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Article

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Economic Review: Journal of Economics and Business

Provided in Cooperation with:

Faculty of Economics, University of Tuzla

Suggested Citation: Bilas, Vlatka; Franc, Sanja; Kvaternjak, Iskra (2013) : Internationalization of Micro and Small Enterprises in the Information Technology Industry of the Republic of Croatia, Economic Review: Journal of Economics and Business, ISSN 1512-8962, University of Tuzla, Faculty of Economics, Tuzla, Vol. 11, Iss. 1, pp. 45-59

This Version is available at:

<https://hdl.handle.net/10419/193821>

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INTERNATIONALIZATION OF MICRO AND SMALL ENTERPRISES IN THE INFORMATION TECHNOLOGY INDUSTRY OF THE REPUBLIC OF CROATIA

Vlatka Bilas *, Sanja Franc **, Iskra Kvaternjak ***

ABSTRACT

The value of small enterprises from the information technology industry can be found in their intellectual capital; these enterprises developed high value-added products and therefore contribute to the knowledge-based economy. Through the internationalization process enterprises gain long-term growth and sustainability opportunity on the foreign, as well as on the domestic market. Human capital and knowledge represent the basis for growth of the enterprises from the observed industry, especially for software development companies. Nevertheless, decreased demand for the products from the industry in the Republic of Croatia results in domestic information technology experts deciding to internationalize their business. In this paper primary research was carried out among micro and small software development enterprises in the Republic of Croatia, with the purpose of analyzing the characteristics and the level of their internationalization as well as giving the guidelines for further development.

Key words: micro, small, enterprise, internationalization, information technology

JEL: F23, M16

1. INTERNATIONALIZATION OF MICRO, SMALL AND MEDIUM-SIZED ENTERPRISES

In today's era of globalization, when boundaries between countries have almost disappeared and when the movement of

goods, labor and capital is becoming increasingly liberalized, micro, small and medium-sized enterprises have the opportunity to expand into foreign markets, but on the other hand, this also means dealing with increasing competition in the global market. With the decision to compete in foreign markets, enterprises begin a complex process of internationalization which carries numerous obstacles, as well as opportunities. Many authors define the internationalization process in different ways. Welch and Luostarinen (1988) state that the internationalization is a process of increasing involvement in international business operations, and Calof and Beamish (1995) define it as a process of adjustment of enterprise performance to the international environment. Zucchelli, Palamara and Denicoali (2007) define internationalization as a process that is the result of complex interactions and changes in the international markets and expanding managerial and entrepreneurial skills marked by a stronger international character. According to Lin (2010), internationalization is a unique process that encompasses a variety of resources and approaches to individual enterprise. It is necessary to distinguish between two types of business internationalization: inward internationalization (upstream), which is based on import outsourcing, and outward internationalization (downstream), which is based on the entrance to foreign markets and export management (Grgić et al 2010).

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This paper analyzes the basic characteristics of the internationalization process of micro and small enterprises in the information technology industry as well as the characteristics of that industry in Croatia. Additionally, the research was conducted with the aim of determining the level of internationalization of micro and small software developing enterprises in the Republic of Croatia. The most common form of participation in the foreign market, motives, and obstacles to internationalization for micro and small enterprises in the information technology industry in the Republic of Croatia were analyzed with the purpose of determining the conditions and prospects of development and competitiveness of Croatian software development enterprises. The paper consists of six parts. The first part is an introduction. The second part contains an analysis of the information technology industry in Croatia. The third part of the paper contains a review of relevant literature in this area, while the fourth part brings a description of the research methodology. The fifth part describes the results of the research. The sixth part is the conclusion.

2. ANALYSIS OF THE INFORMATION TECHNOLOGY INDUSTRY IN THE REPUBLIC OF CROATIA

The following part contains the so-called PESTLE (Politics, Economics, Technology, Law, Environment), Porter's and SWOT (Strength, Weakness, Opportunity, Threat) analysis of the information technology industry of the Republic of Croatia.

2.1. PESTLE analysis

The so-called "PESTLE" analysis consists of an analysis of six different areas which include political, economic, social, technological, legal, and the ecological environment. At the beginning of the new Millennium there is a growing need for complex software solutions and large-scale projects of integration of

information systems in Croatia, as a result of a large wave of information technology (IT) equipment purchase. Banks, insurance companies, telecommunication companies, and the public sector have increased the budget for IT expenses, which contributed to the development of the IT industry (EU CARDS Project 2002).

As far as the economic environment is concerned, in recent years, foreign investments in the banking sector have resulted in increased IT spending, and thus profitability of individual segments of the industry is above average which makes it attractive for further investment (EU CARDS Project 2002). However, strong economic downturn recorded in 2012 was followed by increased restrictions of financing conditions for all sectors of the economy, resulting in poor liquidity of non-financial companies (Croatian National Bank 2012). Due to the increasing lending to the government and public enterprises, the risk of the banking sector and country risk were more intensely connected (Croatian National Bank 2012), and since banks and government are buyers with significant bargaining power in the IT industry (EU CARDS Project 2002), this could have a negative impact on the development of the observed industry. Furthermore, reduced liquidity of non-financial companies can cause difficulties for IT industry companies concerning payment claims against companies from other industries.

