

Article

Organizational Factors of Commitment to Innovation vs. Innovative Behavior in Smes in the Renewable Energy Sources (RES) Industry

Joanna Dzieńdziora ^{1,*}, Małgorzata Smolarek ², Dawid Żebrak ¹ and Elwira Gross-Gołacka ³¹ Department of Management, Faculty of Social Sciences, WSB University, 41-300 Dąbrowa Górnicza, Poland² Institute of Management Sciences and Quality, Faculty of Social and Humanities Sciences, Humanitas University, 41-200 Sosnowiec, Poland³ Department of Organization and Management Theory, Faculty of Management, University of Warsaw, 02-927 Warsaw, Poland

* Correspondence: jdziendziora@wsb.edu.pl; Tel.: +48-32-295-93-00

Abstract: Innovation is one of the successful and competitive advantage factors for SMEs in the dynamically changing environment of the RES industry. For SMEs, innovation is driven by a number of factors, such as the size of the enterprise, the scope of activity, innovation capability, strategy, and environmental conditions. Organizations' commitment to innovation is another important factor. This is especially true for SMEs with strong social bonds, meaning that every employee of the company is, to some extent, involved in the innovation process and influences the organization's opinion. The goal of the paper is to assess the impact of organizational determinants of commitment to innovation on innovative behavior in SMEs in the RES industry. The paper is both theoretical and empirical. The theoretical part explains the relevance of organizational determinants of commitment to innovation and how they translate to innovative behavior in SMEs. The empirical part presents an analysis of the results of a quantitative diagnostic survey that involved a questionnaire comprised mostly of closed-ended questions. The survey lasted from September 2020 to February 2021 on a sample of 186 companies from the RES industry. Production workers participated in the survey. The survey was conducted in Poland. The research problem is expressed in the following questions: (1) Do organizational determinants of commitment to innovation influence innovative behaviors undertaken and implemented in SMEs in the RES industry? (2) What are the key predictors of organizational commitment to innovation in SMEs in the RES industry? (3) Which predictors of organizational commitment to innovation have the most influence on innovative behaviors undertaken and implemented in SMEs in the RES industry? The research hypothesis was as follows: The organizational factors of commitment to innovation have a positive impact on the innovative behaviors of employees. In the course of the survey, all the research assumptions were confirmed. The statistical tests were used to verify the research hypotheses. The article includes an introduction, literature review, analysis of research results, conclusions, and a bibliography.

Keywords: organizational factors of commitment to innovation; internal relationships; innovative behaviors; small and medium-sized enterprises (SMEs); RES



Citation: Dzieńdziora, J.; Smolarek, M.; Żebrak, D.; Gross-Gołacka, E. Organizational Factors of Commitment to Innovation vs. Innovative Behavior in Smes in the Renewable Energy Sources (RES) Industry. *Energies* **2022**, *15*, 5674. <https://doi.org/10.3390/en15155674>

Academic Editor: Edmundas Kazimieras Zavadskas

Received: 26 June 2022

Accepted: 29 July 2022

Published: 4 August 2022

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

Many contemporary enterprises believe that in order to be competitive in a turbulent environment, they need to be innovative [1]. Yet, for innovation to drive competitive advantage, it must be an element of a bigger system [2]. Goffin and Mitchell [3] believe that innovation is the part of business activity that creates new ideas. An innovative organization is defined as one that is capable of creating and implementing its own innovation, as well as incorporating it from outside [4].

Companies recognize the growing need to be flexible and innovative. Innovation is different in SMEs than in large companies. Being able to effectively manage innovation processes is a major challenge for small companies operating in technologically demanding industries, where innovation is fundamental for SMEs' survival ([5] (p. 22). Renewable energy sources constitute one such industry.

Being able to generate value through innovation is undoubtedly a successful strategy [6,7] (p. 18). Nonetheless, some organizations are much better prepared than others to leverage opportunities as they appear. SMEs, due to their limited resources, are at a disadvantage in this respect compared to large companies [8]. However, since innovation is often about part of the product rather than the entire product [9], SMEs may specialize in certain areas and create new ideas and solutions there. For example, SMEs may capitalize on their flexibility, which enables them to quickly implement new technologies, collaborate with strong partners that can help them increase the knowledge and financial resources required to acquire key technological competencies, and remove technological barriers, as well as intuitively and quickly recognize changing consumer preferences and market trends in order to identify new opportunities [10].

In the process of detecting the factors that help build the competitive innovation-based advantage of an enterprise, innovation within an organization is believed to be crucial [11] (p. 36), [12,13], since intangible resources are becoming fundamental for the creation of economic value [14,15] (p. 95); thus, there is a growing interest in the innovative behaviors of employees in the context of using human capital to build a competitive advantage. Employees and the way they behave play a major role in enabling an organization to adapt to change [16–18].

One of the basic problems of most SME managers is that they use outdated management tools and cannot relate them properly to work results. This often results in employee dissatisfaction, negatively affecting the atmosphere and relationships at work, performance, and innovative behavior. Thus, it is important to look for and take advantage of such organizational factors of commitment to innovation that will translate into more innovative behavior.

The goal of the paper is to assess the impact of organizational determinants of commitment to innovation on innovative behavior in SMEs in the RES industry.

2. Literature Review

Innovative behaviors of employees are understood to refer to activities that help generate and implement new and useful ideas [19] (p. 25). Generating new and useful ideas is defined as creativity, while the ability to implement those ideas is innovation [20] (p. 116). Creativity is often associated with the creative process and identified with human creation [21] (p. 15). It is recognized as the most important attribute of human capital, which enables the implementation of innovation, on which the innovation process is founded [22] (p. 44). T.M. Amabile [23] (pp. 76–78) suggests that creative potential consists of three main components: Knowledge (the knowledge and competencies potential), creative thinking (the potential of the ability to think creatively), and motivation (the potential of the organizational culture). The author believes that managerial factors that stimulate creativity include challenges, freedom, resources, the attributes of a working group, managerial supervision, and support from the organization.

The link between creativity and innovation is an innovation-driven attitude, which refers to the eagerness to put creative ideas into practice. It also involves the acceptance of full or partial accountability for the operationalization and implementation of a project [24] (p. 109).

Innovative behavior at work is a multidimensional construct that covers all the efforts of an individual toward creating, presenting, and successfully implementing innovations at every organizational level [24–27]. The key attributes of such behavior are generativeness, effectiveness, intentionality, complexity, multidimensionality, processuality, and heuristics. Innovation is supposed to be reflected in the more efficient functioning of an organiza-

tion and psycho-social advantages (e.g., work satisfaction, more effective interpersonal communication, etc.) [28,29].

Innovative behaviors of employees are determined by personal factors, i.e., ones that are linked to employees themselves, and by organizational factors. The former includes personality traits, psychological capital, knowledge, personal competencies, motivation, and employee engagement [20] (p. 117).

