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Article

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Article

The Role of a Leader in Stimulating Innovation in an Organization

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Abstract: Many organizations seek ways to stimulate and encourage staff innovation. One of these is leadership that can boost staff innovation behavior. The aim of this article is to reflect on leadership and its contribution to stimulating innovation. To achieve the aim of the article—and to verify the hypotheses—deductive inference, the analysis of the subject literature and the author’s own questionnaire were used. The research was carried out with an original questionnaire to assess the role of a leader in stimulating innovative activity. The questionnaire consists of 28 statements. The analysis of the results of the empirical research has confirmed the research hypotheses that the role of a leader is to stimulate the creativity of employees and reward their innovative behavior. The analysis of the role of leadership in stimulating organizational innovation showed that the vast majority of statements concerning the role of leadership achieved a mean score above 5.0 (86%)—an average level. The research suggests that leaders should first and foremost play the following roles in stimulating innovation (e.g., a performer/creator of employee creativity and a promoter of rewarding the innovative behavior of employees).

Keywords: leader; leadership; innovation; innovation management; stimulating innovation

1. Introduction

In an unstable and competitive environment, organizations attempt to find different ways to gain a competitive advantages. One of these ways is to introduce innovations. Technological progress, changes in consumer behavior, increased competition, limited resources, short product lifecycles and evolving business are only some of the factors that create the need for innovation in organizations.

Therefore, the scope and type of implemented innovations tend to undergo modifications as the organization develops and business models change. Innovation is one of the most important sources to gain a competitive advantage (Hansen 2014; Abidin et al. 2013; Gunday et al. 2011; De Jong and Vermeulen 2006). While some organizations opt to innovate to stand out, others are forced to innovate to survive. In general, innovation in different areas of a company’s activity improves productivity, efficiency and quality of work, thereby increasing the quality of products and their competitiveness and improving the overall efficiency and productivity of the company.

Various factors determine innovative activity in an enterprise. Determinants affect both companies and individual units employed by them. Many factors determine innovative processes and, broadly speaking, they can be divided into external and internal factors (Koziol-Nadolna 2015). Internal conditions create the innovative potential of an enterprise to innovate and these include tangible, intangible and human resources. The theory of company resource development—popularized since the 1990s—assumes that rare resources and skills guarantee extraordinary and outstanding profits and additionally ensure rapid development and a considerable competitive advantage (Barney Jay 1991; Prahalad and Hamel 1990; Grant 1991).

Employees are one of an organization's most valuable resources—people create and introduce innovations, and their attitude towards innovations is the most important. The leader plays a crucial role in shaping innovative attitudes in the company. Leaders should be open to new ideas and initiatives of employees; they should support them instead of undermining them. Moreover, they ought to trust their employees by creating a favorable working atmosphere based on teamwork, loyalty and trust. Employees must be aware of their real impact on innovation processes within the company. The more managers themselves comprehend the essence and nature of innovation, the easier it is to prepare and convince employees to do so (Janasz and Koziół-Nadolna 2011).

Many organizations seek ways to stimulate and encourage staff innovation, one of which is leadership that can boost staff innovation behavior. The above circumstances justify the need to research the role of leadership in stimulating innovative activity. It is possible to look at leadership from a broad perspective as both the influence of a leader on innovation and the innovative behavior of employees can be studied (Jong and Hartog 2007; Wojtczuk-Turek 2012). Consideration may also be given to the leadership style and its impact on innovation (Bass 1990; Aryee et al. 2012). To evaluate the impact of leadership on organizational innovation, some researchers use the theory of leadership based on two fundamentally different types of leadership behaviors—transactional leadership and transformational leadership (Avolio et al. 1999). The literature emphasizes that effective leadership is also one of the organization's strategic resources (Eddleston et al. 2007). A leader's task in the process of stimulating innovation is to encourage members of an organization to learn or as Senge (1998) puts it "to learn how to learn". In this process, it is extremely important to guide the organization and its members so that the learning proceeds in line with the needs, the challenges of the market, but without hampering creativity. Leaders inspire and motivate staff to be positive in their work. Mintzberg argues that "hidden leadership" is necessary to run a team of specialists efficiently. A "hidden leader" is focused on the outcome of the work, not on the specific path that leads to it (Mintzberg 1998). The aim of the article is to reflect on leadership and its contribution to stimulating innovation of organization. This paper is organized as follows: first, the research context and literature analysis; the second part describes the methods and materials and finally the results and discussion.

2. Research Context

2.1. Innovation and Innovativeness of Organizations

Innovation is one of the most crucial elements of the competitiveness of the economy in the future. Innovation capability is one of the most important determinants of organizational performance (Poznańska 2018; Świadek and Szajt 2018). Innovation means that there are an ability and motivation to undertake a continuous search and to apply the results of this research, new ideas, concepts and inventions. Additionally, innovation encompasses boosting and developing production processes and operating technologies also used in services, the application of new solutions in organization and management, advances in the development of infrastructure, and most importantly, accessibility to information (Janasz and Koziół-Nadolna 2011).

According to the latest theories and practice, innovations are the result of numerous, complex interactions among units, organizations and business environment. The development of innovation theories and processes shows further evolution of these phenomena and together with all processes in today's economy it will result in the appearance of more complex and realistic models of the innovation process (Koziół-Nadolna 2019).

For Drucker (1985), innovation is an economic or social concept rather than a technical one. The author considers that a systematic innovation is a deliberate and organized search for change and systematic analysis of the opportunities for social or economic innovation that such a change could facilitate. According to Tidd and Bessant (2019, p. 16) innovation is referred to as an idea of a product or business that is often implemented commercially. Hüsig (2014) defines innovation as an iterative, interactive, context-specific, multiactive, uncertain, path-dependent process and the result of a new

combination of ends and means from a certain perspective. From this perspective, someone must perceive a difference concerning the qualitative newness of an object compared to a prior status in a given context. This new combination must be realized and introduced into a specific context which is the point of reference of the prior status.