In terms of the information technology usage it can be said that with the widespread use of the Internet in the economically developed countries, the trend of e-business has become more significant (Müller 2001). E-business means that all business processes are carried out through electronic networks. This includes everything from sale of goods over the Internet, to bar coding in stores, interactive television, and a huge range of other technologies (Chen Liqin 2001). Research on the use of the IT in Croatian

enterprises showed that almost none of the respondents provide electronic trading via the Internet despite many benefits that such a way of doing business could provide (Müller 2001). Estimated savings with introduction of e-business in Croatia range from € 40-54 million per year in the public sector and about € 850 million in the economy (EU Tempus project 2012). Enterprises, in order to take advantage of the opportunities provided by the IT and the trend of e-business, should switch from the internal orientation to the enterprise and business efficiency, to an external orientation of the entire value chain and above all, to the customers (Müller 2001).

As far as social factors and their impact on the development of IT industry goes, unemployment and its growth is at the forefront. According to the records of the Croatian Employment Service Bureau (2012) in October of 2012 there were 289 registered unemployed computer expert graduates, designers of computer systems, systematic engineers and programmers; 2,685 computer engineers and technicians; 541 unemployed computer operator, which makes a total of 3,515 unemployed persons in this profession. The IT industry in Croatia has the potential to create new jobs and increase exports, but the current level of exploitation of these resources is insufficient.

As the IT industry itself is the one that imposes trends that are rapidly changing, its educated labor force should be taken into account when talking about the technological environment of the industry. The observed industry relies on university educated staff and therefore, a need for constant innovation and improvement of the university curriculum is a necessity. The data show that at the Croatian universities there are about 600 information communication technology (ICT) expert graduates annually skilled in research, development, and production of goods and services in the sector, while the estimates show that there is an annual deficit of at least

300 new IT professionals with a university degree and at least 600 experts with IT skills, which represents a very large obstacle to the further development of the industry, but also the economy as a whole (EU Tempus project 2012).

Legislation in the field of IT, which is currently in force in the Republic of Croatia, consists of several sets of laws and regulations governing electronic signatures, electronic commerce, electronic documents, information security, and computer crime (Croatian Information Technology Association 2012). In addition, Information Technology Law is covered through the Waste Management Act and the Ordinance on wasteful electrical and electronic devices and equipment. An increase in trade with the EU member states will require adjustment of the customs administration, which will further require a large number of network and system integrators, developers, application consultants and implementers, and IT lecturers, and this could have a positive impact on the IT industry. Also, when the EU borders extend to Croatia, the government will have to implement systems of border security and enhance the identification security system in accordance with the regulations of the European Union (EU CARDS Project 2002).

In terms of the ecological environment, in commercial buildings the energy expended for the use of information technology by more than 20%, and in some offices up to 70% (Green IT 2012). Therefore, in the IT industry growing importance is given to sustainable development. Moreover, the European Union (EU) has adopted two directives that deal with electrical and electronic equipment which require European manufacturers to accept the return of old equipment. The main aim of the directives is to limit the amount of waste that goes to landfill, through its organized collection; encourage recycling and reuse of materials, and to prohibit the use of

substances such as lead, mercury, cadmium, hexavalent chromium, and brominated readily flammable materials (European Commission 2007). In the light of preparations for the EU membership, Croatia has accepted the obligation to implement these directives in their laws, through the already adopted Ordinance on wasteful electrical and electronic devices and equipment, and the mentioned new Waste Act (Ministry of Environment 2012).

2.2. Porter five forces analysis

Competitive rivalry in the industry represents one part of the Porter analysis of competitiveness (Porter, 1990). The most successful companies in the IT industry in the Republic of Croatia measured by revenues are mainly engaged in IT services. Such a structure characterized by similarity of products and services offered shows there are highly competitive forces in the industry, as well as the fact that a large number of small and medium-sized businesses seek to maintain their market share by offering similar products and services. Another factor that speaks of the fierce competition in the industry is the presence of major international companies that have already won a large share of the market with its range of established products and services (EU CARDS Project 2002). However, the demand for IT products and services is still low if we compare Croatia with other European countries

Concerning the risk of entry of new competitors, there are still enterprises that set up operations in the IT industry which is a sign of market growth (EU CARDS Project 2002). According to the criteria of the procurement costs of goods in the total income, the threat of entry of new competitors is the lowest in the segment of trade of IT products because of the highest cost share, while the highest risk of entry of new competitors is in the field of software

development because that is where the cost share is lowest. Due to fierce competition in the IT industry, differentiation is an important factor that affects new competitors because enterprises operating in the market for a long time have become recognized and gained customer loyalty that are the result of marketing or tradition (EU CARDS Project 2002).

Furthermore, as regards the risk of substitution of certain IT products or services, it can be said that the transfer of customers to substitute products is usually not easy. For example, a company that decides to substitute an existing product, besides the investments in new equipment, has to ensure education for its labor force to work on new products. In addition, a new software product usually cannot replace the same product that performs the same function so the threat of substitution is very small (EU CARDS Project 2002).

