

Facts and Result of Knowledge Management on SMES for Innovation

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Abstract: Nowadays, Knowledge Management is one of the growing management systems that employee's and organization's knowledge just because knowledge is often regarded as the most important component of innovation, the success of innovation efforts is determined by how businesses manage their learning processes. This necessitates businesses filling "knowledge gaps" and reducing ambiguity about a variety of innovation-related technical, economic, and market problems. SMEs are slow to embrace and utilize systematic knowledge management (KM) methods for gathering, generating, and utilizing valuable information. Given the importance of these businesses to the economy, this subject warrants more study. Due to new idea of knowledge management which is gaining traction in both small and big businesses. Various facts and result of knowledge management techniques are addressed in this research, as well as the required insights into knowledge management procedures and their beneficial effects for company. This paper also reveals the links between knowledge management procedures and radical innovation in small and medium enterprise as well. The tools for knowledge management and innovation were modified from prior studies in some case. It also contributes to the corpus of knowledge-on-knowledge management in SMEs, especially in terms of innovation from its various facts and resulting analysis. From a practical perspective, it gives SME leaders for thought on the important role that knowledge plays in the innovation process and how to manage it successfully.

Key Words: SMEs, Knowledge Management, Innovation.

1. INTRODUCTION:

Knowledge management innovating entails the invention and implementation of new information, knowledge is often seen as a major component of innovation (Nieto, 2003). As a result, the effectiveness of innovation initiatives is solely dependent on how businesses manage the learning processes required to carry them out (Zieba et al., 2017). Indeed, completing successful innovation initiatives necessitates firms filling their "knowledge gaps" and reducing uncertainty about a variety of technical, economic, and market-related challenges. There is evidence that small and medium-sized firms go through learning processes and manage innovation-related information, although this is typically done in an informal and mostly "unconscious" manner (Bolisani et al., 2016b). In other words, SMEs have been slow to embrace and apply systematic knowledge management techniques for gathering, generating, and utilizing creative information. As a result, these subject warrants additional research (Pertuz and Pérez, 2020), especially given the importance of these businesses to the economy. This study explores the essential challenges of knowledge management (KM) for implementing innovations by looking at a sample of several innovative projects successfully completed by various SMEs and focus on facts and resulting analysis. It examines the methods used by the companies under investigation to decrease uncertainty and address knowledge gaps that occur during the launch of any new product or process. The theoretical basis of the study is illustrated in the following part, and the research aims, and methods are described in the third section. Section four contains the study findings, as well as conclusions and limits, which are presented in the last section.

2. RESEARCH BACKGROUND:

Despite the fact that the notion that knowledge is a critical component of innovation has been effectively articulated in the past (Kanter, 1988; Quinn, 1985; Nieto, 2003), it is only in the recent two decades, with the deepening of KM research, that this argument has taken on new importance. Indeed, the creation of new knowledge is regarded as the fundamental heart of innovation in knowledge management (Nonaka and Takeuchi, 1995). Innovation, according to Tidd and Bessant (2020), is essentially about knowledge, or the integration of new knowledge sets to generate new possibilities. On the one hand, knowledge gives companies a competitive advantage, especially when used to innovation (Costa and Monteiro, 2016), yet invention may also be considered a cognitive outcome (Quintane et al., 2011). This is equally true for small and micro businesses. Creativity and innovation are seen to be key elements that enable a business to withstand the pressures of competition (Gede et al., 2019). Innovations are seen as one of the most important elements in securing a company's place in today's global markets, which are characterised by fierce economic rivalry.

According to MacAdam (2000), good knowledge management is a catalyst for innovation. In this regard, according to Du Plessis (2007), KM is critical to innovation because it aids in the creation of tools, platforms, and processes for tacit knowledge creation, sharing, and leverage in the organisation, which is critical to the innovation process. It also facilitates collaboration in the innovation process moreover it ensures the availability and accessibility of both tacit and explicit knowledge. According to the Europe 2020 plan's assumptions, bringing new ideas to the market boosts market competitiveness, aids job creation and development, increases labour productivity, and improves resource efficiency (Europe 2020, 2019). For innovations to develop, many prerequisites must be fulfilled, including creativity, dynamicity, knowledge production, and new skills.