In the last issue of [OECD/Eurostat \(2018\)](#) innovation is defined as a new or improved product or process (or a 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). The generic term 'unit' describes the actor responsible for innovations. It refers to any institutional unit in any sector, including households and their individual members.

Broadly understood innovation is one of the main factors behind achieving a competitive advantage by organizations. Each type of organization has a different innovation potential determining the type, scope and scale of introduced innovations, as well as the organization's operating and innovation strategy. Information on the characteristics of innovative enterprises can be found in the subject literature. Their characteristics include a common vision, leadership, willingness to create an innovative company, cooperation, constant involvement in innovative activities and an appropriate system of motivation ([Tidd and Bessant 2019](#)). It is confirmed by research that companies that effectively implement and manage innovations yield higher revenues and achieve better financial results than their competitors on the market ([Bessant and Tidd 2011](#)).

An organization's innovativeness largely depends on its employees. Employee innovativeness is understood—by analogy to an organization's innovativeness—as the ability, inclination and desire to create and implement new solutions. It is revealed through innovative behaviors perceived as deliberate creation, popularization and implementation of employees' new ideas in the workplace, in the organization. Innovative employees generate new ideas, but also find solutions to current problems, contributing to the development of an organization ([Moghim and Subramaniam 2013](#)).

2.2. Leadership as a Determinant of a Company's Innovation

2.2.1. Theories and Concepts of Leadership

A number of studies have confirmed the growing importance of leadership in contemporary organizations ([Avery 2004](#); [Hames 2007](#)). There are many theories of the concept of leadership in the area of management sciences, such as theories of qualities of an effective leader ([Kirkpatrick and Locke 1991](#)), behavioral theories of leadership ([Blake and Mouton 1978](#); [Tannenbaum and Schmidt 1973](#)), situational leadership theories ([Fiedler 1967](#)), visionary and charismatic theories ([Bass and Avolio 1990](#)), theories of power, influence and competence ([Dulewicz and Higgs 2005](#); [Paliszkiewicz 2019](#); [Müller and Turner 2005](#)).

The views on the role and position of executives in organizations have changed as well. The role of a manager in the classic sense of performing managerial functions (i.e., planning, organizing, leading and controlling), including leadership tasks, such as motivating, inspiring, etc., is no longer sufficient. Today's organizations need leaders who will not only guide other people directly, but above all will work with them to attain common goals, develop new risk-taking and responsibility skills. Leaders should be more flexible and better prepared to immediately respond to change, thus shaping a responsible relationship with the company's immediate and remote environment. Nowadays, a leader is a source of creative ideas that recognizes future opportunities and threats. Differences can also be seen in the management style—"old date" managers versus "new generation" managers ([Thomas 2007](#)). Currently, leaders are required to be competent in supporting innovation, to take a new approach to leadership and to abandon the traditional stereotypes of perceiving a leader and a manager (Table 1). A modern leader's role is broader than that of decades ago.

Table 1. Innovation-oriented and traditional leadership.

| Innovation-Oriented Leadership | Traditional Leadership |
|----------------------------------|---|
| Long-term perspective | Short-term perspective |
| Vision | Plans and budgets |
| Risk-taking | Risk avoidance |
| Discovering new territories | Copying existing solutions |
| Initiating changes | Stabilization |
| Building commitment | Control and bureaucracy, formal procedures and instructions |
| Encouraging diversity | Supporting uniformity |
| Passion invoking | Rationality invoking |
| Innovation-oriented | Routine-oriented |
| Employee as a strategic resource | Employee substitutability |

Source: (Sitko-Lutek 2013).

An analysis of the subject literature indicates that leadership is a very difficult concept to define, as evidenced by the multitude of approaches and definitions. But there is a certain convergence of views on certain aspects of the definition of leadership. Leadership refers to the unique qualities of a person and is seen as a certain ability, skill or feature to influence and stimulate others. This aspect is interesting due to the ability of a leader to stimulate innovation (Avery et al. 2004).

Another approach to leadership is authentic leadership—which emphasizes building a leader’s legitimacy through honest relationships with followers that are built on ethical foundations and value their contribution. In general, positive leaders are positive individuals with truthful self-concepts who promote openness (Luthans and Avolio 2003; Walumbwa et al. 2008). Positive leadership is another concept which emerged in management theory (Karaszewski and Lis 2013).

A relatively new category is innovative leadership. Not every leader influences the innovativeness of an organization in the same way, and the leadership itself evolves and can be more or less innovative. The literature shows an innovative leader as a person who not only constantly seeks for novelty, but also instills this way of thinking in others. The best leaders in this field are characterized by an insatiable curiosity for customer needs, high empathy and the ability to predict future needs. Deschamps (2008) identifies five attributes of an innovative leader enabling modern solutions:

- Outstanding combination of creativity and discipline;
- acceptance of uncertainties, risks and failures, combined with the ability to teach teams to draw conclusions and gain experience for the future;
- High degree of personal commitment to the mission of promoting innovation and the search for technology and ideas from the outside;
- Readiness to experiment, the courage to discontinue projects—not only to initiate them—combined with a sense of when and which to continue and which to finish;
- Talent to build and lead teams and a talent to attract and retain innovators.

The response to the growing demands of today’s managers may be the concept of innovative leadership, which comes down to seeking an innovative approach in other adopted leadership concepts, such as transformational leadership, transactional leadership, strategic leadership (Głod 2018). In the adopted concept, innovative leadership is defined as “a process of social impact through which leaders—by means of innovative personal qualities, shaping the role of innovation and building innovative creative teams—affect individual and team-based innovation in the workplace and the entire organization” (Zhu et al. 2016).

Innovative leadership has five dimensions: creative thinking, holding the willpower to be innovative, being tolerant of different opinions and various risks, establishing mechanisms for innovation and implementing innovative ideas.