Bargaining power of suppliers and bargaining power of buyers are additional elements of the industry competitiveness analysis. In the IT industry, the hardware costs are reduced with market saturation before the emergence of more advanced products, while the prices of software development tools vary depending on the complexity of the tool or set of tools. However, their prices are very low compared with the cost of the end product - software support. Most of the development tools are products of large software vendors (Microsoft, IBM, Oracle) which are distributed by their partners or through online stores (EU CARDS Project 2002). Large companies consider the power of suppliers to be high, because the quality of the product in the beginning stage determines the quality of the end product (EU CARDS Project 2002).

For the entire IT industry, large enterprises can be considered as customers with high bargaining power, as the largest IT investments in Croatia come from the

Croatian government, banks, insurance companies and other financial institutions, utilities, telecommunications, manufacturing and transport sectors (EU CARDS Project 2002). The bulk of IT spending is realized by the government and significantly affects the development of the IT market in the country (EU CARDS Project 2002). Furthermore, with a fully liberalized telecommunications sector, IT spending of mobile and fixed operators is constantly increasing (EU CARDS Project 2002). They typically invest in systems and long-term counseling, and it can be concluded that they have great bargaining power. The banking sector may also be considered as a customer with high bargaining power because foreign direct investments are focused in their modernization and restructuring and imply continuous IT spending to improve business efficiency (EU CARDS Project 2002).

2.3. SWOT analysis

Table 2.1 presents the analysis of strengths, weaknesses, opportunities, and threats of the information technology in the Republic of Croatia.

Table 2.1. SWOT analysis of the IT industry in the Republic of Croatia

Strengths	Weaknesses
competency and capacity for abstract thinking and imagination of Croatian engineers are important for products and services in the domain of IT	lack of quality control personnel
high percentage of employees in IT companies who speak English, which favors the establishment of partnerships with global partners and high growth rate	limited number of local enterprises qualified for downloading large IT service projects at home and abroad - the relative size of the enterprise is too small to step into the international market
several larger and many smaller companies that foster innovation	lack of government incentives and support for the production of large IT service projects abroad
product recognition, financial strength and	lack of cooperation among companies in terms of the formation of strategic alliances

quality standards of service delivery	lack of ambition of local business owners / managers to penetrate foreign markets
international IT service companies and world-renowned products	lack of government incentives and support in the development and marketing of domestic software
financial potential, marketing and sales expertise of global companies with offices in Croatia	limited number of local enterprises capable of developing products demanding software
well-connected local businesses with the state administration and public enterprises	lack of brand Croatian products and software solutions, specialized expertise in consulting and business skills
flexibility and lower cost of local IT services	poor marketing strategies and distribution channels for their products and software solutions
flexibility and lower cost of software licenses and services for local businesses	
Opportunities	Threats
create a strong IT sector with the necessary and demanded products which will result in a reduction of imports	misunderstanding of the meaning of information technology due to the lack of knowledge and vision of development in the IT field
underdeveloped regions of Central and Eastern Europe, with increased needs for information technology which creates export opportunities	lack of digital literacy of policy makers and social problems caused by the focus on outdated technology
lack of specialists in the world - an opportunity for the development of Croatia and for increased employment	lack of financial aid for starting a new business
increase efficiency in the management and administration within the public and private infrastructure	lack of large IT service infrastructure projects in the country
relatively small local market and IT community stakeholders, which should facilitate decision making in devising strategies for the IT industry and specific projects	shortage of highly skilled and innovative professionals with ambitious goals and a vision
fast-growing demand for	more competitive environment and new entrants in the domestic market related to the integration with the EU
	lack of effective cooperation between the private sector and research supported by the

finished products from the software enterprises and the public sector in the country and region	government
partnerships with global companies in developing and marketing software	outflow of IT experts associated with higher wages in Western Europe
upcoming EU integration and the growing demand for the retrofitting of existing systems (taxes, duties)	small local market that does not allow for economies of scale
	widespread preference for imported packaged software products piracy

Source: EU CARDS Project (2002); EU Tempus project (n.d.); IDC Adriatics (2011)

3. LITERATURE OVERVIEW

Due to the ongoing process of globalization, which has changed the environment and business conditions, enterprises have to adapt to new circumstances. They do so by the adoption of the process of internationalization. Generally, theories of internationalization of small and medium-sized enterprises (SMEs) are divided into the Uppsala model, innovation models, and network development models (Ali 2000).

The Uppsala model emphasizes the importance of the learning process and gathering experience on performance in foreign markets (Mellin 1992). According to the Uppsala model four stages in the process of internationalization can be distinguished: sales in the domestic market with occasional exports, without regular export; export through an intermediary (agent); opening sales outlets abroad; own production abroad.

The main contribution of models based on the adoption of innovations are related to the business performance of small and medium enterprises and explaining the initial stages of their international expansion through exports until they accept foreign direct investment as an alternative way of internationalization (Barkema and Bell 1996).

Among the more recent theories of internationalization are networking models.

The basic idea behind these models lies in building nonhierarchical systems that allow enterprises better and closer cooperation, which ultimately results in better and stronger market position. Studies of these models are generally based on the benefits that are achieved by mutual cooperation of enterprises, and not the specific advantages of each company.

Taking into account changes in the global environment and growing importance of the process of business internationalization, especially for micro, small and medium-sized enterprises, this area has become more empirically researched.