The effects of innovative behaviors result from a combination of personal and organizational factors [19] (p. 43). Innovation is a function of the efforts of individual employees toward making new solutions possible in the environment and organizational systems conducive to creativity. These systems are influenced by how an organization defines the formal methods and tools to introduce new methods of organizational behaviors [30]. If both organizational and personal factors are present, innovation is at its highest.

The personal factors of innovative behavior relate to the key aspects of organizational effectiveness, i.e., to the creation, introduction, and application of new ideas in order to achieve a real advantage [31]. The personal factors of innovative behavior that influence the professional functioning of an employee and his or her performance include, e.g., initiative, openness to new experiences, regarding work as a challenge, expecting positive outcomes, self-management, job satisfaction, and engagement [25,31–39]. The characteristic employee attributes that increase the chances that they will behave in an innovative way are vigor, enthusiasm, a high energy level, perseverance, mental immunity, dedication, engagement, the pursuit of goals, and the ability to inspire [40] (p. 8). The organizational factors include, among other things, the impact of the organizational culture [Martins, Terblanche 2003, pp. 64–74] or organizational climate [41] (p. 147), [42,43].

In the context of encouraging innovative employee behavior in an organization, it is vital to identify the factors that stimulate undertaking and pursuing creative behaviors. Employees will be driven to generate and implement ideas at work if an organization creates the right conditions for that. Meanwhile, organizational determinants of innovation include factors of commitment to innovation, an organizational culture that promotes innovation, leadership style (leader's behaviors), human capital management practices, and innovation barriers [19] (p. 124).

The organizational factors of commitment to innovation include a set of determinants that can be linked to innovative behaviors at work. According to A. Wojtczuk-Turek [44], these are relationships with superiors (their attitudes, the way they control employees, and whether they are open to new ideas, etc.), positive encouragement (financial and non-financial rewards), organizational (related to the organizational culture) factors that influence the way an employee works and the nature of work (independence, access to resources, ethical behavior, clearly defined goals, etc.), professional advancement activities and organizational learning (improving one's competencies and pursuing one's interests), as well as the achievement of professional tasks (e.g., doing different and interesting tasks).

The incentives that an organization uses play a major role in promoting innovative behaviors. They are crucial in order to trigger specific behaviors and attitudes. They yield the desired results if they are used in a flexible way, take into account not only positive behaviors, and incorporate a wide variety of tools [45]. Triggering innovative behaviors is a complex process due to the complexity of human behavior and the need to treat every employee and team of employees individually. Another problem may exist in predicting the effects of innovative projects and the related employee behaviors. On the other hand, the ability to effectively encourage employees to propose and create new solutions may be one of the factors behind company success [46] (p. 86).

It is not easy to create and improve an efficient employee incentive system, but it determines the performance of an enterprise. Because SMEs have limited financial and human resources, as compared to large companies, their incentive practices have a different focus. They usually address all employees, without being tailored to their respective individual needs. They are determined by the owner of a company, who is its manager at the same time. His or her experience, knowledge, will, and resources

determine the selection of employee incentives. Personal relations and bonds with the owners may (or may not) improve the atmosphere at work and the motivation and loyalty of employees [47] (pp. 59–61), [48]. SMEs are also visibly scarce in non-financial incentives.

Rewards and punishment should play an important role in the SME employee incentive system [49] (pp. 177–178). They are one of the conditions of successfully motivating employees. SME incentive practices should be founded on rewards rather than punishment [50] (p. 31), which does not mean to say that the latter should be entirely avoided. They should be used in extreme cases, and employees should never be punished in front of their colleagues [51] (p. 210). Rewards should be attractive, and punishment should be severe. Rewards and punishment will only serve their purpose if a superior knows his or her employees well.

The most important long-term SME employee incentives include a friendly working environment (including the right leadership style and proper selection of team members), opportunities for professional development, and sound feedback. Another important factor that affects employee motivation is the atmosphere at work [52] (p. 12). This means that effort is needed to create a friendly organizational culture.

Malfunctioning incentive systems are one of the major obstacles that hinder innovative behaviors. Incentive practices that focus solely on promoting the success of ongoing organizational activities can deter both creativity and innovation. The same happens if people are not appreciated for thinking outside the box and questioning the organizational status quo for the sake of increasing the effectiveness and coherence of the organization. Punishment for mistakes also discourages innovative behaviors (denying the employees the right to be wrong), as well as being perfection-oriented (which often causes productivity to drop) or rewarding conformism towards bosses and/or colleagues (promoting all sorts of organizational conformism) [53] (p. 10).

Incentives aimed at triggering innovative behaviors should incorporate not only financial means but also non-financial instruments that serve to satisfy higher-order needs (such as employee engagement in various projects, recognizing employees' activities, interesting work, and promoting employee development) [46] (p. 86). S. Borkowska [54] (p. 20) also emphasizes the importance of non-financial incentives, especially their involvement in promoting innovative behaviors. She notes that some companies, in order to avoid conflicts among employees related to minor improvements (that do not yield major benefits to the author of a particular idea and can also temporarily reduce productivity because of the need to learn, etc.), refrain from rewarding for group effects achieved as a result of such minor innovations. They do it in order to avoid competition between teams, which is detrimental to cooperation. On the other hand, they motivate employees through means of identification. They also promote openness to change, creativity, constant learning, and knowledge sharing.

The respective elements of human capital (know-how, skills, abilities and talents, intelligence, motivation, psychological capital, personality traits, attitudes and values, health) translate to various forms of organizational behaviors that correspond to the achievement of professional goals. Among them, the most important ones are those that trigger a proactive approach to innovation at work.

Work should give an employee the chance to satisfy his or her need for belonging. Thus, care should be taken to make sure that employees identify themselves with a company and are proud to be a member of their team. Furthermore, an employee should consider his or her job prestigious. This way, his or her need for respect and recognition will be satisfied. Managers should bear in mind that every employee, regardless of their position, expects the effects of their work to be acknowledged. Recognizing minor successes and expressing approval and respect are very important (though not always appreciated) ways of reinforcing employee motivation cost-free. Work should also offer an opportunity for development, i.e., satisfy the employees' need for self-actualization. It is an extremely difficult task for managers due to individual differences in how employees understand

self-actualization. Yet, the point is that employees should be able to use their potential and take the initiative at work [55] (pp. 119–120).

The communication process also has a positive impact on innovative behaviors. Effective communication between superiors and employees is crucial in communication processes within an organization and the successful implementation of changes.

Communication, especially in SMEs, is an indispensable part of all managerial activities. The important determinants of innovation at work include leadership [56]. It may be said that leadership is a communication process that helps groups organize themselves in such a way as to achieve the desired goals. This is linked to the determination of goals and directions based on the organizational strategy and promoting certain employee behaviors in the management process. In the first case, leaders manage organizational goals and pro-innovation activities (leader as manager), and in the latter, they assist teams and individuals, “redirecting” them towards innovation [57]. In the context of a leader’s impact on innovative behaviors of employees, both the methods of impact resulting from the use of specific human capital management tools and the quality of interpersonal relationships matter.

According to Airila et al. [58], interpersonal relationships at work can be classified as relationships with superiors and colleagues. The relationship with a superior is the product of the level of support provided by the superior and of how he or she controls employees. Relationships between colleagues develop through interactions of conflict and collaboration.

