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RESEARCH ARTICLE

INFORMATION TECHNOLOGIES IN MANAGEMENT AND PROSPECTS TO IMPROVE THEIR USE BY GEORGIAN COMPANIES

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ABSTRACT

The paper considers the role of information technologies in the management of business companies. Management is directly associated with the decisions made by managers. However, the rightness of a decision depends on how thoroughly some or other event is analyzed. Right decisions are made not only owing to the wit, competence or experience of a company manager, but also an optimally planned decision-making process. The goal of the study is to evaluate the role and significance of information technologies in managerial decision-making. The theoretical study is based on the works in management by the world scientists, while the practical study is based on the qualitative study of the business companies of Georgia. The study used questionnaires and interviews, as well as graphical, grouping and comparison methods. The study evaluated the level of IT at Georgian companies and developed the recommendations to help improve the application of the information technologies and efficiency of the management.

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INTRODUCTION

The success of business companies and strengthening their positions both, on the local and international markets much depend on the company management. The efficiency of the company management on its hand, depends on the decisions made by the managers on a daily basis related to business planning and organizational structure (Chokheli, 2015), as well as such functional activities, as supply chain management, business organization and consumer relations.

Most researchers note that a good decision is basically the result of the right decision-making process what in the first instance, means the identification of the established situation and problem and problem solution (Iashvili, 2009). Managerial decisions, which are not made through a thorough process are mostly unreal and prevent the companies from being successful. Peter Drucker notes that making good decisions is an important ability at all levels (Drucker, 2014).

In the decision-making process, thorough awareness of the decision-makers is very important. Presently, the environment in which the companies operate has changed a lot. It has become highly variable and large-scale suggesting high risks and ambiguity (Luce&Raiffa, 1957). No matter how professionally the managers approach their business there may

be a number of unforeseen problems waiting for them (Chokheli, 2015).

For instance, Nassim Taleb, the author of a famous book "Black Swan" talks about the importance of paying particular attention to the problem of casualty and ambiguity when making decisions. The observations over the swans evidence that all swans are white, but an appearance of a black swan among them abolishes this view. The author states that usually, people misunderstand or ignore "black swans" (Taleb, 2007) and this is why when analyzing their surroundings or prospects, they make decisions with fatal and often uncorrected results.

This allows concluding that in the decision-making process, thorough awareness and swift analysis of the information is very important. Since the late XX century, many scientists consider the world "an information society". Vast and often contradictory pieces of information have become a severe problem of the modern world. Now, managers find it difficult to make efficient decisions due to large "information capacity" (Mekvabidze, 2014). However, on the other hand, information technologies have much facilitated the solution to this problem. International experience evidences that the companies trying to permanently introduce and perfect the information technologies, are the leading ones. Such companies successfully use a Decision Support System (DSS), which is

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based on the knowledge and innovative technologies and allows the managers to make at least rational decisions in any situation. The said system, which is based on the data, computers, programs and models, improves the decision-making prospects and diminishes the risk of making incorrect decisions on the one hand, and improves productivity on the other hand. Computers may affect the multifactor productivity growth of the firms that use them by changing the production process itself (Brynjolfsson, 2003).

The situation in Georgia in respect of the viability of business companies is not as favorable. Most of the companies cease operations before they are 3 years old. The evaluation of their work has revealed that one of the reasons for the termination is the lack of modern technologies and computerization at the companies (Chokheli, 2013). A study exploring the use of information technologies, as that of an important tool to improve the management efficiency and companies generally, is topical and has a practical value.

The goal of the study is to evaluate the level of use and role of the information technologies, develop relevant conclusions and recommendations to improve the viability of business companies and strengthen their competitive positions on the example of Georgian business companies.

METHODS

The information obtained from the business companies operating in the manufacturing industry of Georgia was analyzed to evaluate the level of IT use at the companies. Average-sized business companies established with Georgian capital were taken as a target group. These are the companies with up to 100 employees and maximum 1 500 000 Gel as average annual turnover. The company managers were given the questionnaires via e-mail, and they could reply back electronically. In addition, some companies were provided the questionnaires personally. The questionnaires were drafted by means of special web-portal SurveyMonkey allowing not only gathering, but also grouping, analyzing and presenting the answers as graphs and diagrams. Methods of analysis, synthesis, comparison and statistical analysis were used in the study.

As the data of the Georgian National Statistics Agency of 2015 suggest, 8 904 companies are actively engaged in the manufacturing industry of the country, with 1120 average-sized business companies established with Georgian capital (12%). About 120 companies operating in different sub-branches were selected among them and were distributed the questionnaires. Answers were received electronically from 52 companies and from 22 companies personally, via direct communication. Consequently, we may state that the results of the study give a real picture about the application of the information technologies at Georgian companies.