Research on the internationalization of SMEs in the European Union has shown that most of these enterprises are involved in international activities, primarily through imports and exports, but very few export out of the integration (European Commission 2010). Also, it has shown that there is a direct relationship between the size of the enterprise and the internationalization process.

According to the study conducted by Su and Poisson (2000) strategic alliances are the most popular strategy of internationalization of SMEs in high technology industries.

Research on the barriers to business internationalization organized by the OECD and APEC (2006), found that the lack of managerial skills are perceived as a major obstacle to small and medium enterprises that have already started the process of internationalization.

Similar research on the obstacles to internationalization process carried out by Škrtić and Mikić (2009) on a sample of Croatian SMEs indicated that the primary barriers to the process of internationalization are high prices of goods and services and the lack of knowledge, skills and abilities of employees.

Paunović and Prebežac (2010) concluded in their study that the internationalization of small enterprises depends largely on the knowledge of entrepreneurs based on experience and network of contacts abroad.

4. METHODS AND GOALS OF RESEARCH

The research in the level and internationalization features of software development enterprises was conducted during September and October of 2012. In the following part the sample selection, data collection methods, research instruments, as well as the objectives, hypotheses and limitations of the study are described.

The survey included micro and small enterprises in the information technology industry, specifically, companies registered in the main activity (according to the Croatian Chamber of Economy and the statement of the company): J62 - computer programming, consultancy and related activities. A total of 835 enterprises from these activities were contacted, whose contact information was available in the Croatian Company Directory.

The conducted study had the features of exploratory research, and the research method was testing. The way of communicating with the respondents was via e-mail, and online questionnaire with 17 questions was used as a survey instrument. A total of 97 companies responded to the survey which means that the response was 11.6%. In the case of an Internet survey, the expected response rate is 10% or less (Tkalac Verčič et al. 2010) thus the rate of return of 11.6% can be considered a good result.

The questionnaire was structured based on the model of similar studies on internationalization that were conducted in Croatia, specifically based on the survey on the internationalization of small enterprises in the branch: manufacture of other electrical equipment (Paunović 2007) and the study conducted by Internationalization of Cross-

Border Entrepreneurship Project organized by the Varaždin County and funded by the EU (Varaždin County 2008). The questionnaire had the goal to examine primarily downstream internationalization, which is based on the entrance to foreign markets and export management (Grgić et al 2010). The questionnaire consisted of three sets of questions. The first group of questions in the questionnaire (1-4) related to the basic information about the enterprise (number of employees, the main activity, enterprises' functions), and the next group of questions (5-12) had the goal of determining the details of the enterprises' international activities (the degree of internationalization, strategies of foreign market entry, barriers and benefits of internationalization, reasons to internationalize). Enterprises that operate only in the domestic market were included in the group of questions from 13 to 17, which determine their readiness for internationalization, the most important competitive strategy, plans for internationalization, and foreign languages used in the enterprise. Enterprises that operate both on domestic and international markets were obligated to answer as well, so that a complete picture of the strengths and weaknesses of software development enterprises in Croatia could be made.

The main objective of this study was to determine the level of internationalization of Croatian micro and small enterprises for software development. In addition, the objectives of the research were to determine the strategy of internationalization most commonly used among the analyzed enterprises and the main motivation and barriers to internationalization of Croatian software development enterprises.

In accordance with the objectives, the following hypotheses were defined: (1) micro and small enterprises for software development in the Republic of Croatia are export-oriented, (2) the key success factors of

internationalization of the Croatian micro and small enterprises for software development are skills and knowledge of human resources.

Regarding the main activities of the enterprises, based on the questionnaire, it was concluded that out of the 97 companies that responded, 53 companies are engaged in software development, while the remaining 44 companies are engaged in trade and advisory services in the domain of information technology, or activities in the field of marketing, tourism and accounting, and activities outside the information technology industry. As such, the limitation of research on the internationalization of micro, small and medium enterprises for software development in the Republic of Croatia is the fact that the results and conclusions of the research are based on a small sample of these enterprises. In continuation, responses from 53 enterprises engaged in software development, i.e. 6.3% of contacted enterprises will be analyzed. The collected data were analyzed in Microsoft Excel, which also represents a further limitation of the research since such analysis is based mainly on descriptive statistics.

5. RESEARCH RESULTS

The questionnaire was filled up by company managers, 72%, while the remaining 28% were employees with relevant functions such as director of development, sales department, production department, etc. All of the enterprises have less than 50 employees, and according to this criterion, 62% of the enterprises belongs to the micro entities (0-9 employees), and 38% are small enterprises (10-49 employees). Regarding the duration of market performance, 47% of enterprises are operating in the market for more than 10 years, 27% of enterprises are operating between 6 and 10 years and 25% of enterprises are young enterprises that operate for less than 5 years.

When answering the question whether the enterprise achieves sales abroad, 58% of the surveyed enterprises responded yes and these will be taken into account in the further analysis of the business internationalization. For comparison, using the data from the 2010, if the number of enterprises that generate revenues from sales abroad (12,035 of them) was divided with the total number of companies in Croatia (96 758 of them) (Kovačić 2011), the result is a share of about 0.12, which means that 12% of the companies in Croatia generate revenues from sales abroad. Therefore, it can be concluded that small enterprises for software development are internationalized above average.