Relationships between superiors and employees impact not only them but the entire company. They determine whether the most talented team members will stay or transfer to competitors. They determine employee satisfaction, which translates to engagement, productivity, and innovative behavior.

One of the necessary conditions to stimulate innovative behavior of SME employees is the accessibility and openness of managers. An employee must have unconstrained contact with a manager and be able to discuss ideas and proposals with him or her. Otherwise, the employee will be indifferent rather than innovative, and may even, in time, become entirely passive. A leader may support employees in many different ways: By monitoring work and providing feedback, expressing appreciation, consulting professional matters, and providing resources [59].

Informed and relevant professional development and advancement processes of SME employees significantly contribute to innovative behaviors. Investing in people and their competencies, which may lead to successful innovation, is particularly vital for SMEs [60,61]. Employee competencies are a crucial factor in knowledge acquisition. In general, these are the human resources that generate, process, and refine knowledge toward achieving innovative results. Mindful management of human resources focused on knowledge-based practices contributes to the company’s intellectual capital and thus generates more innovative behaviors [62].

Employee training may be an irreplaceable tool to actively develop the necessary knowledge and employee skills [63]. Sung and Choi [60] suggest that investing in training and organizational development may help create an atmosphere of continuous learning and facilitate knowledge and ideas transfer between employees, this way generating new knowledge and ideas [64]. For example, employee training as an element of overall management quality, though not always recognized as exceptional and valuable by SME managers, turns out to be positively correlated to non-financial results, such as innovation and the increase in innovation [65]. Thus, a conscious decision to invest in employee training may help SMEs continue to develop employee skills and promote their innovative behaviors.

To summarize, in order to shape innovative behaviors in SMEs, it is particularly important to ensure the right conditions for not only managerial personnel but also all employees to make the best of their individual skills. However, this requires managerial effort to promote creativity at every level of the organization. Organizational factors of commitment to innovation play a major role here.

3. Materials and Methods

The goal of this paper is to identify the factors that affect innovative behaviors of the employees of small and medium-sized enterprises in the renewable energy sources (RES) industry in Poland.

The results presented in this paper are the results of a survey project conducted between September 2020 and February 2021, which examined the innovative strategy and behaviors in small and medium-sized enterprises in Poland. It was a quantitative diagnostic survey that involved a questionnaire comprised mostly of closed-ended questions. This paper looks at 186 companies that meet the criteria of RES industry enterprises. Production workers participated in the survey. Table 1 describes the research sample in detail.

Table 1. Characteristics of the research sample.

Research Sample = 186 (100%)		
Characteristics Describing Enterprises Covered by the Survey:		
Company size by number of employees	Micro-enterprise (0–9)	22.6%
	Small enterprise (10–49)	71.0%
	Medium enterprise (50–249)	6.5%
Year of establishment	... –1989	0.5%
	1990–2000	3.8%
	2001–2010	22.0%
	2011–2020	68.8%
	2021– ...	4.8%
The RES area of the company	Solar energy (incl. photovoltaics)	74.7%
	Wind energy	11.3%
	Water energy	3.8%
	Biomass energy	4.3%
	Geothermal energy	5.9%
Profile of respondents participating in the survey:		
Sex of respondents	Female	17.2%
	Male	82.8%
Age of respondents	Up to 25 years old	12.4%
	26–35 years old	38.2%
	36–45 years old	27.4%
	46–55 years old	14.0%
	46–55 years old	8.1%
Education of respondents	Higher	68.3%
	Secondary	21.5%
	Vocational	10.2%
Job seniority	Up to 5 years	24.2%
	5–10 years	37.1%
	11–20 years	16.7%
	21–30 years	15.6%
	Over 30 years	6.5%

Source: Own elaboration.

The research problems (identified for the purpose of this study) are expressed in the following questions:

1. Do organizational determinants of commitment to innovation influence innovative behaviors undertaken and implemented in SMEs?
2. What are the key predictors of organizational commitment to innovation in SMEs?
3. Which predictors of organizational commitment to innovation have the most influence on innovative behaviors undertaken and implemented in SMEs?

4. The research hypothesis was as follows: The organizational factors of commitment to innovation have a positive impact on the innovative behaviors of employees.

Furthermore, there were the following detailed research hypotheses:

1. Achievement of professional tasks has a positive impact on the innovative behaviors of SME employees.
2. Relationships with superiors have a positive impact on the innovative behaviors of SME employees.
3. Relationships with colleagues have a positive impact on the innovative behaviors of SME employees.
4. Incentives have a positive impact on the innovative behaviors of SME employees.
5. Professional development and advancement processes have a positive impact on the innovative behaviors of SME employees.
6. The communication process has a positive impact on the innovative behaviors of SME employees.

The research model is presented in Figure 1.

