

## **ASSESSMENT OF THE APPLICATION OF TECHNOLOGY IN THE MANAGEMENT OF SMALL AND MEDIUM-SIZED ENTERPRISES (SMES)**

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### **Abstract**

Business technology tends to maximize the use of technology within the company to meet the demands and desires of customers. However, technology has also the potential to benefit management and business practices. Several factors influence an organization's decision to use new technology. Some of these factors are: to increase results, to improve the product, to reduce the dependence on specialized work as well as to keep up with the latest trends and developments. Technology is important because it can be a key differentiator in attracting and retaining talented employees. However, technology also has the potential for it the management and practices of businesses also benefit.

The purpose of this study is to determine how the introduction of technology affects different business processes. Also, in this paper, we will try to identify the effects and advantages of the application of technology to small and medium enterprises in North Macedonia and Kosovo. Technology has revolutionized the way enterprises conduct business, enabling small businesses to catch up with larger organizations. Small businesses use a variety of technologies to develop competitive advantages in the economic marketplace as well as increase the productivity of their employees. Small and medium business owners should consider implementing technology in their planning process for easier integration and the possibility of future expansion. The results from this study suggest that SMEs may be able to increase their business capacity when innovations and technologies are applied.

*Keywords:* technology, business, SMEs, management

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### **1. Introduction**

#### **The impact of technology on business**

Technology and innovation are widely acknowledged as critical competitive factors in organizations. Their significance is heightened by modern processes like as increased global competitiveness, shorter product life cycles, improved technology capabilities, and ever-changing customer expectations.

The development of new products and services is of crucial importance for the growth and survival of small and medium-sized enterprises. However, while on the one hand, small and medium-sized enterprises must be innovative by applying advanced technology, on the other hand, they must also minimize their costs. The cost of innovation is one of the parameters used to define the level of technological innovation found in a business (Yong'an et al., 2016). Compared to large companies, small and medium-sized companies face several problems when it comes to technology and innovation. To begin with, the resources available to them are less, whether it is money or quality and adequately educated personnel.

Despite the numerous advantages provided by modern technology, there are still disadvantages of the inseparable relationship between technology and the business world. One such disadvantage is the increase in the cost of starting new businesses.

Entrepreneurship, as the basis of the economic system and economic development of the country, represents the ability of entrepreneurs to initiate activities in an environment full of risks and challenges with the purpose of satisfying market needs, achieving the desired goal, and profit as a reward for the effort invested, and as proof of the entrepreneur's ability. Technological progress and investment in it are one of the drivers of economic growth. The development of technologies leads to new jobs, new processes, new markets, new business opportunities, and new ideas. Entrepreneurship is a process of innovation and the initiation of new business ventures based on the individual and organizational abilities of individuals, supported by the state, the education system, and other accompanying institutions.

Entrepreneurs have the role of defining the opportunity to undertake a venture, finding and using the necessary elements, organizing, and acting proactively in a timely and innovative manner. This is precisely the direction through which the enterprise sets its business objective continuously challenging cases and opportunities, including the implementation of new ideas in the market and application of new technologies. The process of introducing new technology into companies includes all activities aimed at investing and combining the necessary resources, expanding to various markets, creating new products, and finding new consumers and their solutions (Stark, E. 2011). Companies must therefore seek to improve (or acquire ex novo) those technologies able to offer the greatest competitive advantage in terms of meeting customers' expectations.

## **2. Literature Review**

The technology allows businesses to easily identify their best customers and target marketing efforts to them, as well as reward potential customers who will purchase products or use a company's services more often. The introduction of new technologies greatly helps in everyday business, including entrepreneurship, and greatly facilitates tasks that used to take a lot of time until they were used. Modern entrepreneurship largely connects entrepreneurship and technology. To maintain a competitive advantage, SMEs need to pay attention and be able to gain an advantage from technological opportunities to support business strategies and improve operations and services. The success of a business is partly determined by responsiveness and adaptation to technological innovation (Henny & Caska, 2020). Government support is critical for SMEs in Kosovo and North Macedonia because SMEs require policies and initiatives to help them create a suitable environment for business development. SMEs with limited financial resources are less likely to invest in innovation and technology. Also, existing literature indicates that several factors are hindering the development of SME technology, one of which is government support (Doh and Kim, 2014).

It is recognized as a critical link between new knowledge and economic growth. Lack of awareness contains numerous factors, which include uncertainty about technology benefits, lack of guidance, and the unfamiliarity of technologies (Premkumar & Roberts, 2010). Therefore, companies must seek and improve those technologies that can provide the greatest competitive advantage in terms of meeting customer expectations (Pratali, P. 2003).

According to Green, N. (2011), there are a limited amount of employees with the necessary technical skills to accept and exploit new technology. Some other studies also suggest that the barrier to innovative technology is mainly due to the low quality of human resources in the company (Love & Roper, 2015). The author contends that a lack of knowledge-based personnel may restrict or impede the adoption and usage of technology if the owner feels that it can only be done with the help of specialists. Highly educated personnel can adapt to new technology

more rapidly and efficiently (Balsmeier & Czarnitzki, 2014). Furthermore, they are better equipped to discover and capitalize on new technical opportunities that enhance the firm's capability (Goedhuys et al., 2013). Small businesses dominate business activities in today's world (more than 95% of business activity in all countries is attributable to the indicated sector). Small businesses have an advantage over large businesses in terms of flexibility, openness, dynamism, and creativity, while there are restrictions of a mostly financial nature (inability to finance company ideas, poor financial conditions, and so on). Companies must pay attention to the increased rivalry caused by numerous internal and external elements to successfully cope with opportunities and dangers.