2.2.2. The Impact of Leadership on Innovation

How leaders stimulate their employees, communicate with them and create the conditions for them to take action, e.g., by motivating them, setting goals clearly—or giving them autonomy—either facilitates or inhibits the ability and willingness of members to create and implement innovations. Many researchers suggest that the best way to stimulate innovation in an organization is to promote the creativity and innovation of its members (Siguaw et al. 2006). Leadership which contributes to creating an environment of openness for employees can significantly promote an organization's innovativeness (Tang 1999). Some researchers use a leadership theory based on two fundamentally different types of leadership behavior—transactional leadership and transformational leadership—to assess the impact of leadership on an organization's innovation (Avolio et al. 1999).

Transformational and transactional leadership is probably best known in the field of leadership, and these two styles are often viewed as opposing or competing approaches.

According to (Bass and Avolio 1993; Vaccaro et al. 2008; Pichlak 2011), transactional leadership does not inspire internal motivation in employees to innovate, as opposed to transformational leadership, which stimulates employees to generate and implement innovations. Transformational leaders benefit from the inspirational motivation and intellectual stimulation, which are critical factors for innovation (Elkins and Keller 2003; Srivastava et al. 2006; Zuraik and Kelly 2019). Jung's research (Jung et al. 2003) shows that transformational leadership is significantly and positively linked to organizational innovation. In addition, its impact on the organization's readiness to innovate and on the market success of innovations was confirmed. Another Vaccaro et al.'s research (Vaccaro et al. 2012) showed the impact of transactional leadership on the implementation of management innovations. The subfactor of contingent reward correlates positively with innovative behavior (Chang et al. 2015).

Furthermore, the literature review argues that innovative leaders influence innovation (Lesáková et al. 2017; Bulinska-Stangrecka 2018). However, various leadership aspects were described in different contexts.

As a result of the research, Nawrat (2013) presents the following characteristics of an innovative manager: openness, a broad view of problems, the ability to solve problems and conflicts creatively, adapting to changes, creativity. According to the respondents, an innovative manager is up-and-coming, constantly searching and introducing changes and improvements, communicative and friendly, able to inspire others, listen to their opinions and acknowledge good ideas. The two main factors that influence the development of innovative competences are subjective conditions—such as predispositions, features, abilities, personality type, personal and social competences, which are considered the most important—and professional environment (Nawrat 2013).

Kanter (1985) survey of 165 managers of the five major corporations in the United States shows that innovation managers should be characterized by:

- Ability to feel the needs of others, to anticipate changes and a positive mindset towards them;
- Determination, i.e., careful planning of actions and tenacity;
- Ability to combine a holistic vision with attention to every detail;
- Participative leadership;
- Persistence combined with the ability to convince others and being tactful.

D. Nawrat researched the creative attitudes and innovative competences of managers in seven Polish companies in the years 2008–2009. She conducted in-depth biographical and narrative interviews with innovative managers (15 interviews). The scale was not used in the research.

Kanter surveyed 165 managers in five corporations: Hewlett–Packard, General Electric, Polaroid, General Motors, Wang Laboratories and Honeywell. The scale was not used in the research. Her research described their organizational structures, their corporate cultures and their specific strategies.

The research questionnaire used by the author together with the Likert scale in the study of the role of a leader in stimulating innovation of an organization significantly complements the subject literature.

Other studies ([Zhang and Bartol 2010](#); [Juchnowicz 2012](#)) emphasize that it is crucial for leaders to stimulate the creative behaviors of their followers by shaping their engagement. Involved people work with passion and exceed the employer's expectations.

[Hill et al. \(2014\)](#), in their research on leadership roles in driving innovation, conclude that innovative organizations need leaders who can abandon conventional leadership and management styles to build organizations capable of ongoing innovation, developing creative teams and establishing relationships based on mutual trust. Taking into account the above-mentioned literature data, the following partial hypotheses were formulated:

Hypothesis 1 (H1). *Leaders agree that part of their role is to stimulate employee creativity.*

Hypothesis 2 (H2). *Leaders agree that part of their role is to reward employees' innovative behavior.*

3. Methods and Materials

To achieve the aim of the article and to verify the hypotheses, deductive inference, the analysis of the subject literature, and the author's own questionnaire were used. Acritical overview of Polish and international literature was based primarily on the articles from the Google Scholar database. The search process served to analyze leadership that stimulates innovation.

The research was carried out with an original questionnaire to assess the role of a leader in stimulating innovative activity. The questionnaire consists of 28 statements. It is the leaders' subjective assessment of their own role in stimulating innovation, their own behavior or their leadership style. The respondents ranked all the statements on the 7-point Likert numeric scale based on their level of agreement (from 1—"I strongly disagree" to 7—"I strongly agree"). Cronbach's alpha for the scale used was 0.757, which proves the good reliability of the research tool used.

The participants referred, among other things, to opinions and statements concerning:

- Behavior and approach to change, problem-solving and communication skills, working under conditions of uncertainty and setting goals (questions number: 1, 2, 3, 4, 5, 6 and 7);
- Style of employee management (questions number: 8, 9, 10, 11, 12 and 13);
- Approach to employees: stimulating their creativity, encouraging learning, teamwork, promoting and rewarding innovative behavior (questions number: 14, 15, 16, 17, 18, 19, 20 and 21).

The last seven questions were adapted from Rybiński's study ([Rybiński 2015](#)), which were proposed to diagnose whether the changes in the leadership style are necessary for the implementation of the innovation strategy.

The results were statistically analyzed using the following methods: correlation analysis with Pearson's linear correlation coefficients, Wilcoxon test (for data on weaker scales), the test for two means and Ward method. Excel and Statistica were used for the calculations.

The research supplements and broadens the existing research. The aim of the research is to analyze the role of a leader in stimulating the innovation of an organization. It can be considered innovative to include in the research questionnaire three perspectives concerning the role of a leader in stimulating innovation of an organization:

- Behavior of the leader and approach to change, problem-solving and communication skills, working under conditions of uncertainty and setting goals;
- Style of employee management;
- Approach to employees: stimulating their creativity, encouraging learning, teamwork, promoting and rewarding innovative behavior.