Figure 4.1 shows the responses to the question regarding the level of internationalization of Croatian software development enterprises. Overall, 62% of enterprises estimated that their revenue from international activities accounts for less than 50% of the total revenue. In 19% of the enterprises, revenue from foreign operations accounts for 50-79% and also 19% of enterprises have reported that their revenue from international activities makes 80-100% of total revenue.

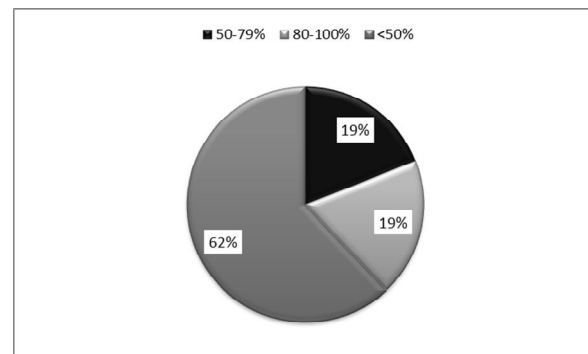


Figure 4.1. The level of internationalization according to the revenue from international activities

As for strategies of entry to foreign markets, respondents had the option to choose between multiple strategies: exports, license, strategic alliance or establishment of subsidiaries. According to the results, 35% of

enterprises use only one strategy of performance on foreign markets, of which the most common strategy is exports, then strategic alliance with another company, followed by the license option and the establishment of subsidiaries in foreign markets. Among 65% of enterprises using multiple strategies in foreign markets, the most commonly used strategy is also exports, followed by a strategic alliance and license which are represented in equal measure, while the establishment of subsidiaries is the least used strategy of performance on foreign markets. To conclude, in the case of micro and small enterprises for software development in Croatia, the most commonly used strategy is exports, which is also the simplest strategy to enter foreign markets, and this confirms the first hypothesis.

Furthermore, according to the responses of the surveyed enterprises about the markets to which they export, more than half of the surveyed enterprises indicated that European countries are their main exporting markets. After European countries is the North American market, then the market of Asian countries, Australia and South American countries. Therefore, it can be concluded that the software development enterprises mostly opt for exports to areas geographically closer to their domestic market, and less to distant markets, which is consistent with the theoretical Uppsala model (Melin 1992).

Tables 4.1 and 4.2 show the impact factors on the decision to internationalize performance and the obstacles to that process. Table 4.1 presents the results obtained by the enterprises that were asked to evaluate each of the listed factors using the Likert scale - from 1 (very low impact) to 5 (very strong influence). Knowledge of foreign languages is marked as a very important factor that enables performance in foreign markets. The above is in accordance with the second hypothesis of the paper. The next factor is the motive of not missing expansion opportunities

followed by the saturation of the domestic market, as demonstrated by the analysis of the information technology industry. International experience and contacts is in the fourth place by the impact of the decision to internationalize; such acquaintance can greatly facilitate the foreign entry and, more importantly, the survival of the foreign market. Other features that have an impact on the decision about the internationalization are as follows: globalization trends, knowledge of foreign markets, economies of scale, international experience, unique product, internal and external barriers to internationalization, risk adversity, and finally, increased competition in the domestic market has the smallest impact on the enterprise's decision.

Table 4.1. Impact factors on the decision to internationalize

Feature	Grade
Knowledge of foreign languages	3.97
Not missing business opportunities in foreign markets	3.55
Domestic market saturation	3.55
International contacts	3.42

Source: authors

Enterprises in the survey were also asked about the motivation behind the internationalization and they could give multiple responses (Figure 4.2). Figure 4.2 shows that 77% of the enterprises indicated future growth and long-term development of the enterprise as the most important reason for internationalization, then the insurance of survival in the future (68%) and the use of new developments provided by ICT, 45% of the respondents.

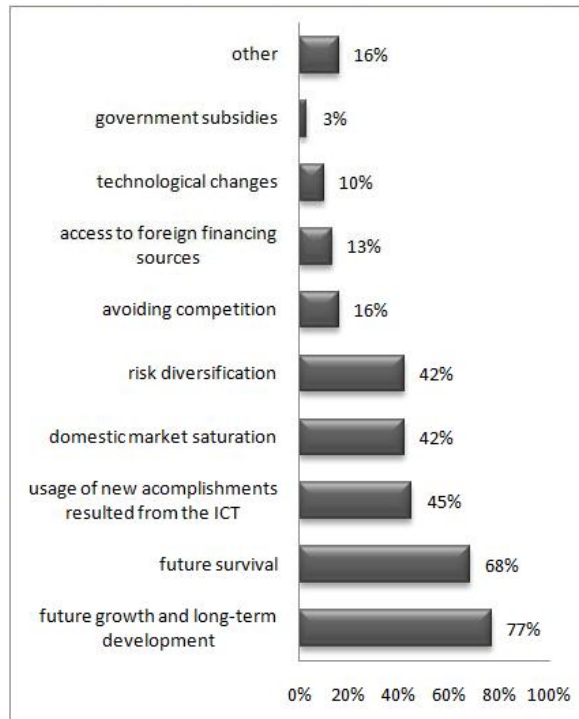


Figure 4.2. The most important reasons of internationalization

Possible answers to the question regarding respondents' opinions on the most important benefits of internationalization process were as follows: achievement of greater revenue and future growth and development, increase in employment and increase in market share. A total of 42% of enterprises marked all these benefits as the most important, while viewed individually, the achievement of greater revenue and future growth and development were marked as the most important benefits. Therefore, micro, small and medium sized enterprises for software development consider business development and growth as the most important reasons for the internationalization of business.

