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# VALUE CHAIN UPGRADING IN TRANSITION ECONOMIES

## Napredovanje u lancima vrednosti u tranzicionim ekonomijama

### Abstract

The integration of small and medium-sized enterprises (hereinafter referred to as SMEs), operating in transition economies, into global division of labour is characterized by barriers that are not only caused by the size of those enterprises, but also by the fact that these are the companies with limited experience in the internationalization of business operations. The barriers that SMEs can be exposed to while entering international markets can be overcome when the governments choose the most effective strategy for improving the competitiveness of their SMEs. The most common strategies for improving the competitiveness of SMEs in transition economies are: subcontracting, integration in value chains, market niche development, and networking. The paper estimates the conditions and the possibility of applying strategies of integrating SMEs in Serbia into global value chain, as well as the ability and propulsiveness of SMEs to enhance their role in value chain of fruit and vegetables. The methodology for assessing the readiness of SMEs for their integration into value chain of fruit and vegetable processing has been developed to assess the readiness of the selected SMEs for their integration and promotion in the fruit and vegetable processing chain. Upgrading in value chains depends on the willingness of companies, but also on the willingness of the governments of transition economies to reduce the costs of knowledge, kinetic and transaction costs that SMEs in transition economies are exposed to while trying to integrate into value chains. To upgrade in value chains, the innovation of the process is an essential feature.

**Keywords:** *competitiveness, small and medium enterprises, value chains, VCRA methodology, management, innovation.*

### Sažetak

Uključivanje malih i srednjih preduzeća (u daljem tekstu: „MSP“) koja posluju u tranzicionim zemljama u globalnu podelu rada odlikuje se barijerama koje nisu prouzrokovane samo veličinom tih preduzeća, već i činjenicom da je reč o preduzećima koja su imala limitirano iskustvo u internacionalizaciji poslovanja. Barijere kojima MSP mogu biti izložena u nameri da pristupe međunarodnim tržištima mogu biti savladane zahvaljujući sposobnosti vlada da odaberu najfunkcionalniju strategiju za unapređenje konkurentnosti MSP. Najčešće strategije za unapređenje konkurentnosti MSP u tranzicionim zemljama su: podugovaranje, uključivanje u lance vrednosti, razvoj tržišnih niša i umrežavanje. U ovom radu testiraju se uslovi i mogućnost primene strategije uključivanja MSP u Srbiji u globalne lance vrednosti kao i sposobnost i propulzivnost MSP za napredovanje u lancu vrednosti voća i povrća. Razvijena je metodologija procene spremnosti MSP za uključivanje u lance vrednosti prerade voća i povrća, sa ciljem da se oceni spremnost izabranih MSP za uključivanje i napredovanje u lancu prerade voća i povrća. Napredovanje u lancima vrednosti zavisi od spremnosti preduzeća, ali i od spremnosti vlada tranzicionih zemalja da snize troškove znanja, kinetičke, kao i transakcione troškove kojima su MSP u tranzicionim ekonomijama izložena u nastojanju da se uključe u lance vrednosti. Za napredovanje u lancu vrednosti, inovativnost procesa predstavlja esencijalni činilac.

**Ključne reči:** *konkurentnost, mala i srednja preduzeća, lanci vrednosti, VCRA metodologija, menadžment, inovativnost.*

## Introduction

Globalization encourages SMEs to internationalize their business operations [2, p. 11]. In addition to integrating in value chains, companies can internationalize their business by exporting, licensing, joint ventures and generating other forms of strategic alliances, acquisitions and direct foreign investments.

Up to now, the literature has focused primarily on internationalization of business operations of large enterprises, while no attention has been paid to the internationalization of SMEs' business operations.

The strategies for increasing the competitiveness of SMEs in transition economies depend on the type of barriers that these companies encounter while trying to internationalize their business operations. Apart from the strategies such as subcontracting, networking and market niche development, the integration of SMEs in value chains is another strategy for increasing the competitiveness of enterprises in transition economies [20, p. 111]. The integration of transition economies' SMEs into value chains is the strategy used when the environment for decreasing strategic costs has already been created, but there is still a need to create the conditions for decreasing the costs of knowledge, kinetic and transaction costs. The readiness of the enterprises to engage in value chains greatly influences the efficiency of their upgrading in value chains.

The subject of the research paper is the readiness of SMEs in Serbia to produce and process fruit and vegetables as low and medium technologically intensive industries and integrate into export-oriented value chains. The aim of the analysis is to identify general and specific factors that influence the success of integrating into value chains, striving to enhance the competitiveness of SMEs. The aim of the research is to examine the readiness of SMEs in Serbia to integrate in fruit and vegetable production and processing sector, but also to upgrade their role in export-oriented fruit and vegetable processing chains.

