

A.S. Galimzyanova, O.V. Anchugova, D.P. Zarifullina  
Ural Federal University named after the first President of Russia B.N.  
Yeltsin  
Yekaterinburg, Russia

## **THE IMPACT OF IMPLEMENTATION OF INFORMATION TECHNOLOGIES IN SMALL AND MEDIUM ENTERPRISES**

**Abstract:** Information Technology is a powerful tool and a progress engine. There are many different Information Technologies nowadays implementation of which has the greatest influence on management and doing business. This research is aimed to study the dependence between Information Technologies and the business processes in enterprises. The purpose of this article is to define the main factors and principles of implemented IT that lead to changes in business. This paper presents the preliminary studies in UK microenterprise, through the findings examining general business processes and capabilities of IT in microenterprises. The paper also presents the effects of implementation of Information Technologies including the advantages and the disadvantages. The study used the following methods: collecting and analysis of existing data from previous research in different enterprises with a purpose to compare them in general and synthesize this data with the induction method. The information from this paper may be used in further market research and study.

**Keywords:** Information Technology, small enterprises, medium enterprises, microenterprises, strategic role of IT.

А.С. Галимзянова, О.В. Анчугова, Д.П. Зарифуллина  
Уральский Федеральный Университет имени первого Президента  
России Б.Н. Ельцина  
Екатеринбург, Россия

## **ВЛИЯНИЕ ВНЕДРЕНИЯ ИНФОРМАЦИОННЫХ ТЕХНОЛОГИЙ В МАЛЫХ И СРЕДНИХ ПРЕДПРИЯТИЯХ**

**Аннотация:** Информационные технологии – это достаточно мощный инструмент и двигатель прогресса. В наше время существует множество различных информационных технологий, внедрение которых оказывает огромное влияние на управление и ведение бизнеса. Это исследование направлено на изучение зависимости между внедряемыми информационными технологиями и бизнес-процессами на предприятиях, в которых они внедрены. Целью этой статьи является определение основных факторов и принципов использования информационных технологий, которые приводят к глобальным изменениям в бизнесе, таким, как рост прибыли, при неизменном или улучшенном качестве продукта. Эта статья представляет предыдущие исследования на микропредприятия в Великобритании, через результаты исследования основных бизнес-процессов и возможных последствий информационных технологий на микропредприятиях. В статье проиллюстрированы эффекты и последствия внедрения информационных технологий, включая перечень основных преимуществ и недостатков. В процессе написания этой статьи были использованы следующие методы: сбор и анализ существующих данных из предыдущих исследований на различных предприятиях с целью их сравнения, и объединение этих данных с помощью метода индукции. Информация из данной статьи может быть использована в дальнейших исследованиях.

**Ключевые слова:** Информационные Технологии, маленькие предприятия, средние предприятия, микропредприятия, стратегическая роль ИТ.

Information Technologies (IT) include processes, methods of searching, collecting, storing, processing, providing, disseminating information and ways of implementing such processes and methods; also, techniques and methods of application of computer equipment with performing the functions of collecting, storing, processing, transmitting and using data. It is estimated that enterprises spend a lot of money on Information Technologies. The relevance of the use of information technology in the modern world is dictated by the rapid development of the information society, the wide distribution of multimedia technology, electronic information resources and network technologies that allow the use of IT as a means of work, communication and integration into the global space.

The objective of this study is a trend of increasing implementation and using IT in small and medium enterprises. The subject of the study is Information Technologies.

The methods that were used in this research are collecting and analyzing data gained from previous research and synthesis of this data with the induction method. This article is based on facts obtained in several studies of Chang E. Koh and Kwang O. Park that is called «Information Technology capability and business performance: Role of Industry» [2] and «Achieving Strategic Growth in Microenterprises Through Information Technology: UK Micro Enterprise Case Study» by S. Shah, M. Long and E. Naghi Ganji [1].

During this research the following hypothesis was examined: the implementation of Information Technologies in small and medium enterprises influence on the business processes of these companies.

The purpose of the article is to identify the consequences of the introduction of IT in small and medium enterprises.

Research questions of the article are as follows:

1. to study the existing literature data on the influence of IT implementation in small and medium enterprises;
2. to identify the main consequences of implementation of IT in small and medium enterprises.

### **Methodology**

The research consists of combined research methods. Initially, the paper discussed the methods of collecting and analyzing data gained from previous research. The next step of research was the synthesis of this data by the induction method. These methods allowed examining the influence of IT tools and its adoption within the enterprise environment.