In examining the opinions of Croatian entrepreneurs on the most common barriers to business internationalization, enterprises were asked to choose five and rank them from 1 to 5 (where 1 denotes the most common barrier). Ranks that each enterprise assigned to individual obstacle were summed and divided by the number of ranks and that is how the five most common barriers were

obtained and presented in Table 4.2. The most prevalent barrier is considered to be the lack of entrepreneurial, managerial and marketing skills, followed by bureaucracy, difficulties in accessing financial resources, lack of capital and insufficient government support for internationalization. This is also in line with the second hypothesis. In addition to managerial skills, it can be said that the lack of capital and financing also poses a significant obstacle to the process of internationalization.

Table 4.2. The most common barriers to internationalization process

Barrier	Rank
Deficiency of managerial, entrepreneurial and marketing skills	2.4
Bureaucracy	2.7
Difficulties in accessing financial resources	2.8
Insufficient capital	2.8
Insufficient government support for internationalization	3.0

Source: authors

Both the enterprises that have internationalized their operations and those that have not were asked the question on the readiness of enterprises to internationalize considering three components: manufacturing capabilities, financing and marketing knowledge. Enterprises had to evaluate the listed components with grades that rank from 1 (poor readiness for internationalization) to 3 (good readiness for internationalization) and the analysis was done considering the average score of each of the components. Enterprises that have gone internationally gave the highest average rating to their production capacity, then to financing, while marketing knowledge was assigned the lowest score, which is consistent with the findings of the previous questions about the most common obstacles to the internationalization. Enterprises that have not yet internationalized gave the highest average grade to their production capabilities and market knowledge, and the lowest average score was assigned to the funding resources

which is also in line with the top five barriers that enterprises stated in the previous question.

In order to determine the strengths of small enterprises for software development, they were questioned about what they consider to be their competitive strategies, and they were given the choice of multiple answers. As shown in Figure 4.3, most enterprises (46 in total) believe that it is the quality of the products and experienced employees (36) followed by customer service and price, short time of delivery and geographic location.

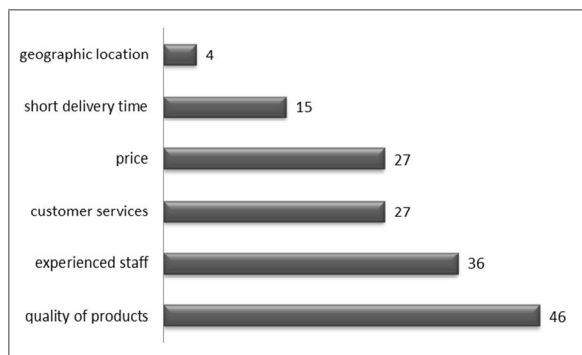


Figure 4.3. The most important competitive strategies of software development enterprises

As it has been stated, enterprises have assessed foreign language skills as a feature with the greatest influence on the decision to internationalize, and were also asked which foreign languages they use in their operations. The results show that English is undoubtedly the most used language in business performance; it is used by 52 out of the 53 enterprises examined. This is followed by German (10 companies) and Italian (7 companies). Other less used languages include French, Russian and Slovenian.

It is considered that the concentration of knowledge and labor force achieved by strategic alliances enables the improvement of software solutions of Croatian enterprises, focusing on high quality products and efficient implementation time, as well as the lower cost of solutions delivered (EU CARDS Project 2002). Accordingly, enterprises were asked

whether they would engage in the process of internationalization individually or in cooperation with other enterprise. According to the responses, 64% of the surveyed enterprises prefer individual performance in foreign markets, which may be explained by possible conflicts over leadership and unwillingness to split profits.

At the beginning of this analysis, it was found that 42% of the surveyed software development enterprises do not earn income abroad. Furthermore, 68% of these enterprises have plans for internationalization, however, as they self-assessed, poor funding possibilities is one of the limiting factors.

6. CONCLUSION

Globalization offers many opportunities for business expansion, but also requires constant training, learning and innovation in order to keep pace with the competition. This is particularly pronounced in the information technology industry in which the basis for the development and competitiveness lies in innovation of existing and creation of entirely new products. In such an environment, enterprises in the high tech industry often decide on mutual cooperation and the creation of strategic alliances in order to achieve greater efficiency and competitiveness.

Although it possesses educated professionals with the potential to make the information technology industry competitive in the world market, the Republic of Croatia still does not use its resources sufficiently. Micro and small enterprises for software development in the Republic of Croatia have the knowledge and creativity that are required for the development of innovative software solutions, but according to the primary research conducted, they lack managerial and marketing skills, which makes it difficult for them to promote products in the domestic and

then in foreign markets. The deficiency of these skills has been observed in the case of micro and small enterprises for software development in the world as well, and the resolution of these obstacles in the case of Croatian enterprises should be seen as an opportunity to increase their competitiveness in this industry. The next major obstacle for the internationalization process is bureaucracy and three financial barriers: lack of capital, difficulties in accessing financial resources and lack of government support for internationalization. Based on the responses received from the internationalized enterprises, related to their readiness for internationalization, they recognized marketing knowledge as the weakest area, while enterprises that are not internationalized assessed financing as the most limiting factor, which may be the reason why they have not yet started the process of internationalization, although the results suggest that most of them plan to do so.