In the paper, we are going to test the credibility of the assumption that SMEs in Serbia are not exposed to strategic costs, and that, therefore, it is necessary to reduce the costs of knowledge, kinetic and transaction costs. The confirmation of the credibility of these assumptions would

confirm the importance of integrating into value chains in order to increase the competitiveness of SMEs in Serbia.

First, we are going to present the literature on the strategies of internationalization of SMEs' business operations. Afterwards, we are going to discuss the most important strategies for internationalization of business operations of transition economies' SMEs, the importance of integrating SMEs into export value chains, and the ways of value chain management. In the empirical part of the paper, we are first going to introduce the methodology of researching the readiness of SMEs in Serbia for integrating in export value chains of fruit and vegetable processing, and finally present and discuss the results of the research.

## Literature review

SMEs can internationalize their business operations in direct and indirect ways. Empirical research studies suggest that exports and foreign direct investment are the forms of business internationalization that are mainly used by large companies. SMEs mostly internationalize their business indirectly through integrating in value chains [1, p. 12]. In order to internationalize their businesses, SMEs encounter more barriers than large enterprises. These barriers encourage economic policy makers to focus on finding the ways to reduce the costs that SMEs are exposed to during the process of overcoming the barriers [6, p. 20].

The largest number of studies elaborates the internationalization of SMEs in developed, industrialized countries, while the studies for developing countries are rather rare, with little empirical data and findings on the internationalization of SMEs [12, p. 2]. There are data indicating the link between the internationalization of SMEs and the employment rate, as well as the socio-economic development of the countries whose SMEs have been internationalized, thus encouraging the governments in transition economies to focus their policies on supporting the internationalization of SMEs [39, p. 52].

In the literature, there are several theories and models of company internationalization: stage models, network perspective, born-global or international new venture (INV), resource-based view (RBV), and eclectic paradigm. Although these theories, each from their

own perspective, contribute to the understanding of the phenomenon of enterprise internationalization [36, p. 479], there is still no universally accepted theory of internationalization, holistic and sufficiently developed to serve as a conceptual framework for the study of the phenomenon of internationalization of SMEs in transition economies [47, p. 47].

Since none of these models alone can fully explain the internationalization of SMEs, for the purpose of the paper, a conceptual framework has been created that integrates the elements of Uppsala, network and resource models. The remaining two models of internationalization, such as eclectic paradigm and international product life cycle (IPLC), have not been considered, because they are the models that are more suitable for later stages of internationalization of SMEs in transition economies.

Uppsala model has been used, as one on which our conceptual framework of research was created, since it places considerable importance on the management of companies in the process of internalization of their business. According to the Uppsala model, during the learning process, managers collect the information on foreign markets, the opportunities offered by these markets, and develop tacit knowledge, i.e., specific type of knowledge that is necessary for operating in foreign markets [30, p. 11].

According to the network model, the internationalization of companies depends on the position of companies in networks and the ability of companies to use their position in the networks for obtaining resources [31, p. 295]. By developing the relationships within certain networks, companies can cooperate with other companies to provide the resources they do not have, thus creating the preconditions for internationalization of their business operations [9, p. 90]. According to this approach, the process of internationalization is explained by the company's position in international networks [31, p. 111]. Resource theory highlights the impact of internal company resources on creating competitive advantage in the process of internationalization [4, p. 102], [41, p. 77].

Empirical research studies on internationalization of business mainly point to the barriers during the internationalization of SMEs' business operations. Few

authors and research studies explore the advantages that SMEs have in the process of internationalization compared to large enterprises, and there are fewer studies that compare these advantages through possible forms of internationalization. Therefore, research studies on small enterprises conducted in the United Kingdom point out the fact that the lack of resources is one of the main reasons why these companies do not export [49, p. 53]. The authors such as Smallbone and Wyr [42, p. 410] indicate that the quality of small business management is one of the main barriers to the internationalization of their business operations.

Gallo, Arino, Manez and Cappuyns believe that companies that want to internationalize their business should have "a strong management" [17, p. 3]. The same group of authors mentioned that the strengthening of small enterprise management is an essential factor in the internationalization, especially the one that is performed through strategic linking. Flamholtz emphasises that the transformation of the entrepreneurial management style into professional management is crucial for the successful growth of companies [16, p. 427].

Motives, forms and methods of internationalization of SMEs and large companies are very different. Therefore, there is a growing need for understanding the strategies of SMEs competitiveness [34, p. 480]. The importance of the issue is particularly significant in transition economies.