Differences in production circumstances, innovations, acceptance of new technologies and market knowledge, and access to resources are essential areas that any small or medium-sized enterprise's management should pay attention to. The fundamental advantages that the SME sector has over large companies are reduced barriers caused by hierarchy, greater flexibility in the decision-making process, a shorter feedback period on consumer and market needs, and easier establishment of partnership relations with companies suitable for achieving synergistic business results. According to Ritchie and Brindley (2010), there are three hurdles to SMEs' adoption and usage of technology. These include external pressures (trade partner requirements and competition from other players), organizational preparation, and perceived benefits of the technology. According to the authors, perceived benefits are a major reason why many SMEs adopt and continue to utilize the technology.

Small and medium-sized enterprises as a business system are, without the presence of the human factor, an "empty shell" (or organizational structure). Owners (individual or group), through the process of exploiting business opportunities, define goals and activities that make a small or medium-sized enterprise efficient and successful, of course with the help of managers and company employees. All participants must take on the roles of entrepreneurs and managers for the enterprise to succeed.

### **3. Conceptual Framework**

The current study concentrated on a conceptual framework that is critical in identifying factors that influence SMEs' adoption and usage of technology in their organizations. The problem is identified by the framework as a lack of effective adoption and use of technology by SMEs as a result of cost challenges, unreliable electricity supply, inadequate infrastructure, poor maintenance of technological infrastructures, government policies, a negative attitude toward technology, and a lack of technical know-how on technological instruments. The objective of this study is to examine the importance of technology application in the management of SME enterprises.

### **4. Research methodology**

The present study is quantitative. It adopted a descriptive survey research design to study respondents' responses and perceptions. Descriptive survey research is used to investigate a population by selecting samples to detect and analyze phenomena at a specific point in time. Data were collected from 500 independent SMEs engaged in various business activities (retail, wholesale, transport, production, service activities, construction, etc.). Sample selection was conducted using stratified and simple random sampling techniques. Stratified sampling ensured proportional representation of different groups of SMEs, considering their characteristics. The research hypotheses are:

H1-The application of information technology has influenced the development of products.

H2- The application of information technology has increased the innovation activity of SMEs.

## 5. Findings and Discussions

In this section, discussions and findings of this research are presented in tables according to specific themes of study. Also, references to pertinent studies in the literature and discussions of data collected are provided.

Based on the statistical analysis made from the data collection, we used the test to maintain the significance of the variables and to test the research hypotheses.

For testing the first hypothesis we will use the Paired Sample T-Test statistical test.

**Table 1.** Hypothesis 1 testing

<b>Paired Samples Statistics</b>					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	In_the_last_three_years_you_have_implemented_technology_(new_ideas)_in_Products	2.05	500	.953	.107
	Organization of product development	2.31	500	.963	.108

<b>Paired Samples Correlations</b>				
		N	Correlation	Sig.
Pair 1	In_the_last_three_years_you_have_implemented_technology_(new_ideas)_in_Products & Organization of product development	500	.893	.000

<b>Paired Samples Test</b>									
		Paired Differences					t	df	Sig. (2-tailed)
	Variable 1 – Variable 2	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Variable 1 – Variable 2	-.263	.443	.050	-.361	-.164	-5.303	79	.000

The results of the statistical analysis show that the pandemic and the development of new technologies have influenced SMEs to develop innovative activity, based on the test  $T = 16.227$  and the level of significance  $\text{sig.} = 0.000$ , so we approve the second hypothesis of the research.

**Table 2.** Hypothesis 2 testing

To test this hypothesis, we use the statistical test T-test one sample, with the test variable innovative activity.

One-Sample Statistics					
	N	Mean	Std. Deviation	Std. Error	
Your_company_performs_innovative_activities	500	2.71	.944	.106	

One-Sample Test						
	Test Value = 1					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Your_company_performs_innovative_activities	16.227	499	.000	1.713	1.50	1.92

The results of the statistical analysis show that the pandemic and the development of new technologies have influenced SMEs to develop innovative activity, based on the test  $T = 16.227$  and the level of significance  $sig. = 0.000$ , so we approve the second hypothesis of the research.

## 6. Conclusions

From the study, it appears that most SMEs were positive that the adoption and use of technology have a significant positive effect on the effectiveness and efficiency of corporate processes such as manufacturing, supply chain, public relations, and customer relations. As a result, technical leverage is vital to SME's success. The capabilities of technology have made it necessary for small and medium enterprises to accept and adopt technologies in their operations. Therefore, enterprises, whether large or small, can reap numerous benefits of innovation from technology. Furthermore, technology adoption may necessitate the acquisition of new skills, competencies, and knowledge, which may encourage businesses to launch new goods and processes.

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