in the paper results suggest, in general, pro-innovative organizational culture is conducive to development and the maximization of profit in large Polish companies. One of the limitation of the research is the fact, that not all of the indicators have correlated with the rest. However, the positive correlations which were obtained let to draw the conclusion, that there is a positive relationship between investigated variables. What is more, the study has got the limitation connected with narrowing the researched population to the companies largest by revenue. Some further study in the sector of SME and possibly on the larger population is recommended.

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