

# Brief Overview of Business Process Management in the Furniture Industry in Bulgaria

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## Summary:

Today furniture manufacturing in industrial production in Bulgaria is lower in comparison with the countries in the European Union. However, Bulgarian furniture industry continues its growth trend. Leading industry activities include the production of office and retail store furniture, kitchen furniture, other furniture, mattresses, bedding.

Company management has become a difficult task for Bulgarian managers in the complex and dynamic environment of the modern economy. In the context of accelerated market globalization, the presence of macroeconomic imbalances in the economy and the pressure that global trends exert on the economy, the Bulgarian business is experiencing a difficult period.

Providing well-structured and well-running business processes and their management are major economic problems of increasing relevance for the management in the furniture sector.

The study of numerous literature sources indicates the existence of methodological shortcomings related to methods of improving the management of business processes in the furniture industry.

The main objectives of this empirical study are:

1. To establish the current status of management of important process in furniture companies.
2. To demonstrate the efficiency of software tools in enhancing the business processes in order to improve their management.
3. To propose recommendations to improve business processes management in furniture companies.

The empirical study is conducted in 47 of the initially planned 90 furniture companies, who have answered to all questions. The sample includes companies, members of the Branch Chamber of Woodworking and Furniture Industry (BCWFI), who have expressed their willingness to participate in the study. Comparative analysis is used to analyze data both as a total sample and by individual groups.

Comparative analysis of the results obtained from the individual firms in the sample was carried out along with an analysis of the overall survey results. Benchmarking is used to display the patterns characterizing the applicability of the methodology adapted to improve the management of business processes in companies from the furniture industry.

**Key words:** business processes, improvement of the management of business processes, furniture production.

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### I. Furniture industry in Bulgaria

The furniture industry in Bulgaria is a traditional sector of the economy. It has changed over the years according to the socio-economic conditions in the country. Currently the share of furniture manufacturing in the industrial production in Bulgaria is lower in comparison with the countries in the European Union. However, Bulgarian furniture industry continues its growth trend. The "Manufacture of furniture" sector produces 1.6% of the volume of industrial production in the country and contributes about 2.1% of value added to the industry.

The index of industrial production and that of the turnover in this sector increased by 7.1% and 3.0% in 2015. The production of the enterprises in the sector totaled BGN 820 million. In 2015 the turnover of furniture manufacturers amounted to BGN 408 million on foreign markets. On the domestic market the sector realized production of BGN 478.8 million. In 2015 a small increase of 0.2% in producers' prices was registered compared to the previous year (*Ministry of Economy, Furniture Production sector*).

Leading industry activities include the production of furniture for offices and retail shops, kitchen furniture, other furniture,