Several researchers have looked at the connections between knowledge management (KM) processes and innovation. For example, Andreeva and Kianto (2011) looked at the influence of KM processes on innovation performance and discovered that, while all processes have a positive impact on innovation, the specific impact varies. Knowledge acquisition and knowledge sharing are the most researched KM processes in innovation, according to a recent literature analysis by Costa and Monteiro (2016), since they potentially affect its consequences. Furthermore, especially important in the case of small enterprises (Harel et al., 2021). The importance of knowledge management (KM) in supporting SMEs' innovation (Massaro et al., 2016), particularly in the many stages that characterise the innovation process, receives much too little attention.

These factors include SMEs' limited skills and resources, diseconomies of scale they face in R&D as compared to large companies, and their present stage of growth. For example; start-up or established company, niche or market manufacturer (Ortega-Argilés and Raquel & Voigt, 2009). As a result, it seems to be especially essential to assist SMEs in gaining access to information on innovations and R&D units that may assist them in developing eco-innovations.

Knowledge management is becoming more essential in projects, which are regarded as transitory organisations, despite the fact that there have been few studies linking the two fields: knowledge management and project management, until lately. Fortunately, in recent years, there has been a growth in this field. Effective Knowledge Management (KM) techniques, for example, enhance project performance, according to Pauli and Sell (2019).

3. RESEARCH FINDING:

The results of the several case studies studied are summarised in this section. The company's fundamental information (number of workers, major product/production, and kind of innovation included in the study) is shown in Table 1. For reasons of secrecy, the names of the businesses have been changed.

Table 1: Importance facts of Knowledge Management Sources

Firm	No. of employees	Main product	Innovation type
A	67	Aesthetic components for home appliances	Re-organization of the production process
B	46	Superior styling radiators and fireplaces	Re-organization of the production process
C	17	Intelligent and sensitive systems	Product (new for a new market)
D	250	Steel pipelines and related machinery	Products and process (new machinery for small diameter pipelines)
E	400	Electrical conductors	Product (new technology)
F	180	Kitchen hoods	Product (new component)
G	85	Filling systems	Product (new technology)
H	158	Cabin construction for industrial machinery	Re-organization of the production process
I	25	Handling cereals machinery	New organisational model
J	41	Blind rivets	Production process (digitalisation)

All of the businesses examined work in the B2B sector, which is unsurprising given their small size, and in various market types (from very simple components to big and complex machinery). Furthermore, both process/organizational and product innovations are included in the sample (Ettore Bolisani, 2016). The examples

demonstrate that in this phase, tacit information from many sources dominates, and as a result, informal methods and solutions are used to discover and gather such knowledge. Furthermore, external knowledge sources account for the lion's share, given that it is a question of creating brand new ideas, which may be successfully accomplished by broadening the company's pool of information. Furthermore, market knowledge is critical, indicating that businesses strive to keep their inventions as near to real-world commercial possibilities as possible.

4. METHODOLOGY OF KNOWLEDGE GATHEING :

Most study of KM was intended to examine the knowledge relating to eco-innovative activity as well as need for external expert knowledge among manufacturing SMEs in the studied area served as the beginning point for further phases of the project. The research's main aim was to find out about the present status of pro-environmental consciousness, major triggers, and obstacles to adopting eco-innovative solutions, as well as the current degree of eco-innovative activity among the SMEs in question. The CAWI (Computer Assisted Web Interview) technique was used to collect the information needed for further processing and development of the knowledge management strategy required to meet the project's stated objectives. The survey questionnaire created using the CAWI technique displays in the browser as a web page that the respondents may access in a variety of ways. Only the questions to be answered are shown on the screen, while the responses are processed in the background. The responses to the questionnaire are instantly transmitted to the main server, allowing for continuous data gathering and analysis (DJS Research, 2008). There were 27 questions in all, split into five categories, in the survey form. The first set of five questions focused on basic information about the surveyed company and its operations profile. The second set of questions, numbered 6 to 15, focused only on eco-innovations, including understanding of eco-innovations, driving reasons, and obstacles to implementing eco-innovations in BSR manufacturing SMEs. Knowledge gathering as from previous research stated that Estonia, Poland, Finland, Lithuania, Sweden, and Denmark are members of a group of 298 businesses from the six partner nations. The responses to the survey as beard from questionnaire questions contributed to the collection of important information about the eco-innovative solutions that manufacturing SMEs in all six countries examined have already adopted, as well as their requirements for expert knowledge in the researched field.