On the basis of this study, the conclusion is that the small enterprises for software development in Croatia are internationalized above average. Since 38% of the enterprises have recorded revenues from international activities, which account for over 50% of the total revenue, small enterprises for software development in Croatia are characterized as exporters. Potential for further development of micro and small enterprises in the sector of software development lies in differentiating products in order to gain advantage over large global enterprises. Differentiated product is manufactured according to customer specification, so as to be sure that such a software product will fully suit his needs. In order to gain a place in the international market, any micro, small or medium-sized enterprise should strive to continually foster innovation. Also, the Croatian accession to the European Union will have an impact on the competitiveness of Croatian enterprises and their capacity to go international, therefore, it

is interesting to further research the implications of Croatian accession to the EU on the internationalization possibilities of Croatian micro, small and medium enterprises in terms of increased competition, the possibility of penetrating foreign markets, the withdrawal of the EU funds and the like.

REFERENCES

1. Ali, M. (2000) *Export behavior of small and medium enterprises, chapter 5: Internationalization theories of small firms*. Bahaudin Zakariya University Multan [Online]. Available from: <http://prh.hec.gov.pk/Chapters/187-0.pdf> [Accessed 10.10.2009.]
2. Arora, A. & Gambardella, A. (2004) *The Globalization of the software industry: perspectives and opportunities for developed and developing countries*. NBER Working Papers 10538 [Online]. Available from: <http://www.nber.org/chapters/c10805.pdf> [Accessed 31.10.2012.]
3. Behrens, A. (2003) Brazilian software: the quest for an export-oriented business strategy, DRC Working Papers, London Business School, No. 21. [Online]. Available from: <http://www.dfid.gov.uk/r4d/PDF/Outputs/CNEM/drc21.pdf> [Accessed 30.09.2012]
4. Barkema, H. & Bell, J. H. (1996) Foreign entry, cultural barriers and learning. *Strategic management journal*. Vol. 17, pp. 151-166
5. Burzynski, O. R., Graeml, A. R. & Balbinot Z. (2010) The internationalization of the software market: opportunities and challenges for Brazilian companies. *JISTEM Journal of Information Systems and Technology Management*. 7 (3), pp. 499-516.

6. Calof, J.& Beamish, P. (1995) Adapting to foreign markets: explaining internationalization. *International Business Review*. 4 (2), pp. 499-518.
7. Chen, L.& Liqin, C. (2001) The 3rd Wave of eBusiness: Collaborative Virtual Enterprise. In *International Symposium on Government in E-Commerce Development*. Ningbo, China, 23-24.04.2001.
8. Croatian Bureau of Statistics (2012) *Official web page* [Online]. Available from: <http://www.dzs.hr/> [Accessed 23.09.2012]
9. Croatian Chamber of Economy (2012) *Official web page* [Online]. Available from: <http://www2.hgk.hr/en/> [Accessed 23.09.2012]
10. Croatian Employment Service Bureau (2012) *Statistics* [Online]. Available from: <http://statistika.hzz.hr> [Accessed 21.12.2012].
11. Croatian Informatics Association (2012) *Official web page* [Online]. Available from: <http://www.hiz.hr> [Accessed 23.9.2012].
12. Croatian Ministry of Environment (2012) *Official web page* [Online]. Available from: <http://www.mzoip.hr> [Accessed 23.09.2001].
13. Croatian Ministry of Public Administration (2012). *e-Croatia* [Online]. Available from: <http://www.uprava.hr> [Accessed 23.03.2012]
14. Croatian National Bank (2012) *Financial stability* 9 (5) [Online]. Available from: <http://www.hnb.hr/publikac/financijska%20stabilnost/h-fs-9-2012.pdf> [Accessed 27.11.2012]
15. Dutta, S. & Benat-Bilbao, O. (eds) (2012) *The global information technology report*. Geneva: World Economic Forum.
16. EU CARDS Project (2002) *Sector analysis: consultations and program support access sector* [Online]. Available from: <http://www.scribd.com/doc/82266968/Software-CRO> [Accessed 21.03.2012]
17. EU Tempus project (2012) *The role and tasks of universities in program engineering development: development of competence centers in the area of program engineering in Croatia* [Online]. Available from: http://www.fer.unizg.hr/_download/repository/kisek_prirucnik_1.pdf [Accessed 2.4.2012]
18. European Commission (2007) *Supporting the internationalisation of SME's, Final report*. [Online]. Available from: http://ec.europa.eu/enterprise/policies/sme/files/support_measures/internationalisation/report_internat_en.pdf [Accessed 31.10.2012]
19. European Commission (2010) *Internationalisation of European SMEs* [Online]. Final report. Brussels: European Union. Available from: http://ec.europa.eu/enterprise/policies/sme/market-access/files/internationalisation_of_european_smes_final_en.pdf [Accessed 21.03.2012]
20. Financial agency statistics (2012) *Official web page* [Online]. Available from: <http://www.fina.hr/> [Accessed 26.11.2012.]
21. Fong, M.W.L. (2011) Chinese SME's and Information Technology Adoption. *Informing Science and Information Technology*. (8) 2011, pp. 313-322.
22. Green IT (2012) *Official web page* [Online]. Available from: <http://www.greenit.net/> [Accessed 27.8.2012]