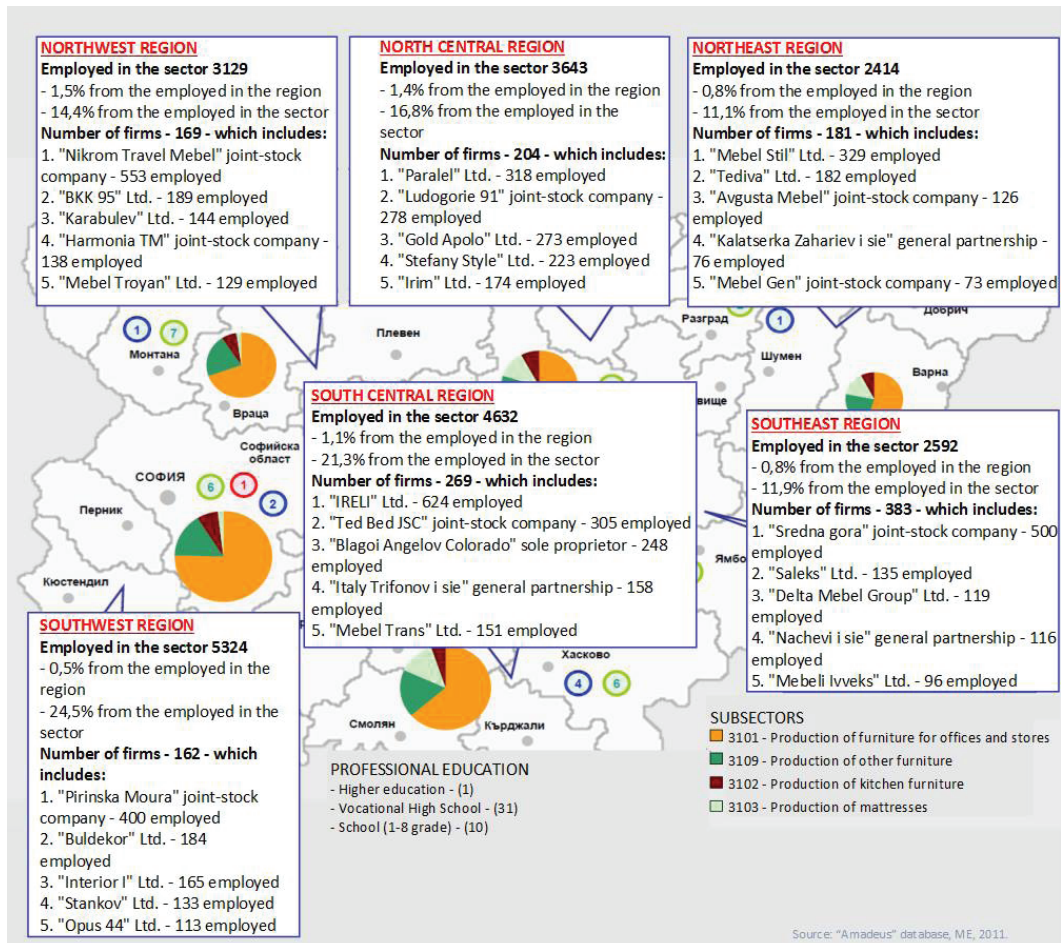


Fig.1. Companies producing furniture by regions

## Articles

mattresses and bedding. The sector consists of 2741 companies, with 51.2% of them located in the following districts: Sofia-city, Plovdiv, Varna, Pazardzhik and Blagoevgrad.

In 2015, the export of enterprises in the furniture industry increased by 3.5%. The sector's share in exports of industrial goods amounted to 1.3%. The leading countries in export from the "Manufacture of furniture" sector are Germany, Italy, France, Czech Republic and UK.

The industry employs 21.9 thousand people (4.2% of the employed in the national industry). The staffing in the sector is provided by the operation of one university, 31 secondary schools and 10 primary schools (*NEI, Average list number of employees under labor contracts by economic activities and by sectors during 2015*).

Bulgaria is a small furniture manufacturer in the EU and manufactures mainly medium-sized furniture. According to Eurostat, by December 2015 the volume of Bulgarian production was divided into coffee and dining furniture - 29%, furniture components- 27%, non-upholstered furniture - 16%, bedroom furniture - 12%, kitchen furniture - 10%, other types of furniture - 6%.

Furniture enterprises are concentrated in certain regions of Bulgaria: Troyan - Teteven, Veliko Tarnovo, Velingrad - Peshtera - Batak, Burgas, Blagoevgrad - Razlog - Bansko, Smolyan, Chepelare and Ruse (Fig. 1). The territorial distribution of furniture enterprises provides the framework for cluster development in the industry. Such an initiative was launched in Troyan with EU aid.

Labor productivity in the furniture sector is lower than the average for the manufacturing sector as a whole (in 2014 - 6700 lev and 9700 lev respectively). For the period 2010 - 2015 productivity increased slowly by 33%, while the average

for the manufacturing sector was 46.8%. Compared to the average EU productivity in the manufacture of furniture, it lags behind significantly. Local performance is almost 8 times lower than that of the EU. This is due to high levels of manual labor used in the production of wooden furniture and specialized products with "outdated technology". In 2015, labor cost per worker was 3,600 levs while the average level in the rest of the national manufacturing sector was 4,700 levs.

It is noteworthy that foreign direct investments (FDI) in the „Manufacture of wood and wooden products (except furniture)" sector are significantly larger in size than the investments in the "manufacture of furniture." For 2015 they were 87.8% of all FDI in the industry (*Ministry of Economy, Manufacture of wood and wooden products (except furniture)*).