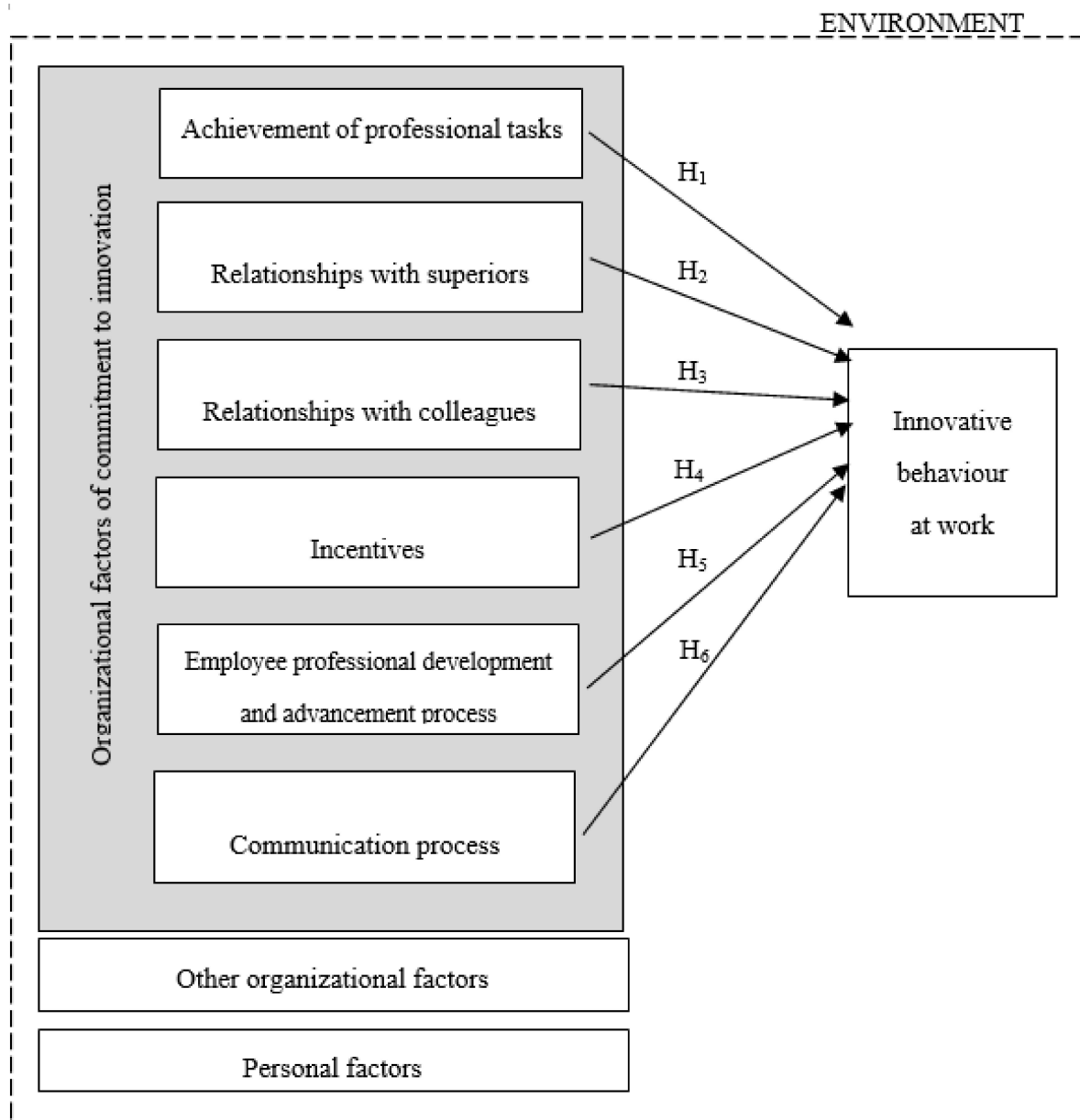


Figure 1. The research model. Source: Own elaboration.

Following pilot surveys, the analysis of organizational determinants of commitment to innovation was based on statements that were the most relevant to factors such as the achievement of professional tasks, relationships with superiors, relationships with colleagues, incentive practices, the professional advancement process, and communication processes. They are presented in the following section of this paper.

The survey tool used a 5-point Likert scale, where 5 is “strongly agree”, 4—“agree”, 3—“neither agree nor disagree”, 2—“disagree”, 1—“strongly disagree”. In order to determine the psychometric properties of the tool and its reliability, the internal coherence method was applied. The resulting Cronbach’s alpha was 0.894, proving the homogeneity of the tool and its usefulness in empirical research.

4. Results and Discussion

This section may be divided into subheadings. It should provide a concise and precise description of the experimental results, their interpretation, as well as the experimental conclusions that can be drawn. According to the literature on the topic, innovative employee behavior is not only about adaptability to change but, more importantly, about generating and implementing new solutions. This type of behavior is crucial for every enterprise that intends to grow [66] (p. 36). The participants of the survey were asked whether they have opportunities to generate and implement new solutions. In total, 60.2% of respondents “strongly agreed” or “agreed” (Figure 2).

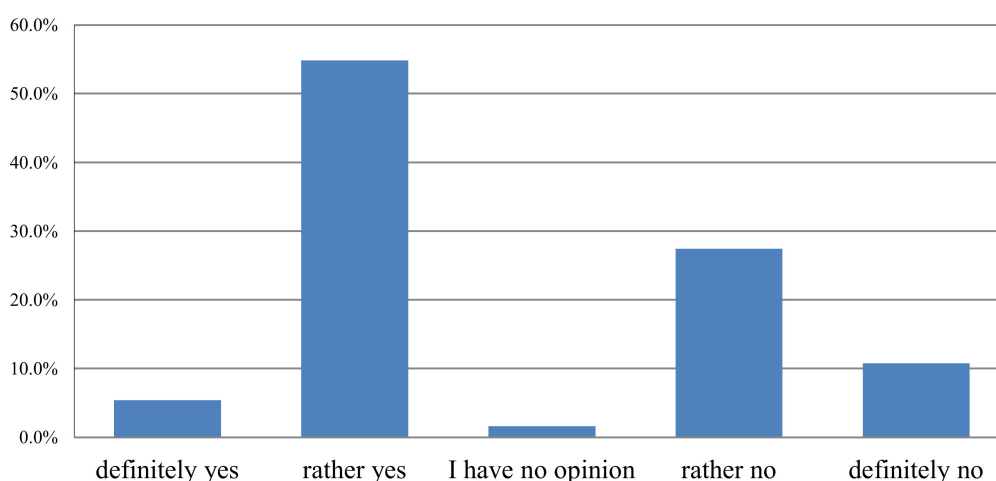


Figure 2. Opportunities to generate and implement new solutions in the company. Source: Own study.

An analysis of the organizational factors of commitment to innovation in SMEs began with identifying the factors that, according to respondents, were the most important to empower them to generate and implement new solutions in the company. The most frequently mentioned organizational factors that promote a high level of innovation in employees included incentive practices, the professional development and advancement process, and relationships with superiors (Figure 3).

It should be noted, however, that percentage values that illustrate the frequency of respective organizational factors of commitment to innovation do not themselves visualize the actual links between those factors and innovative behaviors. For this reason, the subsequent part of the paper analyzes the correlation between the organizational factors of commitment to innovation and innovative behavior understood as employees’ opportunities to generate and implement new solutions in the company.

Based on data collected in the survey, correlation coefficients between innovative behavior, understood as employees’ opportunities to generate and implement new solutions in the company, and the respective organizational factors of innovative behavior, i.e., the achievement of professional tasks, relationships with superiors, relationships with col-

leagues, incentive practices, the professional advancement processes, and communication processes, were calculated.



Figure 3. Organizational factors of commitment to innovation in SMEs. Source: Own study.

The χ^2 —chi-square independence test was used to analyze the phenomenon. It is a non-parametric test, which means it can be applied under relatively simple (compared to parametric tests) conditions. In that test, the size of the sample n should be large compared to the size of the general population N ; furthermore, the sample should be simple and the size of a cell in the χ^2 table should be no less than 5 and the acceptable type 1 error is 0.05 or 0.01.

The sample of 186 enterprises was classified by employees' opportunities to generate and implement new solutions in the company. Next, the responses regarding the respective attributes were put into groups complying with χ^2 test conditions. Accordingly, it was assumed that:

- H_0 : Attributes (factors) are independent.
- H_1 : Attributes (factors) are dependent.

The test is verified [67] (p.215) through statistics based on χ^2 tables. This test identifies any dependencies, without determining their intensity; thus, their intensity was assessed by means of an additional χ^2 -based indicator, namely Yule's ϕ . The values of the tests for respective organizational factors of commitment to innovation are presented in Table 1.

Based on χ^2 and Yule's ϕ values, it may be concluded (with a probability of 0.95) that there exists a statistically significant correlation between the achievement of professional tasks, relationships with superiors, relationships with colleagues, incentive practices, the professional advancement processes, and communication processes and employees' opportunities to generate and implement new solutions in the company. The highest intensity is seen in relationships with superiors and professional development and advancement processes.