RESULTS AND DISCUSSION

One of the directions to explore the level of use of the information technologies was the evaluation of the importance of IT in managerial decision-making. The study revealed that

45% of the managers think that using IT influences the correctness of the made decisions, 51% think that the influence is somewhat partial and 4% think that there is no link between the IT use and correctness of decisions (Fig 1).

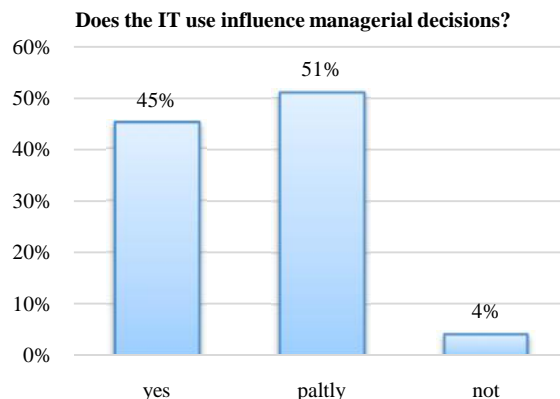


Figure 1 Influence of the information technologies on the decision-making

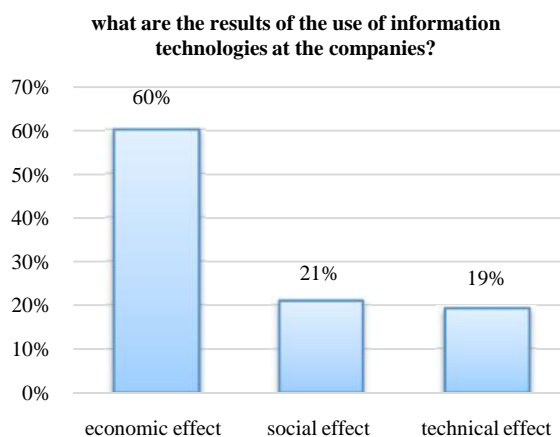


Figure 2 Impact of IT on the efficiency of companies

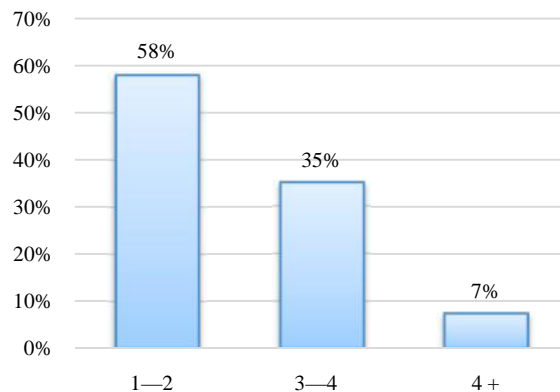


Figure 3 Level of computerization at the companies

Another trend was to evaluate the impact of IT on the efficiency of the companies. The results of the study revealed that 60% of the managers think that IT use brings an economic effect to the companies owing to the reduced costs of decision-making; 21% think that IT use yields social effect owing to the improved working conditions for the employees and 19% speak about the technical effect, i.e. swifter operations and procedures (Fig 2).

The third direction of the study of IT was about the level of

computerization at the companies and internet access with a single network. The study revealed that 58% of the companies have 1 or 2 computers per 10 employees, 35% companies have 3-4 computers per 10 employees and 7% of companies have more than 4 computers per 10 employees (Fig 3). As for the internet access, it turned out that only 11% of the companies have a single internet network all over the company (Fig 4).

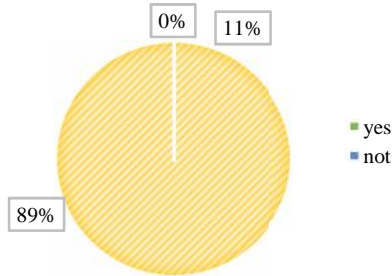


Figure 4 Internet access at the companies methods of communication with the employees used by the company