The largest share of FDI in 2015 belonged to the subsector "production of veneer wood panels" which accounted for almost 90% of the total amount of investments. Almost 60% of the investments were in machinery and equipment. This percentage was higher for 2010, when many new companies were founded in this industry sector.

Bulgarian companies have weak innovative culture. In most cases they associate innovation with new technologies and do not pay enough attention to the importance of process innovation (Georgiev et al., 2013). Much of the Bulgarian companies in the woodworking and furniture sectors are competitive on the market thanks to the still low cost of the final product. They are not forced by economic reasons to invest in innovation as a key tool to enhance their competitiveness.

The export of furniture has shown a steady growth trend in terms of volume and revenue over the past few years and has a significant share in industrial exports. It is 1.71% of the total export for the country. Almost 40% of Bulgarian furniture production

is directed to foreign markets. The sector is characterized by a favourable trade balance.

The main markets for Bulgarian furniture are in the EU (NEI. Final data: „Export, import and trade balance of Bulgaria by sectors of the standard foreign trade classification (*sitc, rev. 4*) in 2010 and 2015). Among other countries the USA is one of the leading markets. The largest export in the furniture sector is realized in the following countries: 2010 - US, UK and Germany; 2012 - US, UK and Italy. According to NEI data, the most important export markets for various types of furniture are as follows: chairs and seats - the US, Germany and the UK; office furniture, except chairs - Greece, Cyprus and Germany; kitchen furniture, except chairs - Greece, Great Britain and Germany.

### II. Methodology of empirical research

The complex and dynamic environment of the modern economy makes business management a difficult task for Bulgarian managers (Jeston J., Elis J., 2014). In the context of accelerated globalization, the market presence of macroeconomic imbalances in the economy and the pressure of global economic trends, the Bulgarian business is experiencing a difficult period in its development.

Providing well-structured and efficient business processes and their management are major economic problems of increasing relevance for the management in the furniture sector.

The study of numerous literature sources indicates methodological shortcomings related to issues concerning methods aimed to improve the management of business processes in the furniture industry.

### Scope of the empirical study

The empirical study is conducted with a sample of 90 companies from the sector, selected by "volume of production" criterion, which are outlining the furniture industry.

Data are analyzed as a total for the sample as well as by individual groups by applying comparative analysis.

### Key objectives of the study:

1. To establish the current status of the management of important processes in furniture companies.
2. To demonstrate the efficiency of software tools in improving business processes in order to improve their management.
3. To propose recommendations for improving the management of business processes in furniture companies.

### Objects of the empirical study

The next stage involves an empirical study, which was performed in 47 of the planned 90 furniture companies, who have answered to all questions. The study is narrowed and specified by randomly selected sample (using the method of random addressing). The sample includes companies, members of the BBCWFI, who expressed their willingness to participate in the study.

Along with the analysis of the survey results, a comparative analysis is carried out of the results obtained from the firms in the sample. Benchmarking is used to display the patterns characterizing the applicability of the methodology to improve the management of business processes in companies from the furniture industry (*Atanasov et al., 2007*).

It can be concluded that such a study should cover both observation on how to manage business processes and on the set of factors that point to making managerial and strategic decisions. This means that the methodology should include, on the one hand, an analysis of the environmental factors affecting the management of business processes in furniture companies, and, on the other hand - an analysis of the applicability of the methodology adapted to

improve the management and improvement of business processes in furniture manufacturing companies. The factors of the internal environment of furniture companies are analyzed by functional areas so that data in this part are summarized and used to characterize the state of the furniture industry as a whole and do not refer to specific objects of research.

### Methods of Research

The study includes two stages and aims to establish regularities in the management of business processes in furniture companies during the period 2010 -2015.

The tool for obtaining primary information in the first stage of the study is empirical study (standard questionnaire). The questions in it are borrowed from other already used surveys in other sectors of the economy, but they are adapted to the goals and objectives of this study.