However, the indicators do not make it possible to determine the direction of the correlation. This purpose may be served by the formula proposed by Z. Pawłowski (r_{AiBj}) [68] (p. 52), which can be used if there are data available on two qualitative attributes collected by the application of two criteria. By comparison, Kendall's Q indicator may be applied to selected attributes (factors) for which there is a statistically significant correlation [69] (p. 62). The results are presented in Table 2.

Table 2. Values of χ^2 , Yule's ϕ , r_{AKBj} , Kendall's Q tests for respective attributes at significance level $\alpha = 0.05$.

Attribute	χ^2_e	χ^2_α	ϕ	r_{AiBj}	Kendall's Q
Achievement of professional tasks	5.687	3.841	0.147	0.199	0.579
Relationships with superiors	17.068	3.841	0.434	0.286	0.733
Relationships with colleagues	8.268	3.841	0.264	0.147	0.570
Incentive practices	4.535	3.841	0.199	0.434	0.900
Professional development and advancement process	14.618	3.841	0.286	0.264	0.714
Communication processes	3.916	3.841	0.137	0.137	0.500

Source: own study.

One of the aspects of the research was employee relationships with superiors and colleagues. Interpersonal relationships are, in a way, imposed on an employee, who, although he or she can choose the employer, rarely has a chance to choose the superior or colleagues to suit his or her preferences. An employee may minimize the intensity of certain relationships but cannot eliminate them entirely so long as he or she is professionally bound. The other attribute of interpersonal relationships between colleagues is a high level of formality—a clearly defined structure of relations and how they should be maintained according to the functional principles of an organization. However, judging by the specificity and type of innovative behavior that comprises the generation and implementation of ideas, the support that is provided is an important factor.

As regards relationships with a superior, the value suggests an evident correlation between employees' opportunities to generate and implement new solutions in the company and relations with their superior. The better the relationship, the higher the opportunities to generate and implement new solutions in the company. Other comparable studies suggest that if superiors are seen to be helpful in implementing innovation, employees feel encouraged to leverage their impact in order to be innovative at work [70] (p. 574). Similar are the conclusions of research on the correlation between the support of superiors and innovative behaviors of employees [71,72]. They confirm that there exists a correlation between the support provided by superior and innovative behavior; however, this is on the additional condition that there is simultaneous strong support from colleagues. The results of the research also suggest that better relationships with colleagues increase the opportunities to generate and implement new solutions. A supportive group atmosphere is created when people use empathic, descriptive communication that is proactive in problem solving, spontaneous, equal, and open to different ideas.

Professional development and advancement processes, the achievement of professional tasks, and communication processes also have a significant impact on employees' opportunities to generate and implement new solutions in SMEs.

The better developed the employee development and advancement process, the better the opportunities to generate and implement new solutions in a company. According to existing surveys, SMEs often lack the necessary resources to offer professional development and advancement to their employees [72]. For example, Madrid-Guijarro et al. [73] determined that Spanish SMEs with poorer human resources are lower on the innovation scale, and insufficient investment in human resources is one of the obstacles to innovation in SMEs. According to research [74], there is a positive correlation between increased investment in SME employee training and abilities to make products more innovative.

There exists a positive correlation between incentive practices and innovative behaviors (better incentive practices increase the opportunities to generate and implement new solutions in the company). A lack of incentive practices in SMEs results in employee dissatisfaction, negatively affecting the atmosphere and relationships at work and performance, which is also confirmed by other research results [75] (pp. 182–189). Studies on incentive systems in SMEs suggest that SMEs do not have such systems defined in a clear and understandable manner. However, employees are encouraged by positive feedback from their superiors [48]. Every employee, regardless of their position, expects the effects of

their work to be acknowledged. Recognizing minor successes and expressing approval and respect are very important (though not always appreciated) ways of reinforcing employee motivation cost-free. Employees should be able to develop and use their potential and take the initiative at work [55] (pp. 119–120).

A soundly developed sphere of the achievement of professional tasks (i.e., better awareness of expectations, tasks, and duties) means, according to research, a higher potential for employees to generate and implement new solutions in a company.

The same goes for communication processes—better companies mean better opportunities to generate and implement new solutions in the company.

Effective communication between superiors and employees is crucial in communication processes within an organization and the successful implementation of innovative changes. According to respondents, the rules of communication affect innovative behaviors in SMEs. The structure of responses is presented in Figure 4.

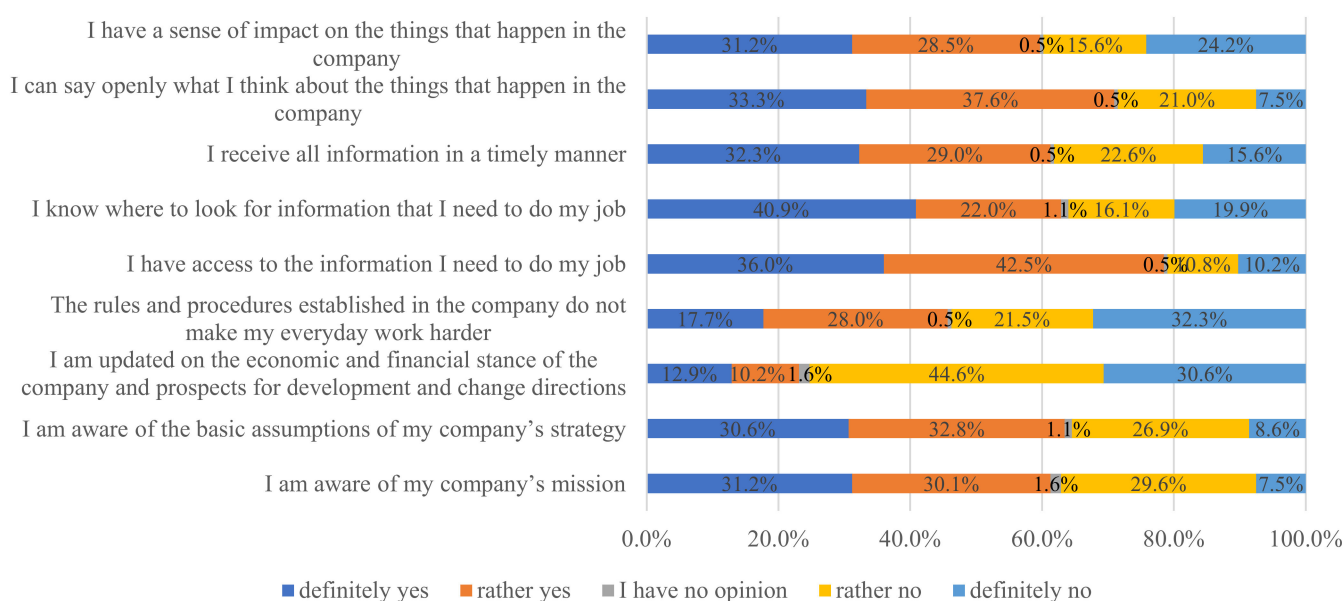


Figure 4. Assessment of the impact of communication processes on the opportunities to generate and implement new solutions in the company. Source: Own study.