### **Internationalization strategies for SMEs in transition economies**

In order to help transition economy SMEs to internationalize their business operations, the economic policies of transition economies should focus on reducing the type of costs these companies are exposed to in the process of gaining competitive advantage in foreign markets [20, p. 110].

The costs that enterprises in transition economies encounter while internationalizing their business operations can be divided into four categories. These are: strategic costs, the costs of knowledge, kinetic and transaction costs. These types of costs are related to the challenges that transition economy SMEs face when choosing some of the possible strategies for internationalizing their business.

Strategic costs are the costs of gaining managerial skills and knowledge, as well as the costs of acquiring entrepreneurial skills and developing capacities to identify the opportunities offered by foreign markets. The strategic costs include both the costs of high business risk and high financial risk. These types of costs, except for the costs due to high business and financial risks, are the costs that SMEs have to bear in order to acquire the knowledge that was not available to them at the time of a planned economy, especially the knowledge of foreign markets, entrepreneurial and managerial skills.

The costs of knowledge are the costs of analyzing and researching foreign markets, the costs of customizing products and services to more sophisticated demand of foreign customers, the costs related to gaining experience while operating in foreign markets, the costs of acquiring knowledge about educational and research policies, etc.

Kinetic costs are “costs of movement”, that is, the costs of entering foreign markets and refer to travel expenses, the costs of building distribution and sales networks in foreign markets, the costs of acquiring knowledge about national politics and competitiveness.

Transaction costs are the costs of negotiating transactions and securing transaction execution according to specified terms, such as the costs of lawyer services, translation services, the costs of intellectual property rights, the costs of regulations, etc.

The level of development of a country defines the nature of its competitive advantage, and the nature of the competitive advantage defines the forms of internationalization of the companies operating in that country. As for the competitive advantage of Serbia, Serbia ranks 133<sup>rd</sup> in the World Economic Forum (WEF) out of 137 countries, which indicates that Serbia is a country where its low cost of labour is its competitive advantage

as well as natural resource abundance [40, p. 257]. The nature of Serbia’s competitive advantage highlights the importance of integrating its SMEs into a value chain, as one of the possible forms of internationalization of business apart from other forms, such as foreign direct investment or exports.

Integration in export-oriented value chains is one of the strategies based on companies’ willingness to reduce the costs of knowledge, kinetic and transaction costs, and thus contribute to increasing the competitiveness of the companies. Additionally, the increase in the competitiveness of SMEs integrated into value chains contributes to their flexibility and provides considerable benefits that the companies obtain from the specialization. Flexibility implies the ability of making prompt business decisions compared to large companies that mostly manage value chains [33, p. 41].

In addition to the abovementioned advantages, integration into value chains encourages SMEs to enhance their role in value chains, moving from the phases of low value-added production to higher value-added phases.

SMEs integrated in the finalization of products in value chains have more chances to succeed compared to SMEs that are integrated in value chains only as raw material suppliers. Improving the position of SMEs in value chains depends on the amount of investment in improving their position. Moreover, the position of SMEs in value chains depends on the readiness of corporate management to innovate [24, p. 20].

Other internationalization strategies for SMEs in transition economies differ from the strategy of integrating into value chains. Subcontracting strategy was used in transition economies of Eastern Europe in the clothing production sector. This strategy was based on low labour costs in the sector characterized by intense labour, without

**Table 1: Overview of the importance of different strategies for reducing the costs faced by SMEs in transition economies in order to internationalize their business operations**

Types of costs /Strategies of competitiveness	Strategic costs	The costs of knowledge	Kinetic costs	Transaction costs
Subcontracting		✓	✓	✓
Integrating in value chains		✓	✓	✓
Focusing on market niches	✓	✓		
Networking	✓	✓	✓	✓

the intention of changing the technological intensity of the clothing production sector at a certain point.

Focusing on market niches for transition economy SMEs is possible only if a number of conditions are met, such as: appropriate technology, flexible management, organizational and market capacity, quality control, sales services, affirmative brand, the network of relationships with customers and suppliers, etc. As presented in Table 1, SMEs opt for this strategy when their governments support the reduction of strategic costs.

On the other hand, transition economies' SMEs choose networking strategy when the owners and managers of SMEs possess managerial and entrepreneurial skills, i.e., when the environment is suitable enough for developing these skills. Networking is especially important in transition economies, whose production markets do not operate properly, their institutions are weak and the SMEs need to overcome a number of institutional barriers while aiming to make progress [35, p. 162].