The questionnaire used for the survey contains key questions designed to draw a comparison between the financial and qualitative results of the furniture companies that operate without the help of software and those who have already implemented software that supports the management of business processes. The issues that are subject to comparison are selected according to the main problem areas in the management of business processes of companies. They include the following significant items: response of companies to changes in the external environment, factors limiting the efficiency of companies, developing projects for implementation of new processes, programs, software tools, restructuring of existing business processes.

This empirical research allows the practical verification of pre-formulated hypotheses about the existence of problems in the management of business processes related to their implementation, improvement or development, the lack of systematic and

strategic orientation in the ongoing process of improvement in the furniture companies.

For the purposes of the study macroeconomic analysis, statistics, annual reports, strategies, methods and results of surveys are used. The data is taken from official publications of the Ministry of Economy, Energy and Tourism (MEET), the National Statistical Institute (NSI), Institute for Market Economics (IME), the Executive Agency for Promotion of Small and Medium Enterprises (ASME), the Branch Chamber of Woodworking and Furniture Industry (BCWFI) and others. Numerous foreign and national literature sources are used as well, such as official electronic information sources; scientific reports and publications.

### III. Interpretation of the results of the empirical research

The processing of the statistical information is based on two software tools - Excel and SPSS.

The main industry in which firms operate is "Manufacture of furniture". From a total of 90 companies that participated in the empirical study 47 responded to all questions in the questionnaire. This represents 51.4% of all companies that have been invited to participate in this survey. This gives us an overall picture of the branch in which these companies operate.

The study includes not only small businesses but those with over 100 employees. They constitute 18.6% of all the surveyed companies (Fig. 2), which is a sufficient percentage. As can be expected, the biggest number of firms are the ones with the smallest number of employees - 37.1%. However, in the middle range there is a sufficient number of companies, which confirms that furniture companies included in the survey represent a sufficient number in terms of the reliability of the survey results.

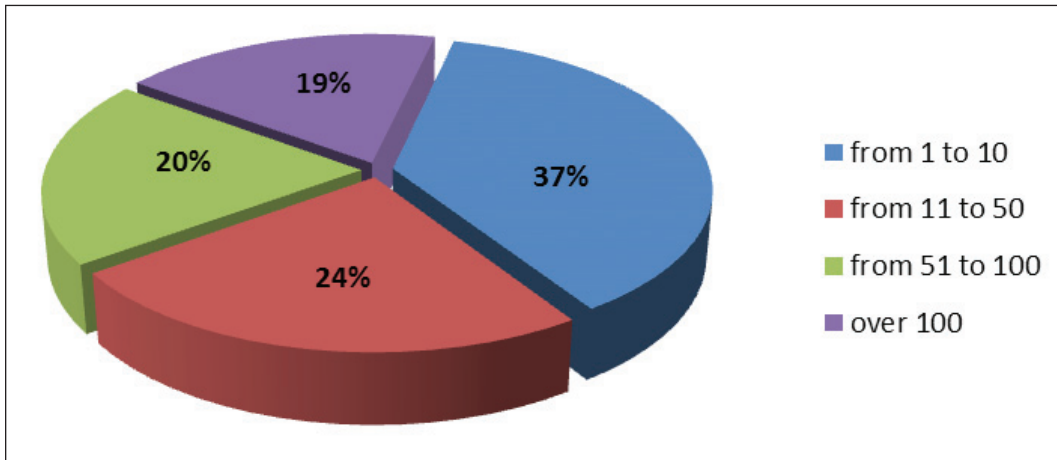


Fig.2. Percentage distribution of furniture companies according to the number of employees

Essential for the companies' activities is also the number of years that the company has operated in the market. The longer a company has been on the market, the more experience it has in the furniture industry. From furniture companies participating in the empirical study, only 20% have operated less than 10 years. From the remaining 80% about 60% have operated between 10 and 25 years. The remaining 20% of firms have been active for more than 25 years. The youngest company has been on the market for 2 years and the oldest - 90 years. The average age of the furniture companies surveyed is 19 years. This age distribution of the companies determines the accuracy of the answers they give and to a great extent represents the reality and the actual state of the furniture industry.