The respondents mostly link innovative behavior to access to information related to the tasks at hand, being able to openly express their own opinion, and being aware of the basic assumptions of the company strategy.

5. Conclusions

SMEs should consider recourse to various sources of innovation, such as employee potential that can translate to innovative behavior. However, it is mainly large enterprises that stimulate employee innovative behaviors. Research conducted among Polish small and medium-sized enterprises shows that they do not extensively use the tools that promote innovative behaviors of employees [76] (p. 53).

Research on SMEs in the RES industry shows that the important organizational determinants of commitment to innovation include incentive practices, the employee development and advancement process, and relationships with superiors.

Contemporary SMEs typically lack financial and human resources to build efficient human resource management systems. They usually use outdated tools that cause employee dissatisfaction as well as worse performance and a lack of innovative behaviors. Meanwhile, proper management of human resources, such as in the areas of incentives or professional development and advancement, can promote innovative behaviors of employees and translate to better performance and a better competitive position for a company.

Wise human resource management, especially in terms of incentives and professional development and advancement, as well as the establishment of internal relationships, has a major impact on employee engagement and achievement of tasks, and ultimately, on the performance of the entire organization. For every enterprise (not only SMEs) to be successful, it is important to capitalize on the valuable source of innovation that the employees are.

Innovative behavior should be promoted by means of non-financial incentives, such as security of employment, opportunities to increase qualifications and develop skills, effective communication, and a nice atmosphere. The incentives used by SMEs should strongly influence the organizational culture, as it has a direct impact on social climate and interpersonal relations at work, thus triggering innovative behaviors. These aspects are often disregarded by SMEs. According to research, SMEs use standard incentives—rewards and punishments, and the rewards are also mostly standard (financial). Unfortunately, the standard incentives are not enough to promote innovative behavior, and it is often forgotten that positive stimuli (rewards) are more effective than negative ones (punishment). Thus, when developing incentive systems in SMEs, a note should be taken of the right atmosphere at work, which can tie employees closer to the company. Furthermore, the collaboration between colleagues and the independence of employees should be promoted to increase their motivation, the quality of their engagement in work, and their innovation.

The authors are aware of the limited conclusions that can be drawn from the results of the surveys and treat them in the context of elaborating on the analyzed problem with view to possible future hypotheses.

Author Contributions: Conceptualization, J.D. and M.S.; methodology, J.D. and M.S.; software, D.Ż.; validation, J.D., M.S. and E.G.-G.; formal analysis, D.Ż.; writing—original draft preparation, J.D. and M.S.; writing—review and editing, J.D. and M.S.; visualization, J.D. and M.S.; supervision, D.Ż.; project administration, J.D. and M.S.; funding acquisition, E.G.-G. All authors have read and agreed to the published version of the manuscript.

Funding: The project is funded under the program of the Minister of Science and Higher Education titled “Regional Initiative of Excellence” in 2019–2022, project number 018/RID/2018/19, the amount of funding PLN 10 788 423,16” (D.J., Ż.D.)

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Vitezic, N.; Vitezic, V. A Conceptual Model of Linkage Between Innovation Management and Controlling in the Sustainable Environment. *J. Appl. Bus. Res.* **2014**, *31*, 175–184. [\[CrossRef\]](#)
2. Goller, I.; Bessant, J. *Creativity for Innovation Management*; Routledge: New York, NY, USA, 2017.
3. Goffin, K.; Mitchell, R. *Innovation Management: Effective Strategy and Implementation*; Palgrave: London, UK, 2017.
4. Sosnowska, A.; Kłopotek, A. *Zarządzanie Firmą Innowacyjną*; Difin: Warszawa, Poland, 2000.
5. Dossou-Yovo, A.; Keen, C. SMEs and the Innovation Management Process: A multi-level process conceptual framework. *Technol. Innov. Manag. Rev.* **2021**, *11*, 22–33. [\[CrossRef\]](#)
6. De Massis, A.; Audretsch, D.; Uhlaner, L.; Kammerlander, N. Innovation with Limited Resources: Management Lessons from the German Mittelstand. *J. Prod. Innov. Manag.* **2017**, *35*, 125–146. [\[CrossRef\]](#)
7. Abdul Halim, H.; Ahmad, N.H.; Ramayah, T. Sustaining the Innovation Culture in SMEs: The Importance of Organisational Culture, Organisational Learning and Market Orientation. *Asian J. Bus. Res.* **2019**, *9*, 14–33. [\[CrossRef\]](#)
8. Gherhes, C.A.; Williams, N.; Vorley, T.; Vasconcelos, A.C. Distinguishing micro-businesses from SMEs: A systematic review of growth constraints. *J. Small Bus. Enterp. Dev.* **2016**, *23*, 939–963. [\[CrossRef\]](#)
9. Zhu, Y.; Wittmann, X.; Peng, M.W. Institution-based barriers to innovation in SMEs in China. *Asia Pac. J. Manag.* **2011**, *29*, 1131–1142. [\[CrossRef\]](#)
10. Keskin, H. Market orientation, learning orientation, and innovation capabilities in SMEs. *Eur. J. Innov. Manag.* **2006**, *9*, 396–417. [\[CrossRef\]](#)