This study differs from previous studies in that, among other things, no leadership theory was adopted in the study to estimate the impact of leadership on organizational innovation (for example

(Bass and Avolio 1993; Vaccaro et al. 2008; Pichlak 2011)—the transactional leadership perspective was adopted; (Elkins and Keller 2003; Srivastava et al. 2006; Zuraik and Kelly 2019; Jung et al. 2003) transformational leadership perspective was adopted).

The research was carried out with an original questionnaire to assess the role of a leader in stimulating innovative activity. No previous study has used such a set of statements to determine the leadership role in stimulating innovation.

Research Sample Characteristics

The survey was conducted on a sample of 86 leaders. The selection of the sample was targeted, and the respondents represented different organizations. The survey was conducted from 4 to 13 May 2020. A computer assisted web interview (CAWI) was used because of its versatility and efficiency.

The research sample was dominated by persons employed as directors (40.7%) and managers (26.7%). As for the seniority in a given position, the largest percentage of the sample was represented by people employed in a given position between 10 and 15 years (41.9%). The leaders who had worked in a given position for up to 3 years account for 9.3% of the research sample. An analysis of the respondents' educational background showed that 98.8% had higher education (especially master's degree—76.7%) and only one person had secondary education. The largest percentage in the research sample were the people employed in manufacturing companies (55.8%), followed by 41.9% of those working in the services. The respondents were employed mainly by medium-sized enterprises (50–249 employees)—82.6%, in large enterprises—8.1%, none of the respondents worked in a microenterprise (Table 2).

Table 2. Structure of the research sample.

| Position | Owner | Director | Manager | Supervisor/Expert |
|---|------------|-----------|----------------------------------|-------------------|
| Number of employees | 13 | 35 | 23 | 15 |
| Percentage | 15.1% | 40.7% | 26.7% | 17.4% |
| Seniority (in years) | 1–3 | 4–9 | 10–15 | 16 or more |
| Number of employees | 8 | 22 | 36 | 20 |
| Percentage | 9.3% | 25.6% | 41.9% | 23.2% |
| Education | vocational | secondary | bachelor's or engineering degree | master's degree |
| Number of employees | 0 | 1 | 19 | 66 |
| Percentage | 0% | 1.2% | 22.1% | 76.7% |
| Organization profile | production | service | commercial | Other |
| Number of employees | 48 | 27 | 9 | 2 |
| Percentage | 55.8% | 31.4% | 10.5% | 2.3% |
| Number of employees in the organization | 1–9 | 10–49 | 50–249 | 250 or more |
| Number of employees | 2 | 12 | 63 | 9 |
| Percentage | 2.3% | 14% | 73.2% | 10.5% |

Source: author's study.

4. Results and Discussion

For a more practical dimension of the above theoretical considerations, the results of the study carried out on a sample of 86 leaders are presented below. The aim of the study was to analyze the role of leadership in stimulating innovation in organizations. As shown in Table 3, the vast majority of statements on the role of leadership received a mean score above 5.0 (86%).

Table 3. Descriptive statistics of individual statements defining the role of a leader in stimulating innovation of an organization.

| No. | Statements | Mean | Median | Std Dev | Max | Min |
|-----|--|------|--------|---------|-----|-----|
| 1 | I am characterized by an unconventional approach to solving problems. | 5.44 | 6 | 1.01 | 7 | 2 |
| 2 | I can introduce strategic changes in the organization, I am not afraid of changes. | 5.42 | 5 | 1.05 | 7 | 2 |
| 3 | I can work under conditions of uncertainty. | 5.63 | 6 | 1.15 | 7 | 2 |
| 4 | I set goals and clearly communicate my expectations to others. | 6.07 | 6 | 0.84 | 7 | 4 |
| 5 | I am open to new ideas and ways of doing things. | 6.02 | 6 | 0.83 | 7 | 3 |
| 6 | I am familiar with digital, cognitive and artificial intelligence technologies. | 4.55 | 5 | 1.31 | 7 | 2 |
| 7 | My innovative behavior is an example to my employees. | 5.27 | 5 | 0.94 | 7 | 3 |
| 8 | I give my employees a chance to manage their own work, I trust them, I give them freedom of action, I delegate powers. | 5.66 | 6 | 0.93 | 7 | 3 |
| 9 | I use facts (measurable data) to make decisions on employee development | 5.55 | 6 | 0.97 | 7 | 3 |
| 10 | Company processes are standardized and described. | 5.15 | 5 | 1.30 | 7 | 2 |
| 11 | Employees are aware of the mission, vision and strategic objectives. | 5.22 | 5 | 1.41 | 7 | 3 |
| 12 | When making decisions, I consider the opinions of other employees, I involve employees in making decisions. | 5.73 | 6 | 0.93 | 7 | 3 |
| 13 | When making decisions, I consider the opinions of the youngest employees. | 4.87 | 5 | 1.29 | 7 | 1 |
| 14 | I stimulate the creativity of my employees in various ways. | 5.42 | 5 | 0.88 | 7 | 3 |
| 15 | I encourage employees to broaden their knowledge beyond their area of expertise. | 5.57 | 6 | 0.97 | 7 | 3 |
| 16 | I encourage employees to work as a team, cooperate within the group and build interdepartmental networks. | 5.97 | 6 | 0.90 | 7 | 3 |
| 17 | I reward the innovative behavior of my employees. | 5.48 | 6 | 1.01 | 7 | 3 |
| 18 | I promote the innovative behavior of employees; I encourage them to express their own ideas. | 5.83 | 6 | 0.86 | 7 | 4 |
| 19 | I initiate and encourage employees to participate in team-building activities. | 5.22 | 5 | 1.22 | 7 | 2 |
| 20 | Employees are a source of innovation in the organization. | 5.67 | 6 | 1.06 | 7 | 2 |
| 21 | My organization is innovative | 5.56 | 6 | 1.04 | 7 | 3 |
| 22 | Employees know the values that guide me in my life and share these values. | 5.18 | 5 | 0.92 | 7 | 2 |

Table 3. Cont.

| No. | Statements | Mean | Median | Std Dev | Max | Min |
|-----|--|------|--------|---------|-----|-----|
| 23 | I have a clear vision of what the company will look like in a few years' time | 5.30 | 5 | 1.04 | 7 | 2 |
| 24 | Employees know and share this vision | 4.79 | 5 | 1.08 | 7 | 2 |
| 25 | People I employ can make an important contribution to the development of the company | 5.90 | 6 | 0.86 | 7 | 4 |
| 26 | A person who comes up with a great project idea for the development of the company is rewarded and promoted and is given the opportunity to run the project. | 5.09 | 5 | 1.06 | 7 | 2 |
| 27 | Over the past 30 days, an employee has approached me with a suggestion to improve the company's performance | 5.35 | 6 | 1.32 | 7 | 2 |
| 28 | Employees share my passion for company development. | 4.74 | 5 | 0.88 | 6 | 2 |

Source: author's study.