5. FACTS AND VARIOUS STAGES OF KNOWLEDGE MANAGEMENT :

Knowledge management, according to Darroch and McNaughton (2002), is the function of management that generates or locates information, controls the flow of knowledge throughout the company, and ensures that it is utilised or used effectively and efficiently for the business's long-term advantage. Knowledge management, according to Dalkir (2005, p.3), is “[...] the methodical coordination of people, technology, processes, and organisational structure... carried out via the development, application, and sharing of knowledge.” Knowledge management, according to Angeloni (2002), is a collection of procedures that regulate the production, distribution, and application of knowledge inside companies. So in this case, the information gathered during the first stage of the project's operation served as a foundation for the second stage's assessments. There were two components to these analyses. The understanding of the driving drivers and obstacles to eco-innovative activity in SMEs, as well as the need for expert information from RDIs, was examined in the first half. Based on the findings, the most significant motivating factors for SMEs in the BSR area to engage in eco-innovative activity, as well as obstacles linked to specialist knowledge, could be identified. To show them in a synthetic form, the paper's author calculated their weighted average in each instance (WA). The weighted average seems to be a superior option than the conventional arithmetical average when survey respondents rated the importance of motivating factors and obstacles on a five-point Likert scale. As a result, the values with higher values play a bigger role in calculating the weighted average than the values with lower values.

Table 2: Motivating factors and barriers related to knowledge according to the SMEs from the BSR

Motivating factors		Barriers related to knowledge	
using resources effectively	WA – 4.32	lack of suitable tools and methods	WA – 3.26
satisfying customer needs	WA - 4.28	limited access to external knowledge	WA – 3.24
strengthening the brand’s image	WA - 4.11	lack of proven technologies	WA – 3.22
compliance with legislation	WA - 4.03	lack of in-house expertise	WA – 3.21
differentiation from competitors	WA - 4.01	legislative demands	WA – 3.07

N=241 answers for motivating elements and N=235 replies for obstacles.
 Source: Based on findings from the ECOLABNET project's study.

According to the SMEs situated in the BSR, the main driving reasons for eco-innovative activity are linked to optimal resource use, as shown in Table 2. The problem of meeting the requirements of consumers is almost as essential. Eco-innovations are also used by the SMEs polled to enhance their brand image and set themselves apart from their rivals. Maintaining legal compliance is also seen as a key motivator for the studied SMEs to incorporate eco-innovations into their production processes. The major knowledge-related obstacles identified in the study are, first and foremost, a lack of appropriate tools and techniques. Limited access to external information, a lack of established technology, and a lack of in-house experience were all mentioned as obstacles to SMEs implementing eco-innovations. Across addition, in the six project partner countries, legislative demands in the form of constantly changing legal requirements were identified as a barrier to a larger participation in the idea of introducing eco-innovations by small and medium-sized businesses. The survey's findings provide an answer to the RQ2. Is one of the main obstacles to fostering access to expert knowledge and boosting eco-innovations in the Baltic Sea Region using the potential of RDI units? If the development and adoption of eco-innovations is to increase, the surveyed SMEs in the BSR will need to be supported by RDIs. As a result, the identified barriers to wider access to expert knowledge, tools, and techniques that promote the introduction of eco-innovations have been addressed in the ECOLABNET project's latter phases of implementation.

As a result, the first stage of knowledge management was completed, and the information collecting process in the form of the survey offered important insights into the future directions of the ECOLABNET project. The information gathered during the first stage of the project's length was also analysed in terms of developing services that would assist the growth of eco-innovations in the target group of SMEs in subsequent stages. The main aim of this study was to determine the services that ECOLABNET might provide to SMEs participating in the initiative. In this process, the service design methodology was utilised.

6. SECTORS BASED SMEs AND KNOWLEDGE MANAGEMENT ACTIVITIES:

Without the initiative of people and the interactions that occur in a group, an organization cannot generate knowledge (Nonaka and Takeuchi, 1997). Knowledge production, in this view, is a spiral process that starts at the individual level and goes upward, creating communities of interaction that span sections and departments, divisions, and organizations (Camara et al., 2013). However, in order for this to happen, the organization must be able to establish an environment that provides the essential circumstances for knowledge to flourish and grow. Knowledge management, according to Apurva and Singh (2011), is the manifest and organised management of important knowledge, as well as all the activities that go along with it, from collection, preparation, production, distribution, and transfer to exploitation (Janicot and Mignon, 2012; Vrontis et al., 2016). What is taking place is the transition of personal information into corporate knowledge, which is then shared, transmitted, and applied to reality. To put it another way, effective knowledge management is required for knowledge to become a valuable and significant corporate resource. "Knowledge must be created by itself," Nonaka and Takeuchi (1995, p.10) write, "frequently necessitating intense contact between members of the organisation." Data and information make up knowledge, which is split into tacit and explicit knowledge. Because tacit knowledge is the most difficult to duplicate and differs from person to person, it is more valuable to an organisation. It is tough to communicate, which may be a drawback for the business at times. Explicit knowledge refers to knowledge that has been coded. It has minimal value since anybody may access it and it is simple to duplicate. Knowledge management, as a strategic instrument whose purpose is to collect, develop, organise, and utilise an intangible and impossible to duplicate resource: knowledge, may therefore constitute a source of competitive advantage.