11. Stankiewicz, J.; Moczulska, M. Zachowania pracowników sprzyjające innowacyjności organizacji w świetle badań. *Przegląd Organ.* **2016**, *28*, 36–43. [\[CrossRef\]](#)
12. Battistelli, A.; Odoardi, C.; Vandenberghe, C.; Di Napoli, G.; Piccione, L. Information sharing and innovative work behavior: The role of work-based learning, challenging tasks, and organizational commitment. *Hum. Resour. Dev. Q.* **2019**, *30*, 361–381. [\[CrossRef\]](#)
13. Akbari, M.; Bagheri, A.; Imani, S.; Asadnezhad, M. Does entrepreneurial leadership encourage innovation work behavior? The mediating role of creativity self-efficacy and support for innovation. *Eur. J. Innov. Manag.* **2020**, *24*, 1–22. [\[CrossRef\]](#)
14. Kianto, A.; Hurmelinna-Laukkanen, P.; Ritala, P. Intellectual capital in service- and product-oriented companies. *J. Intellect. Cap.* **2010**, *11*, 305–325. [\[CrossRef\]](#)
15. Wojtczuk-Turek, A. Organizacyjne i kompetencyjne predyktory zachowań organizacyjnych—Analizy empiryczne. *Współczesne Zarządzanie* **2010**, *4*, 95–106.
16. Gaiardelli, P.; Resta, B.; Dotti, S. Exploring the role of human factors in lean management. *Int. J. Lean Six Sigma* **2019**, *10*, 339–366. [\[CrossRef\]](#)
17. Georgiev, S.; Ohtaki, S. Critical success factors for TQM implementation among manufacturing SMEs: Evidence from Japan. *Benchmarking Int. J.* **2019**, *27*, 473–498. [\[CrossRef\]](#)
18. Van, H.; Nafukho, F. Employee engagement antecedents and consequences in Vietnamese businesses. *Eur. J. Train. Dev.* **2019**, *44*, 89–103. [\[CrossRef\]](#)
19. Wojtczuk-Turek, A. *Zachowania Innowacyjne w Pracy. Wybrane Zagadnienia Teoretyczne i Praktyczne*; Difin: Warsaw, Poland, 2012.
20. Kraśnicka, T.; Wronka-Pośpiech, M. Stymulowanie zachowań innowacyjnych pracowników w korporacjach. *Studia Ekon. Univ. Ekon. Katowicach* **2014**, *183*, 115–129.
21. Pachura, A. Konceptualizacja kreatywności w świetle teorii innowacji sieciowej. In *Zachowania Proinnowacyjne a kreatywność Organizacji. Perspektywa Interdyscyplinarna*; Pachura, A., Ed.; Politechnika Częstochowska: Częstochowa, Poland, 2014.
22. Smolarek, M.; Dzieńdziora, J.; Piątek, A. Kreatywność i innowacyjność w budowaniu postaw organizacji na przykładzie policji. *Zeszyty Naukowe Wyższej Szkoły Humanitas Zarządzanie* **2016**, *2*, 447–459. [\[CrossRef\]](#)
23. Amabile, T.M. Chapter 2: How to Kill Creativity. In *Creative Management and Development*; SAGE Publications Ltd.: New York, NY, USA, 2006; pp. 77–87. [\[CrossRef\]](#)
24. Kleysen, R.F.; Street, C.T. Toward a Multi-dimensional Measure of Individual Innovative Behavior. *J. Intellect. Cap.* **2001**, *2*, 284–296. [\[CrossRef\]](#)
25. Yuan, F.; Woodman, R.W. Innovative Behavior in the Workplace: The Role of Performance and Image Outcome Expectations. *Acad. Manag. J.* **2010**, *53*, 323–342. [\[CrossRef\]](#)
26. Büschgens, T.; Bausch, A.; Balkin, D.B. Organizational Culture and Innovation: A Meta-Analytic Review. *J. Prod. Innov. Manag.* **2013**, *30*, 763–781. [\[CrossRef\]](#)
27. Anderson, N.; Potočník, K.; Zhou, J. Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. *J. Manag.* **2014**, *40*, 1297–1333. [\[CrossRef\]](#)
28. West, M.A.; Farr, J.L. Innovation at work: Psychological perspectives. *Soc. Behav.* **1989**, *4*, 15–30.
29. Janssen, O. Job demands, perceptions of effort-reward fairness and innovative work behaviour. *J. Occup. Organ. Psychol.* **2000**, *73*, 287–302. [\[CrossRef\]](#)
30. Bharadwaj, S.; Menton, A. Making Innovation Happen in Organizations: Individual Creativity Mechanism, Organizational Creativity Mechanism or Both? *J. Prod. Innov. Manag.* **2000**, *17*, 424–434. [\[CrossRef\]](#)
31. Sanders, K.; Moorkamp, M.; Torka, N.; Groeneveld, S.; Groeneveld, C. How to Support Innovative Behaviour? The Role of LMX and Satisfaction with HR Practices. *Technol. Investig.* **2010**, *1*, 59–68. [\[CrossRef\]](#)
32. Talke, K.; Salomo, S.; Mensel, N. A Competence-Based Model of Initiatives for Innovations. *Creativity Innov. Manag.* **2006**, *15*, 373–384. [\[CrossRef\]](#)
33. Kelly, K.E. Relationship Between the Five-Factor Model of Personality and Scale of Creative Attributes and Behaviour: A Validation Study. *Individ. Differ. Res.* **2006**, *4*, 299–305.
34. Jolliffe, D. Exploring the relationship between the Five-Factor Model of personality, social factors and self-reported delinquency. *Pers. Individ. Differ.* **2013**, *55*, 47–52. [\[CrossRef\]](#)
35. Ljubin-Golub, T.; Vrselja, I.; Pandžić, M. The Contribution of Sensation Seeking and the Big Five Personality Factors to Different Types of Delinquency. *Crim. Justice Behav.* **2017**, *44*, 1518–1536. [\[CrossRef\]](#)
36. De Jong, J.P.J.; Kemp, R. Determinants of Co-Workers' Innovative Behaviour: An Investigation into Knowledge Intensive Services. *Int. J. Innov. Manag.* **2003**, *7*, 189–212. [\[CrossRef\]](#)
37. Carmeli, A.; Meitar, R.; Weisberg, J. Self-leadership skills and innovative behavior at work. *Int. J. Manpow.* **2006**, *27*, 75–90. [\[CrossRef\]](#)
38. Jafri, M.H. Organizational Commitment and Employee's Innovative Behavior: A Study in Retail Sector. *J. Manag. Res.* **2010**, *10*, 62–68.
39. Qiu, X.; Yan, X.; Lv, Y. The Effect of Psychological Capital and Knowledge Sharing on Innovation Performance for Professional Technical Employees. *J. Serv. Sci. Manag.* **2015**, *8*, 545–551. [\[CrossRef\]](#)
40. Aryee, S.; Walumbwa, F.O.; Zhou, Q.; Hartnell, C.A. Transformational Leadership, Innovative Behavior, and Task Performance: Test of Mediation and Moderation Processes. *Hum. Perform.* **2012**, *25*, 1–25. [\[CrossRef\]](#)