## **Results**

The information from analyzed studies can be summarized into the fact that microenterprises are dependent on implemented IT, but most of them are critical to IT or do not have time, finances and knowledge to fully optimize their business, if they want to achieve growth in size or profit. It is estimated that there is a number of barriers, which can be divided into categories depending on the management of quantitative factors: money, time, services, commercials and management. To overcome these barriers, it is necessary to create a clear development structure in the enterprise and also structure the role of the industry.

The previous studies confirmed that Information Technologies play different roles and impact business differently depending on the industry of an exact firm. IT is a differentiating factor for a firm performance in the kind of industries where IT can fundamentally change business processes and relationships. However, there is a necessity for a balance between the financial risk of investing into an implementation of new IT and the competitive risk of not investing into it. It is important to know and understand the main factors that can influence business performance positively or negatively.

## **Discussion**

The use of Information Technologies is a prerequisite for the development of an enterprise, since it is always IT that increases the efficiency and brings it to a higher level. One of the main factors of the impact of IT on the enterprise is the impact on competition. Classic strategic planning considers the competition process, based on market share and market growth. It is difficult to maintain the connection between the classical factors of competition and the introduction of IT in the enterprise. IT often allows fundamental change of the basis of competition in the industry. The consideration of the implementation of new strategic use of IT is advisable to start accounting its motivation. In the case of large-scale implementation of IT, the main optimization should consist of the organizational structure of management and crucial business processes. Automation of business processes of marketing and sales do not lead to an increase of the efficiency. However, with the creation or reengineering of the entire IS in the enterprise, it is most profitable to invest into the development of the business itself.

There is a huge amount of software products of different developers aimed at optimization company activities. Development companies have to create flexible automation systems that will allow a single system consist

of separate modules integrated with each other and be adaptive to any changes they undergo. The analysis of software products of IT implementation revealed common advantages:

1. Multifunctionality of software products that need to be fitted to organizations with any activity;

2. Flexibility or modularity of information systems.

In addition to the advantages, there are some disadvantages:

1. There are no well-established software products that will benefit every kind of small and medium enterprises;

2. There is a big lack of Information Technologies in those kinds of enterprises which do not deal with the IT field.

The purpose of the article was to identify the consequences of the introduction of information technologies in the enterprises using the methods of collecting, analyzing data and synthesizing with the induction method. The existing literature data was studied during this research, the main consequences of implementation of IT in small and medium enterprises were defined and the possible effects of implementation of IT identified. As a result of this research based on the fact that the creation or reengineering of the entire IS of the firm lead to an increase of the efficiency of the enterprise. The following hypothesis was proved: The introduction of IT in small and medium enterprises impact the business processes of these firms.

## REFERENCES

1. Бутенко Я.А., Инновации и информационные технологии в бизнесе. Основные тенденции и перспективы развития // Сибирский торгово-экономический журнал 2012. [Electronic resource]. – URL: <https://cyberleninka.ru/article/n/innovatsii-i-informatsionnye-tehnologii-v-biznese-osnovnye-tendentsii-i-perspektivy-razvitiya> (12.12.2018).

2. Трубачева С.И., Информационные технологии в маркетинговой деятельности // Вестник Волжского Университета им. В.Н. Татищева 2009. [Electronic resource]. – URL: <https://cyberleninka.ru/article/n/informatsionnye-tehnologii-v-marketingovoy-deyatelnosti> (12.12.2018).

3. Naghi Ganji E., Long M., Shah S., Achieving Strategic Growth in Microenterprises Through Information Technology: UK Micro Enterprise

Case Study // J. International Conference on Industrial Engineering and Engineering Management IEEM 2017. – P. 1133-1137. [Electronic resource]. – URL:

[https://apps.webofknowledge.com/full\\_record.do?product=WOS&search\\_mode=GeneralSearch&qid=1&SID=E4ApK4v97QVGt9OMQNb&page=1&doc=1](https://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=GeneralSearch&qid=1&SID=E4ApK4v97QVGt9OMQNb&page=1&doc=1) (13.12.2018).

4. Chae Ho-Chang, Koh Chang E., Park Kwang O. Information technology capability and firm performance: Role of industry // J. Information & Management 2017. – P. 525-546. [Electronic resource]. URL:

[https://apps.webofknowledge.com/full\\_record.do?product=WOS&search\\_mode=GeneralSearch&qid=5&SID=E4ApK4v97QVGt9OMQNb&page=1&doc=10](https://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=GeneralSearch&qid=5&SID=E4ApK4v97QVGt9OMQNb&page=1&doc=10) (15.12.2018).