For the entire sample, the leaders rated highest the statements that concerned setting goals and clear communication of expectations (mean of 6.07) as well as being open to new ideas and ways of doing things (mean of 6.02). The statements that they encourage employees to work as a team, cooperate within the group and build interdepartmental networks (mean of 5.97) and that they promote innovative behavior among employees and encourage them to express their own ideas (mean score of 5.83) also rated high. Moreover, the fact that people hired by the leaders are seen as those who can make a significant contribution to the company's development was rated high (mean of 5.90). The results show that leaders highly regard their role in stimulating innovative activity. They are open to new ideas, encourage employees to express them and promote innovative behaviors among employees. Equally important is the awareness of teamwork and cooperation within the group as factors stimulating innovation. Such roles of leaders in stimulating innovative activity are confirmed by other studies. [Zhang and Bartol \(2010\)](#), for instance, stated that it is crucial for leaders to stimulate the creative behavior of their employees. While in [Hill et al. 2014](#) the role of a leader is to build creative teams.

The respondents rated the knowledge of digital, cognitive and artificial intelligence technologies the lowest (mean of 4.55). Nowadays, however, in the era of technological progress, it is extremely important to understand how digital technologies or artificial intelligence can help in communication, creativity and innovation; such digital competences and skills are essential for innovative activity and to stimulate it.

This part of the study was followed by an analysis of the correlation between seniority, education, the size of the organization, the position, the type of an organization and the selected variables. Tables 4–8 present the selected results of the correlation analysis. Only statistically significant correlations are presented ($p < 0.05$).

Table 4. The values of correlation coefficients between seniority and the selected variables.

| Variable | Measure χ^2 | Measure ϕ | Measure p |
|--|------------------|----------------|-------------|
| I am familiar with digital, cognitive and artificial intelligence technologies | 7.700 * | −0.194 | 0.006 |
| My innovative behavior is an example to my employees | 3.989 * | 0.139 | 0.046 |
| Employees are aware of the mission, vision and strategic objectives | 4.714 * | 0.152 | 0.030 |

*—statistically significant values at $\alpha = 0.05$.**Table 5.** Values of correlation coefficients between the organization's business profile and the selected variables.

| Variable | Measure χ^2 | Measure ϕ | Measure p |
|--|------------------|----------------|-------------|
| I stimulate the creativity of employees in various ways. | 4.457 * | −0.147 | 0.035 |
| I reward the innovative behavior of my employees. | 4.784 * | 0.236 | 0.029 |
| I have a clear vision of what the company will look like in a few years' time. | 6.373 * | −0.176 | 0.012 |
| Over the past 30 days, an employee has approached me with a suggestion to improve the company's performance. | 4.508 * | −0.148 | 0.034 |

*—statistically significant values at $\alpha = 0.05$.**Table 6.** Values of correlation coefficients between the education of the respondents and the selected variables.

| Variable | Measure χ^2 | Measure ϕ | Measure p |
|---|------------------|----------------|-------------|
| I am open to new ideas and ways of doing things. | 7.824 * | 0.195 | 0.005 |
| When making decisions, I consider the opinions of the youngest employees. | 6.423 * | 0.177 | 0.011 |
| I stimulate the creativity of my employees in various ways. | 10.725 * | 0.229 | 0.001 |

*—statistically significant values at $\alpha = 0.05$.**Table 7.** Values of the correlation coefficients between the size of the company and the selected variables.

| Variable | Measure χ^2 | Measure ϕ | Measure p |
|---|------------------|----------------|-------------|
| Company processes are standardized and described. | 4.297 * | 0.145 | 0.038 |
| I reward the innovative behavior of my employees. | 6.391 * | 0.177 | 0.011 |
| Employees know the values that guide me in life and share these values. | 6.391 * | 0.177 | 0.011 |
| Employees know and share this vision. | 13.789 * | 0.259 | 0.000 |

*—statistically significant values at $\alpha = 0.05$.

Table 4 presents the results of the correlation analysis between seniority and the selected variables. There was a moderate, statistically significant correlation between seniority and the familiarity with digital, cognitive and artificial intelligence technologies ($\chi^2 = 7.700$; $\phi = -0.194$; $p = 0.006$); people whose seniority was shorter (less than 10 years) were significantly better acquainted with these technologies. The age of the young leaders to whom the new technologies were dedicated was probably linked to this result. Generation Y or Z were known as the generations of networks made up of people growing up in the world of the new media. Computers and the Internet were their daily life and due to their high level of digital competence were not a major challenge (Tapscott 2009). There was a statistically significant correlation between seniority and setting an example to employees with innovative behavior ($\chi^2 = 3.989$; $\phi = 0.139$; $p = 0.046$) as the leaders with longer seniority were significantly more likely to set an example. This was probably due to the fact that they had more experience in stimulating innovation and, consequently, their behavior was more innovative. The same applies to the assessment

of awareness of visions and strategic objectives—longer seniority translates into a better knowledge of these issues ($\chi^2 = 4.714$; $\varphi = 0.152$; $p = 0.030$). Table 5 presents the results of the correlation analysis between the organization's business profile and the selected variables. Only statistically significant correlations are presented ($p < 0.05$) below.