41. Yu, C.; Yu, T.-F.; Yu, C.-C. Knowledge Sharing, Organizational Climate, and Innovative Behavior: A Cross-Level Analysis of Effects. *Soc. Behav. Pers. Int. J.* **2013**, *41*, 143–156. [\[CrossRef\]](#)
42. Ariawan, J.; Landra, N.; Kepramareni, P. Effect of Knowledge Sharing and Self-Leadership on Innovation Behavior and Employee Performance. *J. Bus. Manag.* **2020**, *22*, 56–63.
43. Hisyam Selamat, M.; Zhang, Y. Organizational Climate and Knowledge Sharing towards Employees' Innovative Behavior in Design Industry. *Int. J. Bus. Manag.* **2019**, *14*, 76–90. [\[CrossRef\]](#)
44. Wojtczuk-Turek, A. Zachowania innowacyjne w pracy—Badania nad organizacyjnymi czynnikami zaangażowania organizacyjnego. In *Efektywność Zarządzania Zasobami Ludzkimi*; Urbaniak, B., Ed.; Wydawnictwo Uniwersytetu Łódzkiego: Łódź, Poland, 2011; pp. 246–249.
45. Tracz, E. Motywowanie do innowacyjności. In *Zmiana Warunkiem Sukcesu: Zmiana a Innowacyjność Organizacji*; Skalik, J., Ed.; Prace Naukowe Akademii Ekonomicznej we Wrocławiu: Wrocław, Poland, 2004; Volume 1045, pp. 310–318.
46. Zakrzewska-Bielawska, A. Zarządzanie zasobami ludzkimi w MSP w kontekście zachowań innowacyjnych. In *Innowacyjność jako czynnik podnoszenia konkurencyjności przedsiębiorstw i regionów na Jednolitym Rynku Europejskim*; Otto, J., Stanisławski, R., i Maciaszczyk, A., Eds.; Monografie Politechniki Łódzkiej, Wydawnictwo Politechniki Łódzkiej: Łódź, Poland, 2007.
47. Smolarek, M. *Planowanie Strategiczne w Małej Firmie*; Oficyna Wydawnicza "Humanitas": Sosnowiec, Poland, 2008.
48. Smolarek, M. Rola systemu motywowania w kształtowaniu zachowań innowacyjnych pracowników MŚP. *Przedsiębiorczość I Zarządzanie* **2017**, *18*, 277–290.
49. Kawka, T.; Listwan, T. Rozdział 7. Motywowanie pracowników. In *Zarządzanie Kadrami*; Tadeusz, L., Ed.; Beck, C.H.: Warsaw, Poland, 2010.
50. Nogalski, B.; Wójcik-Karpacz, A. Sposoby motywowania pracowników małych i średnich przedsiębiorstw. *Zarządzanie Zasobami Ludzkimi* **2003**, *5*, 31–35.
51. Poczrowski, A. *Zarządzanie Zasobami Ludzkimi. Strategie-Procesy-Metody*; PWE: Warsaw, Poland, 2008.
52. Lloyd, K. *Nagradzanie i wyróżnianie pracowników*; Wydawnictwo HELION: Gliwice, Poland, 2008.
53. Drozdowski, R.; Zakrzewska, A.; Puchalska, K.; Morchat, M.; Mroczkowska, D. *Wspieranie Postaw Proinnowacyjnych Przez Wzmacnianie Kreatywności Jednostki*; PARP: Warsaw, Poland, 2010.
54. Borkowska, S. Human Resource Management and Innovation in the Business Organization. *Zarządzanie Zasobami Ludzkimi* **2009**, *2*, 9–29.
55. Sidor-Rzadkowska, M. *Zarządzanie Personelem w Małej Firmie*; Wolters Kluwer: Warsaw, Poland, 2010.
56. Mumford, M.D.; Licuanan, B. Leading for Innovation: Conclusions, Issues, and Directions. *Leadersh. Q.* **2004**, *15*, 163–171. [\[CrossRef\]](#)
57. Denti, L.; Hemlin, S. Leadership and Innovation in Organizations: A Systematic Review of Factors that Mediate or Moderate the Relationship. *Int. J. Innov. Manag.* **2012**, *16*, 1240007. [\[CrossRef\]](#)
58. Airila, A.; Hakanen, J.J.; Schaufeli, W.B.; Luukkonen, R.; Punakallio, A.; Lusa, S. Are job and personal resources associated with work ability 10 years later? The mediating role of work engagement. *Work Stress* **2014**, *28*, 87–105. [\[CrossRef\]](#)
59. Krot, K.; Lewicka, D. Wpływ zaufania organizacyjnego na innowacyjność w świetle badania jakościowego. *Studia Pr. Wydziału Nauk. Ekon. Zarządzania* **2015**, *39*, 65–78.
60. Sung, S.Y.; Choi, J.N. Do organizations spend wisely on employees? Effects of training and development investments on learning and innovation in organizations. *J. Organ. Behav.* **2013**, *35*, 393–412. [\[CrossRef\]](#)
61. Faherty, U.; Stephens, S. Innovation in micro enterprises: Reality or fiction? *J. Small Bus. Enterp. Dev.* **2016**, *23*, 349–362. [\[CrossRef\]](#)
62. Kianto, A.; Sáenz, J.; Aramburu, N. Knowledge-based human resource management practices, intellectual capital and innovation. *J. Bus. Res.* **2017**, *81*, 11–20.
63. Beugelsdijk, S. Strategic Human Resource Practices and Product Innovation. *Organ. Stud.* **2008**, *29*, 821–847. [\[CrossRef\]](#)
64. Børing, P. The relationship between training and innovation activities in enterprises. *Int. J. Train. Dev.* **2017**, *21*, 113–129. [\[CrossRef\]](#)
65. Demirbag, M.; Tatoglu, E.; Tekinkus, M.; Zaim, S. An analysis of the relationship between TQM implementation and organizational performance. *J. Manuf. Technol. Manag.* **2006**, *17*, 829–847. [\[CrossRef\]](#)
66. Głód, G.; Kraśnicka, T. Zachowania innowacyjne pracowników w MŚP—Wyniki badan. *Studia Ekonomiczne. Zesz. Nauk. Uniw. Ekon. Katowicach* **2015**, *212*, 35–51.
67. Sobczyk, M. *Statystyka*; PWN: Warsaw, Poland, 1995.
68. Wiśniewski, J.W. *Ekonometryczne Badanie Zjawisk Jakościowych*; Wydawnictwo UMK w Toruniu: Toruń, Poland, 1986.
69. Suchecka, J. (Ed.) *Metody Statystyczne. Zarys Teorii i Zadania*; Wydawnictwo Wydziału Zarządzania Politechniki Częstochowskiej: Częstochowa, Poland, 2002.
70. Janssen, O. The joint impact of perceived influence and supervisor supportiveness on employee innovative behaviour. *J. Occup. Organ. Psychol.* **2005**, *78*, 573–579. [\[CrossRef\]](#)
71. Montani, F.; Odoardi, C.; Battistelli, A. Explaining the Relationships among Supervisor Support, Affective Commitment to Change, and Innovative Work Behavior: The Moderating Role of Coworker Support. *Bollettino di Psicologia Applicata* **2012**, *8*, 645–670. [\[CrossRef\]](#)
72. Padachi, K.; Lukea Bhiwajee, S. Barriers to employee training in small and medium sized enterprises: Insights and evidences from Mauritius. *Eur. J. Train. Dev.* **2016**, *40*, 232–247. [\[CrossRef\]](#)

-
73. Madrid-Guijarro, A.; Garcia, D.; Van Auken, H. Barriers to innovation among Spanish. *J. Small Bus. Manag.* **2009**, *47*, 465–488. [[CrossRef](#)]
 74. Demirkan, I.; Srinivasan, R.; Nand, A. Innovation in SMEs: The role of employee training in German SMEs. *J. Small Bus. Enterp. Dev.* **2021**, *29*, 421–440. [[CrossRef](#)]
 75. Dzieńdziora, J.; Smolarek, M. Contemporary challenges of human resources management in small and medium enterprises in conditions of European integration on the example of region Silesia in Poland. In Proceedings of the 3rd International Conference on European Integration 2016, Ostrava, Czech Republic, 19–20 May 2016; Kovarova, E., Melecky, L., Stanickova, M., Eds.; VSB—Technical University of Ostrava: Ostrava, Czech Republic, 2016; pp. 182–189.
 76. Kraśnicka, T. Działania kadry menedżerskiej zorientowane na stymulowanie innowacyjności pracowników MŚP. *Studia Ekonomiczne. Zeszyty Naukowe Uniwersytetu Ekonomicznego w Katowicach* **2016**, *278*, 53–66.