It turns out that firms consider the building of a customer network to be the most important process for their survival and development. That's why about 20% of the responses testify to the importance of this process. In the second place of importance the furniture companies participating in the research have put the realization of sales - with 17%. In the third place they have put production with 13%. Then the following

things are ranked by importance: process of product quality management - 11%; human resources management - 6,5%; investment processes - 6%, etc. Companies pay least attention to the maintenance and service processes with around 1% and logistics processes related to the delivery to the final user - 1.5%. The questionnaire has also a box where the companies are given the opportunity to choose the response "other" and to give their own suggestion on an important process in their own opinion. Several companies have indicated an innovative approach to the marketing and strategic management. The results of all the answers are presented in Fig. 3.

Once companies have identified what they believe to be the most important processes for their survival and development, it appears that 93% of them believe that the processes they have selected need improvement or development. Only 7% believe they do not need any change of the processes.

In this regard the results are logical concerning the processes in which the companies believe there is a problem. The processes that companies have identified as the most problematic are: human resources

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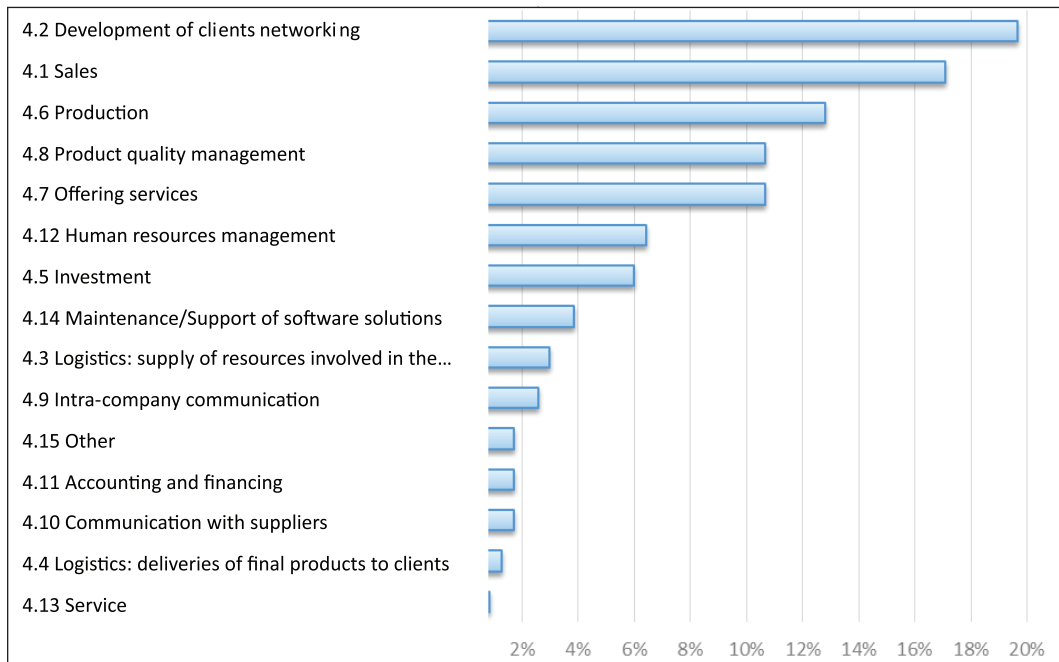


Fig. 3. Companies' opinion on the most important processes of their development and activity <sup>1</sup>