Table 8. Values of the correlation coefficients between the position and the selected variables.

| Variable | Measure χ^2 | Measure φ | Measure p |
|---|------------------|-------------------|-------------|
| Company processes are standardized and described. | 4.430 * | −0.147 | 0.035 |
| When making decisions, I consider the opinions of the youngest employees. | 30.066 * | −0.383 | 0.000 |
| I stimulate the creativity of my employees in various ways. | 8.311 * | −0.311 | 0.004 |
| I reward the innovative behavior of my employees. | 4.388 * | −0.146 | 0.036 |
| I initiate and encourage employees to participate in team-building activities. | 6.299 * | −0.175 | 0.012 |
| Employees know the values that guide me in my life and share these values. | 4.388 * | −0.146 | 0.036 |
| Employees know and share this vision. | 5.317 * | −0.161 | 0.021 |
| A person who comes up with a great project idea for the development of the company is rewarded and promoted and is given the opportunity to run this project. | 6.299 * | −0.175 | 0.012 |
| Over the past 30 days, an employee has approached me with a suggestion to improve the company's performance. | 8.431 * | −0.203 | 0.004 |

*—statistically significant values at $\alpha = 0.05$.

There was a moderate, statistically significant correlation between the business profile and the stimulation of employees' creativity ($\chi^2 = 4.457$; $\varphi = -0.147$; $p = 0.035$); in manufacturing companies, the creativity of employees was significantly more often stimulated. This confirmed the first hypothesis that leaders agree that part of their role is to stimulate employee creativity.

There was a moderate, statistically significant correlation between the business profile and rewarding the innovative behavior of employees ($\chi^2 = 4.784$; $\varphi = 0.236$; $p = 0.029$); in non-manufacturing enterprises, the leaders were more likely to reward the innovative behavior of employees. It should be noted that this was transactional leadership with a conditional reward, which was expressed by a specific "contract" between the leader and the employees (a reward for meeting the requirements of the leader). The analysis of the subject literature showed that in most studies leaders used transformational leadership to stimulate innovation (Bass and Avolio 1993; Pichlak 2011; Jung et al. 2003), however, Jung et al. (2003) demonstrated the impact of transactional leadership on the implementation of management innovations.

The sample of leaders employed in the services showed a transactional management style. This confirms the second hypothesis that leaders agree that part of their role was to reward employees' innovative behavior.

There was a moderate, statistically significant correlation between the business profile and a clear vision of what the company will look like in a few years' time ($\chi^2 = 6.373$; $\varphi = -0.176$; $p = 0.012$). There was a moderate, statistically significant correlation between the business profile and an employee's suggestion to improve the company's performance ($\chi^2 = 4.508$; $\varphi = -0.148$; $p = 0.034$); in manufacturing companies, employees were significantly more likely to make suggestions to leaders for improvements.

Table 6 presents the results of the correlation analysis between the education of the respondents and the selected variables. There was a moderate, statistically significant correlation between the education of the respondents and their openness to new ideas and ways of doing things ($\chi^2 = 7.824$;

$\varphi = 0.195$; $p = 0.005$); the higher the education of the leader, the more open they were to new ideas and ways of doing things. To encourage employees to learn and to innovate, leaders themselves need to be open to learning, to change, to new ideas and ways of doing things. Educated leaders were more aware and open to new ideas. Giles' study (Giles 2016) also indicates that openness to new ideas was one of the most important leadership skills.

There was a moderate, statistically significant correlation between the education of the respondents and considering the opinions of the youngest employees when making decisions ($\chi^2 = 6.423$; $\varphi = 0.177$; $p = 0.011$); people with higher education significantly more often consider the opinions of the youngest employees when making decisions. Educated leaders were likely to be more aware that young workers could introduce creativity or new insights into the organization. Moreover, they were not afraid to listen to the opinions of the youngest employees on account of, for instance, the loss of authority in the eyes of employees. They could encourage intergenerational cooperation by bringing together the experiences of employees with longer experience and the new perceptions brought into the organization by the younger employees.

There was a moderate, statistically significant correlation between the education of the respondents and the stimulation of employees' creativity ($\chi^2 = 10.725$; $\varphi = 0.229$; $p = 0.001$); people with higher education were significantly more likely to stimulate the creativity of employees. This confirms the first hypothesis that leaders agree that part of their role was to stimulate employee creativity. In this case, leaders with higher education were more likely to stimulate employees' creativity because they were better acquainted with different methods and techniques for stimulating creativity.

Table 7 presents the results of the correlation analysis between the size of the enterprise and the selected variables. There was a moderate, statistically significant correlation between the size of the enterprise and the perception of company processes as standardized and described ($\chi^2 = 4.297$; $\varphi = 0.145$; $p = 0.038$); people from enterprises with 50 or more employees were significantly more likely to perceive company processes as standardized and described. This was probably due to the size of the company as in larger companies the processes were identified, described, classified and standardized. The aim of the standardization was to apply uniform practices enabling repeatability of processed.

There was a moderate, statistically significant correlation between the size of the enterprise and rewarding the innovative behavior of employees ($\chi^2 = 6.391$; $\varphi = 0.177$; $p = 0.011$); the leaders from enterprises with 50 or more employees significantly more often reward innovative behavior of their employees. This confirms the second hypothesis that leaders agree that part of their role is to reward employees' innovative behavior. This was likely due to the fact that medium-sized and large companies were highly motivated to innovate, while at the same time there was some competition between employees. Therefore, to strengthen the innovative attitudes of employees, leaders were more prone to reward them.

There was a moderate, statistically significant correlation between the size of a company and sharing the values that guide the leader's life ($\chi^2 = 6.391$; $\varphi = 0.177$; $p = 0.011$); the leaders from medium and large companies significantly more frequently think that employees know and share the values that guide their lives.

There was a moderate, statistically significant correlation between the size of a company and sharing the leader's vision in life ($\chi^2 = 13.789$; $\varphi = 0.259$; $p = 0.000$); people from companies with 50 or more employees significantly more often think that employees know and share their vision. In both cases, it can be assumed that in larger organizations there was a higher organizational culture with clear and transparent values and the vision that the leader was guided in life. Employees know and share the leader's values and vision.