7. KNOWLEDGE ANALYSIS AND DEVELOPMENT DIRECTIONS :

- **Knowledge Sharing:** The acquisition of knowledge therefore entails the development of new knowledge (Ferreira et al., 2015) that may offer a competitive market advantage and enable the business to accomplish its goals (Kotabe et al., 2011). This is also a method for facilitating the development of new information by using the current foundation, as well as practising and sharing it. Knowledge is often created via formal gatherings or simply a simple interchange of ideas in which the components share their experiences. However, communication and a foundation of trust are necessary for various stakeholders to feel comfortable sharing their expertise (Azmi and Zairi, 2005).
- **Transform of Knowledge :** To gain a competitive advantage, information must be used throughout the company's many departments and distributed via the company's workers. In the workplace, incentive systems may be utilised to encourage workers to not only produce but also use knowledge. This stage entails applying knowledge in a systematic, explicit, and intentional manner. Information distribution also aids in the transformation of previously learned knowledge into useful economic knowledge through new processes, goods, or activities. The application of knowledge, according to Berta et al. (2010), is split into two stages: absorption

and repetition. When new information is added, these two stages ensure that the organization's current processes are preserved.

- **Development direction and Innovation:** To survive and thrive in a competitive market, businesses must innovate. As a result, it is critical that thorough knowledge of the variables that may influence the growth of business innovation. The function of innovation is becoming more important in a market characterized by fast technological development and fierce competition. As a result, innovation becomes a critical instrument for businesses to acquire a competitive edge and flourish. Schumpeter (1983) was a pioneer in defining innovation as the introduction of a new good in each market; the introduction of a new production system in a type of industry; the development of a new market; obtaining new sources of raw materials or products; or even the implementation of a new market structure. The term "innovation" refers to everything that is new and beneficial, from a product to a service, a process to a new organisational structure, an increase or a discovery - this definition is quite similar to the one used in the Oslo Manual (OECD, 2005). New things for the world, new goods for the business, additions, enhancements, or modifications to current product lines, cost reduction of existing products, or repositioning of existing items are all examples of innovations, according to Booz Allen Hamilton (1982).

8. RESULTING ANALYSIS BASED ON ABOVE DISCUSSION:

It's critical to understand the difference between gradual and radical innovation. Radical innovations are usually described as new inventions for the world, while incremental innovations are described as new innovations for the individual. Incremental innovations, on the other hand, are presented as expansions or changes of current goods (Giovanni, 1988). Organizations must have a healthy mix of radical and gradual innovations, with the former aiming to meet current market demands and the latter to safeguard in the future. Data are tiny bits of information that may be understood in a certain context and therefore provide information to the user. As a result of the analysis and reflection of the gathered data, information is obtained. Knowledge may be verified via know how, which is evidence that knowledge is implicit, after analyzing the facts and linking the information.

9. CONCLUSION:

Knowledge management has a beneficial impact on innovation performance, both directly and indirectly, knowledge sharing and application procedures mediate the connection between knowledge acquisition/creation and company innovation. As the value of the knowledge management process rises, so it does the likelihood of a more effective and efficient innovation process. Knowledge management procedures are used as a means of transforming existing resources into useful assets. It promotes cooperation, constant knowledge-based growth, the development of skills, and the flow of information in the innovation process. The knowledge management approach fosters a knowledge-driven culture that values and encourages innovation. Employees are encouraged to share and distribute knowledge as well as react to external pressures in such a culture. To succeed in a competitive climate, a company must utilize knowledge management as a tool to set itself apart from the competition. Moreover, businesses must be able to innovate while keeping in mind that they do not invent alone, since information, knowledge, and innovation may come from both within and outside the company. In this case, organizations must also have the ability to learn, adapt, and change on a continuous basis within relevant facts other than it wouldn't properly find for the purpose of any step.

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