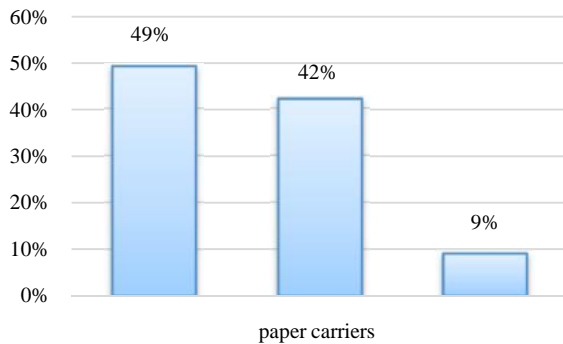


Figure 5 Methods to communicate the information around the company

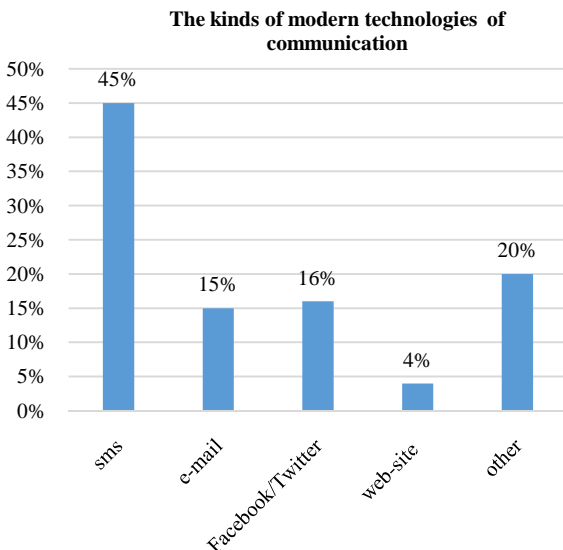


Figure 6 The kinds of modern technologies of information exchange

The next direction of the study was about the information carriers at the companies. As the results of the study suggest, 49% of the companies still use traditional methods to transfer the information (verbal, direct communication and the like), 42% of them use paper carriers and only 9% use computer technologies for this purpose (Fig 5). The next goal of the study was to identify the kinds of modern technologies of information exchange among the personnel. The study results

proved that 45% of the personnel prefer SMS to communicate the information, 15% use e-mail, 16% use Facebook/Twitter, 4% use web-site publications and 20% use some other means (Fig 6).

The next direction of the IT study was about the use of software information systems at the companies, such as Enterprise Resource Planning (ERP) Systems, Electronic Document Management System (EDMS), financial accounting and other systems. The study revealed that only few companies, in fact 11% of them use five or more information systems, 38% of the companies use three or four information systems and 51% of them use one or two information systems (Fig 7).

The next direction of the study was about the level of e-commerce, online purchases and sales volumes of the companies. The study revealed that only 12% of the companies use some kind of e-commerce for some operations (Fig 8).

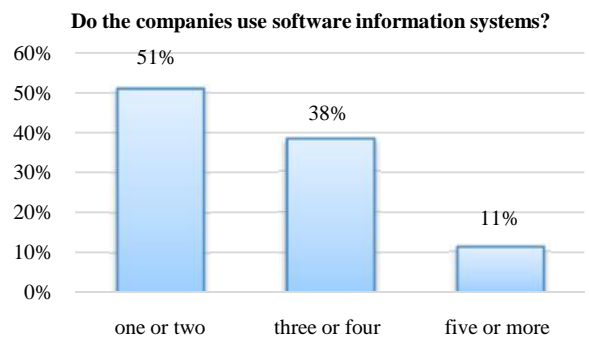


Figure 7 Level of the information system use at the companies

Do the companies use e-commerce?

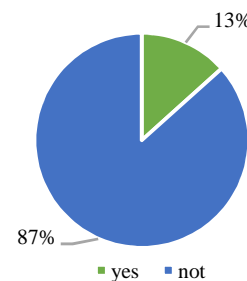


Figure 8 E-commerce at the companies

CONCLUSION

Thus, an expanded use of information technologies is topical for any company, and this cannot be easily achieved in Georgia, which is not among the developed countries of the world. It is true that as the information-telecommunication technology development index developed by the International Telecommunication Union (ITU) suggests, Georgia is among ten dynamically developing countries of the world (Krabina *et al*, 2014), the state of the country is to do the following:

- Development of telecommunication structure all over the country.
- Improve the internet access, as the existing indicators of the internet access (speed, price, etc.) are not sufficient to gain the benefit needed by the country, business and society in general.

Such measures will help and stimulate the companies to expand the IT use. For this purpose, they must consider the following in the first instance:

- Teaching and developing computer literacy skills among the company employees, as most of the employees lack the needed proficiency to do elementary technological operations. The measures in this field (teaching, training) will help improve the technological awareness of the society and use of growing possibilities of information technologies.
- Establishing local infrastructure and single corporate networks of the companies.
- Introducing Georgian e-systems to manage business operations, as most of the companies are unable to purchase or introduce foreign systems as they are expensive. Establishment of inexpensive Georgian IT systems adapted to foreign ones would be of a great help in improving the work efficiency of the companies at the expense of the extended e-operations.

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