Table 8 presents the results of the correlation analysis between the leader's position and the selected variables. There was a moderate, statistically significant correlation between the type of a position and the perception of company processed as standardized and described ($\chi^2 = 4.430$; $\varphi = -0.147$; $p = 0.035$); owners and directors significantly more often perceive company processed as

standardized and described, which may mean that the importance of standardization, management and responsibility for it was more apparent to them.

There was also a statistically significant correlation between the position and the consideration of opinions of the youngest employees ($\chi^2 = 3.066$; $\varphi = -0.383$; $p < 0.001$), stimulation of employees' creativity ($\chi^2 = 8.311$; $\varphi = -0.311$; $p = 0.004$), rewarding innovative behavior ($\chi^2 = 4.388$; $\varphi = -0.146$; $p = 0.036$), encouraging and initiating team-building activities ($\chi^2 = 6.299$; $\varphi = -0.175$; $p = 0.012$), employees' knowledge of the values that guide leaders in their lives and sharing these values ($\chi^2 = 4.388$; $\varphi = -0.146$; $p = 0.036$), employees' awareness of the vision and mission ($\chi^2 = 5.317$; $\varphi = -0.161$; $p = 0.021$), rewarding creative people and enabling them to manage projects ($\chi^2 = 6.299$; $\varphi = -0.175$; $p = 0.012$) and employees' suggestions for improvements ($\chi^2 = 8.431$; $\varphi = -0.203$; $p = 0.004$). In all these cases, owners and directors were significantly more likely to react to them than managers. This demonstrated a high management culture in this studied group of owners and directors. Both hypotheses have also been confirmed, which shows that owners and directors stimulate the creativity of their employees, as they care most about the innovativeness of the organization and its branches. In the case of rewarding employees' innovative behavior, owners and directors had the tools available to them to reward employees which they could use freely.

The analysis of the tree diagrams of the links shows a breakdown into two distinct groups at the cutoff at level 20 and three groups at the cutoff at level 15 (Figure 1). A clear similarity can be observed in some grouping levels, however, due to the number of variables, this is not easy. The fewest similarities are seen in the first cluster of owners and directors, which corresponds to the third cluster of managers and supervisors. There are only three variables common to both approaches, i.e., employees know the organization's mission, vision and strategic goals, the leaders consider the opinions of the youngest employees when making decisions, and employees share the leaders' passion for the development of the company. This cluster is, therefore, to a certain extent related to interpersonal contacts between the supervisor and the staff in terms of preparing and implementing the company's strategy in line with the management's plans and considering the staff's ideas.

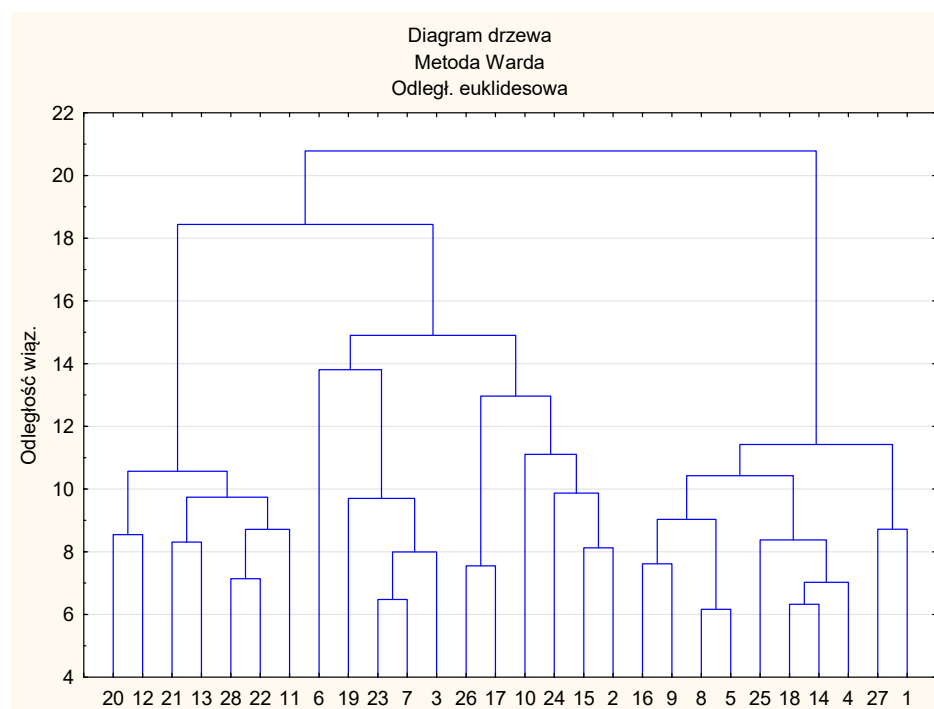


Figure 1. Tree diagram for owners and directors' evaluations of individual variables. (figures correspond to the individual statements in the questionnaire, the statements and numbers are shown in Table 3).

Much more similar is the second cluster, in which there are six similar variables (Figure 2). They are mainly concerned with a pragmatic approach to staff management that includes and promotes their involvement in implementing new original ideas.