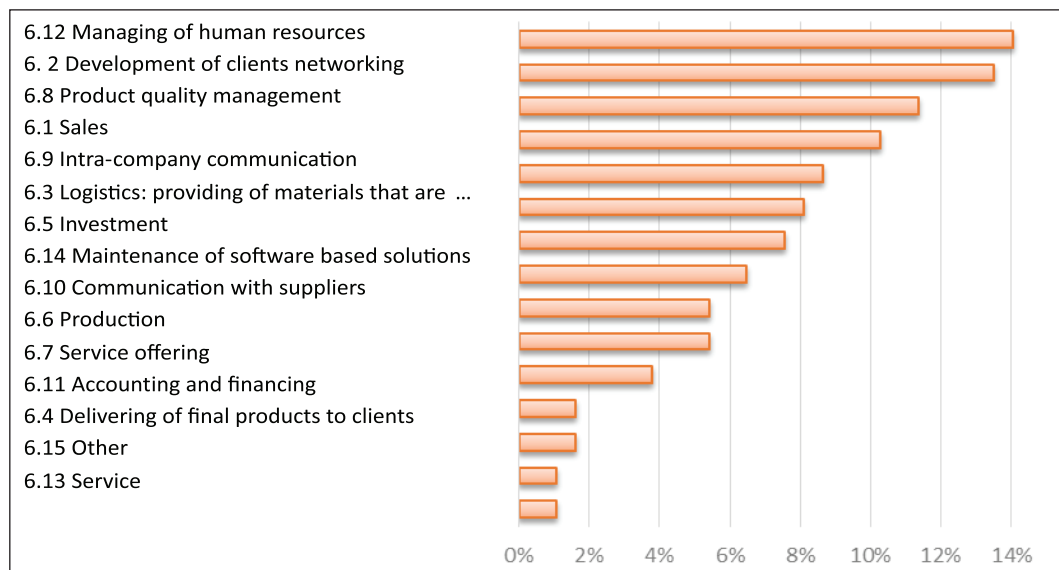


Fig. 3. Troubled processes in the companies<sup>2</sup>

<sup>1</sup> The numbers before the possible answers given here (4.1, 4.2, 4.3 etc.) corresponds to the number of the respective question in the questionnaire. - AN

<sup>2</sup> Numbers before a given answer to question (6.1, 6.2, 6.3, etc.) correspond to the number of the question in the composition of the questionnaire - AN

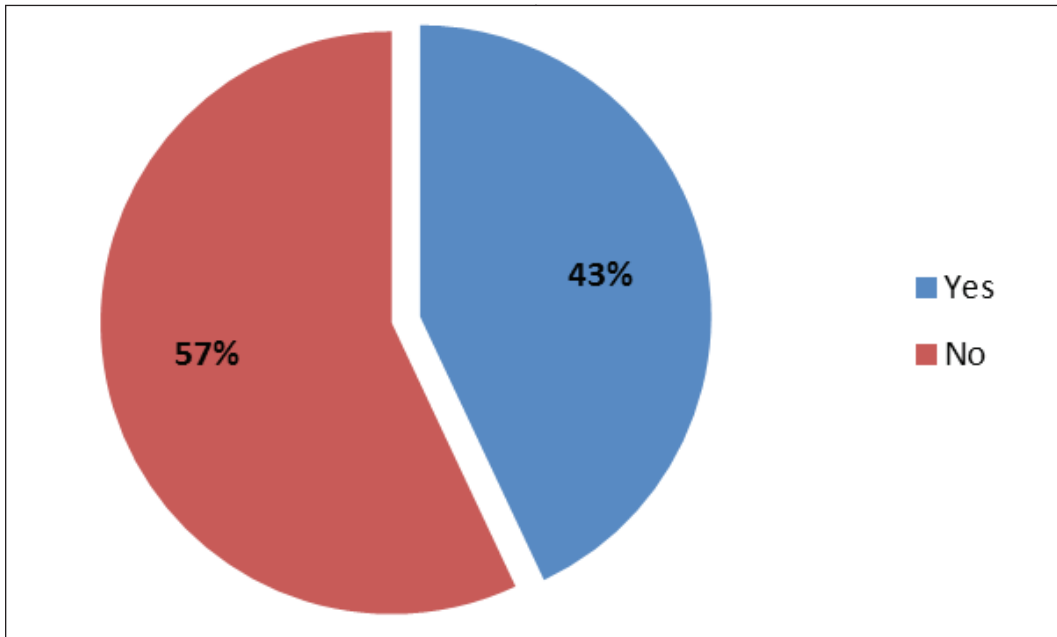


Fig. 5. Distribution of furniture companies with and without embedded software for business process management - as percentage

management - 14.5%, building a customer base – 13.8%, quality management - 12% and not the least the process of realization of sales - 10.3% (Fig. 4). According to the results, these are the main business processes that companies believe should be improved or enhanced.

According to the results here, the least frequently encountered problems are at the points where companies have not put priority - namely the process of maintenance and service, the logistics process, the supply of products to the end user in particular, in accounting and finance. In the response box titled „other“ companies have listed as possible problem areas the lack of information and delays in payments by customers.