23. Grgić, M., Bilas, V. & Franc, S. (2010) *Entrepreneurship in the international economy*. Zagreb: Sinergija.
24. IDC Adriatics (2011) *Analysis of Croatian ICT industry 1999-2009* [Online]. Available from: http://www.hgk.hr/wpcontent/files_mf/Analiza%20hrvatske%20ICT%20industrije%201999%202009%201%20.pdf [Accessed 21.03.2012.].
25. Kovačić, D. (2011) *Performance of small enterprises in 2009 and 2010* [Online]. Financial agency. Available from: http://portal.wlw.hr/Uploads/1461/1/3/5413/5419/FINA_1.pdf [Accessed 26.11.2012.].
26. Lin, S. (2010) Internationalization of SMEs: Towards an integrative approach of resources and competences. *Colloque Franco-Tchèque: Trends in International Business (2010)*.
27. Melin, L. (1992) Internationalization as a strategy process. *Strategic management journal*. 13 (special edition), pp. 99-117.
28. Müller, J. (2001) Managing information technology in modern companies and Croatian business practice of information technology usage. *Economic Review*. 52 (5-6), pp. 587.-612.
29. OECD (2004) Facilitating SMEs access to international markets. *In the 2nd Conference of Ministers Responsible for Small and Medium-Sized Enterprises (SMEs)*. Istanbul, Turkey, 3-5 June, 2004. OECD.
30. OECD (2009) *Top Barriers and Drivers to SME Internationalisation*. Report [Online]. Available from: <http://www.oecd.org/industry/smesandentrepreneurship/43357832.pdf> [Accessed 21.03.2012.].
31. OECD-APEC (2006) *Removing Barriers to SME Access to International Markets* [Online]. Available from: <http://www.oecd.org/cfe/smesandentrepreneurship/37818332.pdf> [Accessed 23.09.2012.].
32. Paunović, Z. (2007) *Internationalization of small enterprises from the manufacturing of electronic equipment sector*. Master's thesis. Zagreb: Faculty of Economics and Business, University of Zagreb.
33. Painović, Z & Prebežac, D. (1998) Internationalization of small and medium-sized enterprises. *Martekt*. 22 (1), pp. 57-76.
34. Porter, M. (1990) *The Competitive Advantage of Nations*. New York: The Free Press.
35. PricewaterhouseCoopers (2010) *100 Global Software Leaders* [Online]. Available from: http://www.pwc.com/en_GX/gx/technology/publications/global-software-100-leaders/assets/global-software-100.pdf [Accessed 31.10.2012.].
36. SOFTEX (2002) *Software industry in Brazil: strengthening the knowledge economy* [Online]. Available from: http://www.softex.br/portal/softexweb/uploadDocuments/_observatorio/Softex_US.pdf [Accessed 30.09.2012.].
37. Steinmueller, W. E. (1995) *The U.S. Software Industry: An Analysis and Interpretive History*. Maastricht Economic Research Institute in Innovation and Technology, University of Limburg [Online]. Available from: <http://www.merit.unu.edu/publications/rmpdf/1995/rm1995-009.pdf> [Accessed 22.03.2012.].

38. Su, Z. & Poisson, R. (2000) *Utilization of strategic alliances in the processes of internationalisation: an empirical study of small and medium sized high-tech enterprises* [Online]. Available from: http://www.fsa.ulaval.ca/cepme/Articles&documents/IAMOT_2000-strategy.pdf [Accessed 30.10.2012.]
39. Škrtić, M. & Mikić, M. (2009) The internationalization of small and medium-sized enterprises in the Republic of Croatia. *Economic review*. 65 (5-6), pp. 290-311.
40. Tkalac Verčič, A., Sinčić Čorić, D. & Pološki Vokić, N. (2010) *Handbook for research methodology: how to create, perform and describe scientific and professional research*. Zagreb: M.E.P.
41. UNCTAD (2002) *Changing dynamics of global computer software and services industry: implications for developing countries, Technology for Development Series* [Online]. Available from: <http://unctad.org/en/Docs/psiteted12.en.pdf> [Accessed 30.09.2012.]
42. Varaždin County (2008) *Sector Analysis: ICE project, Internationalisation of Cross-Border Entrepreneurship* [Online]. Available from: http://www.azra.hr/files/Sektorske_analize_en_korigirane.pdf [Accessed 23.03.2012.]
43. Welch, L. S. & Luostarinen, R. (1988) Internationalisation: evolution of a concept. *Journal of General Management*. 14 (2), pp. 34-55.
44. Zucchella, A., Palamara, G. & Denicoali, S. (2007) The drivers of early internationalization of the firm. *Journal of world business*. 42 (3), pp. 268.-280.