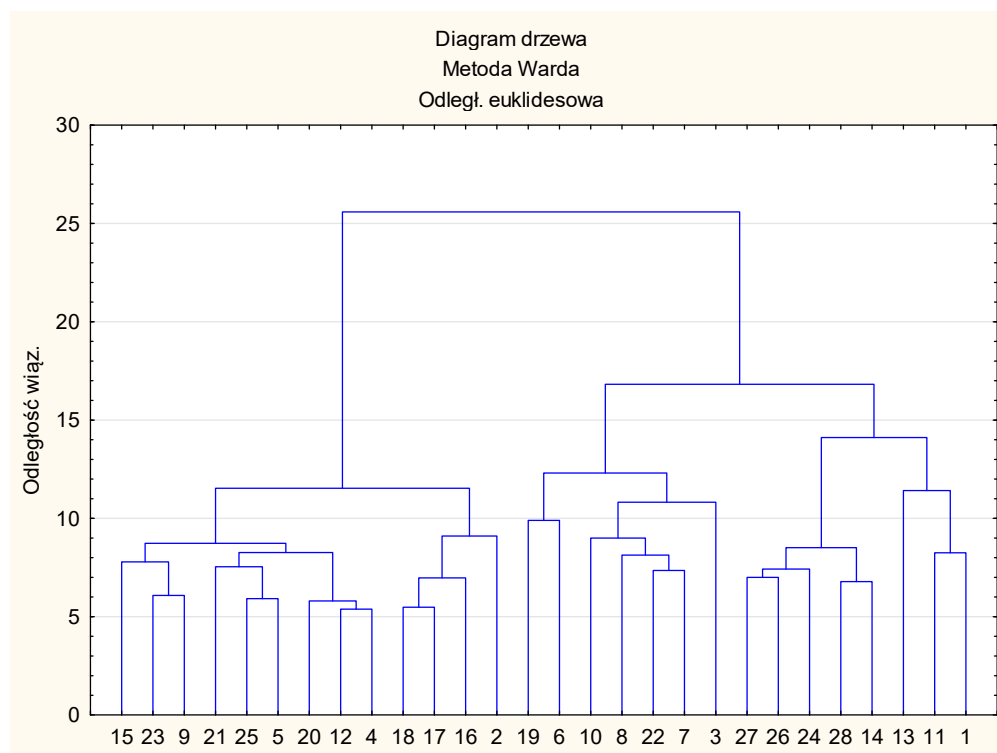


Figure 2. Tree diagram for owners and directors' evaluations of individual variables. (figures correspond to the individual statements in the questionnaire, the statements and numbers are shown in Table 3).

The last cluster is very similar to both groups. Six out of seven variables indicated by the supervisors and managers overlap with those indicated by the owners and directors. These indications refer to the assessment of managers' own knowledge and self-assessment of proper response to changes.

The analysis clearly shows the existing 'trends' in the way management is directed at all levels of management, but also the differences between them.

The analysis of the results of the empirical research confirms the research hypotheses that the leaders agree that part of their role is to stimulate the creativity of employees and reward their innovative behavior.

The stimulation of employees' creativity in various ways is in line with the conclusions of other researchers (Juchnowicz and Kinowska 2018) as they indicate that the best way to stimulate the innovativeness of an organization is to promote the creativity and innovation of its members.

Zhang and Bartol (2010) stated that it is crucial for leaders to stimulate the creative behavior of their employees. Deschamps (2008) emphasizes in his research a high degree of personal commitment of the leader to the mission of promoting innovation.

The analysis of Seidel (2011) and Skrzypek (2014) works gave rise to the conclusion that there is a direct relationship between the employees' creativity and the company's innovativeness.

According to the research conducted by Szczepańska-Woszczyńska (2014), the managers' task is to create such working conditions and a way of managing employees that their potential for creative thinking and performance becomes a fully useful company resource.

Williams points to the main features of effective leadership in an organization, such as setting an example and inspiring people to act effectively (Williams 2005).

Leaders raise awareness of the goal, i.e., they address questions about the reason for their actions and the benefits they bring. They also indicate the direction and give the clues for finding innovative solutions. With leaders, innovation can become an organization's strength and value at the same time.

The research suggests that leaders should first and foremost play the following roles in stimulating innovation:

- Performer/creator of employees' creativity;
- Promoter of rewarding the innovative behavior of employees;
- Inspirer who sets goals and clearly communicate the expectations towards others;
- Innovator who is open to new ideas and ways of doing things;
- Animator of teamwork, intra-group cooperation and interdepartmental networking;
- Propagator of innovative behavior among employees and their own idea;
- an inspirer whose innovative behavior sets an example to employees.

It can be assumed that such leaders will contribute to building an organization that is flexible and open to innovation. The analysis of the role of leadership in stimulating organizational innovation showed that the vast majority of statements concerning the role of leadership achieved a mean score above 5.0 (86%)—an average level. For the entire sample, a leader's role in defining goals and clear communication of expectations towards others was rated highest (6.07), which indicates the importance of communication and goal setting. Openness to new ideas and ways of doing things was equally highly valued by the leaders (6.02), which is a sign of a shift away from routine activities and schemes. The leaders, when evaluating their roles, rated the lowest (between 4 and 5) only four of them.

The analysis of the obtained results leads to the conclusion that there are significant managerial and research implications. It remains a challenge for business practice to develop effective mechanisms/factors to stimulate innovation in an organization. One of them is leadership and its roles. As indicated by the author, the roles of a leader in stimulating innovative activity may contribute to innovation. To stimulate innovation in the company, it is worth considering the introduction of mechanisms for encouraging creative employees, e.g., through promotion, a raise and the possibility to manage a project that is to implement a specific innovation. It is important to make employees aware that not only a formal leader can manifest innovative behavior, but also employees should take the initiative, take action and become leaders of some area of a team project. Therefore, a leader should, first of all, facilitate his employees' development and self-fulfillment through work and satisfaction, which can positively influence innovation. One of the most current challenges is the ongoing digital transformation. Therefore, leaders should be required to be fluent in digital technologies.

5. Conclusions

The results and conclusions of this study pave the way for future scientific research. The results of the research may broaden the knowledge on the roles of leaders in stimulating the organization's innovative activity. The employees' opinions on the leadership role in stimulating innovation in the organization should be further examined. It also seems important to investigate the impact of leadership (specific roles) on the organization's innovativeness. Apart from leadership, the organizational climate (culture) also ought to be explored as a factor conducive to innovation. The results of the conducted analyses can also significantly contribute to the discussion on the influence of soft aspects of management on the innovativeness of contemporary organizations.

The main limitation of the study presented in this article is the fact that it was conducted on a relatively small research sample, which excludes the possibility of generalizations for the formulated conclusions. Thus, it is advisable to extend future research to a larger number of leaders from different organizations. The subjectivity of the respondents' assessments is also a limitation, as well as the multidimensional nature of the questions asked (some of questions are double-barreled), which may have made it difficult to provide answers.

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