More than half of the respondents have not employed software for managing business processes - 57

percent. However, 43% (Fig. 5) have already implemented software tool thus representing a core group that will reveal whether the implementation of these software solutions enhance and improve the management of business processes.

As to whether it is necessary to analyze the specific internal environment of the company before some software is installed, respondents are even more positive. About 97% of them believe that before implementing a software tool for describing and managing business processes in the company an analysis of suppliers, customers, competitors, servicing banks and others should be made. Only 3% believe that such an analysis is not needed.

Some companies give prevalence to the fact that analysis of the general environment should be carried out by an



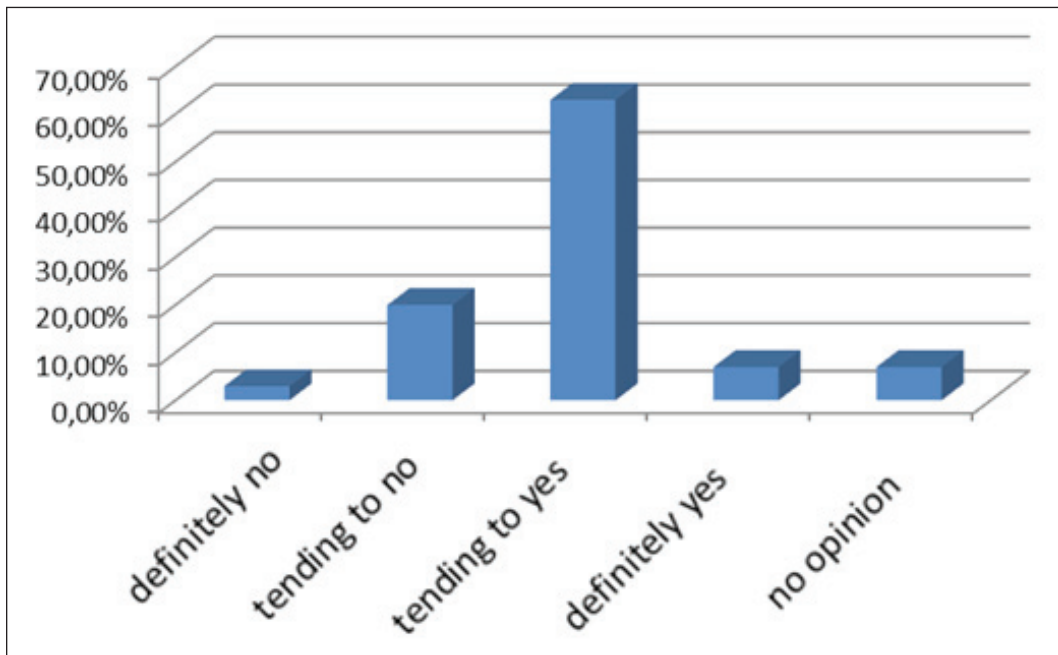


Fig. 6. Percentage distribution of firms based on introduction of comprehensive rules for managing the quality of their products

external team - 43% while 30% prefer it be done by an internal team.

Whether or not external companies have been hired for activities associated with the management and description of a specific process for the past five years, companies understand the need to use and update software applications. 93% of the furniture companies involved in the empirical research believe that this is mandatory, and only 7% are sure that they do not need the introduction of new or renovation of old software tools to describe and manage their business processes.

Almost unanimously, over 60% of the companies believe that they have introduced enough and comprehensive rules of managing the quality of their products. Only 20% of the furniture companies surveyed believe they

do not have sufficiently detailed and comprehensive ones, but believe that this situation will change, because they are planning to improve process quality management by signing contracts with certified suppliers of quality raw material and introduction of more detailed internal rules for quality control (Fig. 6).

Subsequent questions cover the current state of the process of production and point out the activities and approaches used by managers to improve the process and hence its management. The questions are formulated so as to eliminate the influence of other internal and external factors but based solely on whether a software tool is used or not.

