



ASSESSING THE SUCCESS OF SME DIGITAL TRANSFORMATION

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Introduction

It is difficult to find a study on SMEs that does not begin with words that indicate the importance of SMEs in offering jobs and their share of GDP. Usually, differences only occur in figures that are different in different regions and countries. There are so many such papers, that we can consider that the importance of SMEs is firmly positioned, and it is not necessary to prove it.

Because of the IT revolution, there appeared major changes in doing business. The digitalization has become a process of transformation of society and economy, but also an immediate precondition for the survival of companies in the market. In the struggle for survival, people began to engage in entrepreneurship, and many SMEs, now accounting for over 99% of all companies, began to emerge. However, their share in the gross domestic product does not match their numerical share. The survey showed that annual business income per employee is increasing with the size of the company and that it is 22.4% higher in medium-sized companies compared to small companies (with less than 50 employees). The results show that the annual operating income per employee in companies "without employees" is slightly less than one half (49%) and one third (33.34%) of the average realized in SMEs (less than 250 employees) and large companies, respectively. [1] The main chance for the rapid progress of SMEs is innovation. Startups, SMEs that offer the market a new idea, product or service, have the greatest potential. The majority, normal SMEs sometimes create innovations that can accelerate their development, but poverty-created SMEs virtually never produce significant innovation at a high technological level. The first two groups of SMEs need digitalization, and unless they are IT startups that start working highly digitalized by default, older SMEs must go through the process of digital transformation. It should be underlined that digitalization itself is not a guarantee for the success of an SME business, but it is a prerequisite for a successful business.

This paper aims to present a method by which SMEs can self-evaluate the success of their digital transformation and the degree of digitalization achieved.

Theoretical background and research results

In the context of this research, the term "digitalization" considers the integration of digital technologies into the business of SMEs. To look at the opportunities and effects of digitalization on SME business, it is appropriate to define an index that gives an easy and transparent assessment of achieving the results and indicates the possibilities of business

improvement. In defining the structure of the index, it is necessary to consider the conditions prevailing in the SME environment, resources, how resources are used and many other parameters, and to compare the results achieved, it is necessary to define benchmarks. Given the complexity, composite indicators are required, and they are the most used tool in evaluating performance in relative contexts, as they can perceive and clarify multi-dimensional phenomena.

This research is exploratory (what) with elements of explanatory (why) and descriptive (as much as how). Within its scope, relevant research objects were identified and explained, and the phenomena were broken down into pieces enough to allow the analysis to be successfully carried out and to identify the relevant regularities. Both deduction and induction were used. A random sample was used in conducting the survey. The analysis was performed based on the research questions posed and the testing of the appropriate hypotheses. When hypothesizing, how a hypothesis is posed is very important. In concluding statistics, it is convenient to start from the null hypothesis (H_0), which is a general statement or a default position that there is no correlation between two measured phenomena or no relationship between the observed groups [2]. The hypothesis testing procedure was carried out as follows:

1. Defining of statistical significance;
2. Writing hypotheses, null and alternative;
3. Selection of sample or samples and calculation of parameters;
4. Determining the limits of rejection of the null hypothesis;
5. Determining whether the null hypothesis can be rejected; and
6. Defining and presenting conclusions according to tested hypotheses.

For this analysis, a new IDSME empirical model was specially designed and tested on a sample of 226 companies from Serbia, Slovakia, and Russia. The IDSME index provides four main types of analysis [1]: general performance rating, zooming, tracking and benchmarking. The IDSME index was developed based on the principles and recommendations given in [3], based on the literature and the experience of the authors. The Index covers four dimensions: Internet connectivity, Digital Skills, Digital Integration, and Internet Usage. Within the index, 28 indicators are grouped into sub-dimensions and sub-dimensions are grouped into index dimensions. The indicators are not weighted, but the sub-dimensions and dimensions are. A detailed overview of the criteria, indicators, sub-dimensions, and dimensions is given in [4]. By defining the value of their performance indicators, each SME can calculate the value of its IDSME index and compare it with the values of similar companies. Within this study, the IDSME index values for the sample SMEs were calculated. The results obtained are shown in Table 1 and can serve as an orientation for other SMEs to see the success rate of their digitalization.

Table 1 Mean values IDSME indexes by country and total

SMEs	IDSME for surveyed SMEs			
	Russian Federation	Slovak Republic	Republic of Serbia	SMEs surveyed, cumulatively
Medium	0.453	0.464	0.511	0.503
Small	0.530	0.423	0.520	0.519
Micro	0.451	0.420	0.398	0.429
SMEs total	0.460	0.444	0.465	0.483

The obtained results show that the mean IDSME index for all SMEs surveyed is above the level of the mean indexes for each of the three observed countries separately, with the maximum difference at the level of 8.07% in the case of Slovakia. The biggest difference is between Slovakia and Serbia and amounts to about 4.5%, which indicates that the surveyed SMEs in all three countries are at approximately the same level of digitalization. If the SMEs are considered separately, in Russia and Serbia the highest degree of digitalization was achieved by small companies, and in Slovakia, by medium-sized companies. If one looks at the inequality of IDSMEs by SME types, the surveyed micro-enterprises in Serbia achieved a 23% lower degree of digitalization compared to the surveyed small enterprises. In Russia, this difference is 15%, and cumulatively for all SMEs surveyed 17.3%. In Slovakia, the biggest difference between the IDSME index of micro and medium-sized companies is 9.5%.

Conclusions

The survey provided the data needed to create the IDSME index. The IDSME index has proven to be a useful indicator of the degree of digitalization of SMEs. It provides an opportunity for individual SMEs to compare themselves with the competition and see their strengths and weaknesses. In the case of a significant increase in the SME survey base, the IDSME index could be modified to adapt to individual industries, but this will not be a dominant requirement if it retains its current purpose, to serve for an SME self-evaluation.

Keywords: *IDSME index, digitalization, SME, digital transformation, IT, startup.*

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