Unconditionally, 97% of companies believe that the manufacturing process has improved with and after implementation of a software management tool for

description of the business processes, and only 3% are of the opinion that nothing has changed. Possible answers that production has deteriorated have not been mentioned by any company.

At the end of the survey questions concerning the characterization of the current process of sales and what activities and approaches managers use to improve them are included.

Similarly to the answers related to the manufacture process, not one single company that has implemented management software stated that the process of realization of sales has worsened.

The most common reason that provoked the implementation of software for the purpose of business processes description and management has been the detection of weak points in the elements of business process management. 30% of the furniture companies were involved in empirical research. The same percentage, 30% are the companies wish to exploit the opportunities for innovation in the field of furniture manufacturing in the country.

Also 17% of companies surveyed believe it is necessary that the deployment of software should be a part of the general policy of each company, and according to 13.5% this will lead to increased competitiveness on the market in the furniture industry. Most of the companies have observed a positive effect on their business processes after the implementation of software tools for managing business processes. That is why we observe this overwhelming result in the answers stating either definitely positive impact or a rather positive effect.

Solely in the case of rising consumer demand more answers justify the statement that the software implemented definitely had no positive effect on the factor. That was considered by 16.7% of the companies that answered to this factor. This result is due to the fact that the factor in question - consumer demand, does not depend on the management of business processes within the organization. This is a factor which the company can influence only indirectly by raising their efficiency based on software management tools used in the organization.

The companies surveyed are positive about the positive effect of software tools used for managing business processes in three areas of their business. 40% of them think that the efficiency of processes and activities has risen, 56.7% are adamant that the unnecessary activities have decreased and 33.3% even state that the costs for the various activities are reduced. These results are based on a 3-year period and reflect the effects of the implemented software tool.

The following conclusions can be drawn based on the analyzed results of empirical research:

- Efforts to improve the processes are directed essentially to the disclosure of the reasons why the activities are carried out in a certain way for a given process. Also, efforts are directed to the use of all knowledge about processes to eliminate inefficient measures and increase customer satisfaction. Consequently, most furniture companies in Bulgaria adopt approaches that improve the management of business processes and believe this should be a regular activity;

## Articles

- Improvements in all processes: from planning and design to customer service, are interconnected in a flexible system of sequential operations;
- Software solutions provide the necessary information to assess the prerequisites for successful implementation of a project according to the strategic goals of the company;
- Some software applications (specialized modules) allow for the introduction of standards and best practices of managing processes both within individual departments and the entire company;
- Attitudes are created towards efforts of continuous improvement of important business processes.
- Preconditions are created for open communication between employees and management as a whole so that ideas and opinions for improving the functioning of activities in specific business processes could be discussed.
- Most furniture companies surveyed believe that the improvement of business processes management requires the use of specialized software systems.

## Conclusion

The empirical study allows us to arrive at a series of general conclusions based on its results as well as to outline directions for future work and research in the field of systems and methods of managing business processes, their functioning and improvement not only in the furniture industry but also in other areas of the economy.

The clear definition of the problems and needs of processes, which are important to the development and competitiveness of the furniture companies, begins with an

analysis of the organization / department itself. The analysis stems from customers' frustration, delays in service or payment, change in company policy, need for official data collection etc. Needs can be identified in different ways: from the top down - problems arising from the owner (manager) or the direction of the company and related to the implementation of strategic objectives; from the bottom up - arising from operational (support) processes, software systems or employees who interact with customers; from the external environment - related to changes in the legislation, marketing research, and changes in the economic environment.

The systems for business processes management in the furniture companies in the country attract a growing interest on the behalf of the corporate management. There is a good awareness of their important place and role in the aspiration to enrich management tools and labor potential of the companies.

As a result of the empirical study of the selected furniture industry companies in Bulgaria the presence of the following things is actually detected: untapped potential to improve the management of business processes; unused opportunities for better management and minimizing the impact of external and internal obstacles in order to improve the management of the entire organization. The empirical study reveals how well business processes go, compares the different results and the reason for them as a number of weaknesses in the performed key activities in the respective processes. It also shows that the software systems considered in this paper already take their due place in companies' policies and corporate culture

## Articles

priorities, and the improvement of business processes becomes responsibility of the senior management in the industry.

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