### **Integration in value chains as a SMEs' internationalization strategy**

According to the World Bank's classification, Serbia ranks as an upper middle-income country. The paper presents a type of value chain that can be developed under the conditions characteristic of upper middle-income countries such as Serbia. A conceptual and methodological framework analysis was presented for such a value chain. Value chain readiness assessment (hereinafter referred to as VCRA) methodology was created and the results of the application of VCRA methodology were analyzed as well [11, p. 2]. For the countries that are in the middle or upper middle-income range, the suppliers are poorly organized, and lead to the so-called "captive value chains". In addition to captive value chains, value chains can be relational or modular. This type of value chain is characterized by a broad supplier base with well-developed, specific and unique competencies.

Most companies from Serbia, as well as fruit and vegetable processing companies, can be involved in value chains at the stages in which less value added is created, and not in the stages in which products are finalized and

the added value is high. The nature of the value chain in which SMEs from the fruit and vegetable processing sector in Serbia can be involved is a captive value chain, as it is characterized by a significant imbalance of power between the leading companies in that value chain and companies participating in it as raw material suppliers or suppliers. In addition, value chains in food processing companies are "buyer-driven".

The threat for SMEs involved in captive value chains is that, in the long run, they can lose competitiveness and, consequently, the ability to operate independently, and thus become "captive" in such value chains [24, p. 19]. To avoid the danger of becoming "captive" in such value chains, SMEs have to be innovative, so that their long-term competitiveness would not erode, especially with the emergence of new competitors offering products or services at more favourable prices [24, p. 20].

It is essential to understand value chain management: how companies in transition economies can enter a foreign market, the benefits of entering foreign markets, the risks and costs of not entering foreign markets, the ways of increasing profits from participating in global value chains, etc.

There are several strategies to improve the position of SMEs in the value chain. These are: process improvement, product development, enhancement of functions and a value chain change [19, p. 13]. The improvement largely depends on the type of value chain management [25, p. 1010]. Captive value chains often enable rapid improvement, but they can inhibit functional improvement, which can make it difficult to develop cooperation in the value chain. The value chains in which the relationship between the participants is more balanced offer better conditions for improvement [37, p. 177].

Value chain enhancement is usually accomplished through several stages, starting with process improvement, followed by product development, function improvement, and, finally, a value chain is ready to be changed. Therefore, for example, a company can begin its cooperation in the value chain by participating in the assembly of equipment, which is a low value added stage, then it can independently produce that equipment, which increases the value added, and, finally, the company can participate in the activities

that have a higher value added, for example, designing, branding, etc. [33, p. 43]

By improving the competences of the supplier base, the architecture of global value chain management varies greatly from those with hierarchical ones to relational and market management. [18, p. 96]. The dynamics in global value chains is determined by the modes and dynamics of the variation of variables that present their constituent elements, such as communication costs, the complexity of information exchanged between the participants in the value chain, the change of participants in the value chains, the change in codification costs, and an adequate supplier base. The change of the architecture of value chain management from hierarchical, captive to the relative type is based on lowering the power asymmetry between the leading firms and suppliers and reducing the degree of explicit control of suppliers by leading firms. Thus, the decrease of the complexity of information between the participants in the value chain (leading firms and suppliers) affects the ability of leading companies to codify transactions, information and knowledge, and also the ability of the supplier base to respond to the demands of leading companies. Simultaneously, suppliers can obtain more resources for innovation, and the conditions for the architecture of relative value chains are created with less power asymmetry. Due to new technologies, which always put the leading companies in the situation of “restarting the clock”, when it comes to codifying transactions, it is clear that leading companies in the value chains will always place new demands on existing suppliers, and that only those suppliers that are not only responsive to the demands, but also innovative, will bring about the change in value chain management architecture. This type of change in value chain architecture results in the change of power relations in the value chains, that is, there is less explicit control, and less evident power asymmetry between leading companies and suppliers.

## Methodology

The VCRA methodology was created in order to assess the readiness of SMEs in fruit and vegetable processing sector to be included in the export-oriented value chains

of processing fruit and vegetables. An integral part of the methodology gives an explanation of the conceptual framework, the checklist with the accompanying explanations – the explanation of each claim and the way the company’s area affects the readiness of the company to integrate into value chains, explaining the purpose and method of applying the scale for measuring attitudes as well as the explanation of filling in the checklist.

The checklist consists of 92 claims, classified into seven areas that the authors considered essential for assessing the readiness of SMEs to engage into value chains and assess their potential position in the value chain. These are the following areas: i) Management, ii) Innovation, iii) Financing, iv) Relations with suppliers, v) Product features, vi) Standardization and vii) Customer relations. The structure of the checklist for individual areas is displayed in Figure 1. On the Likert scale, the level of agreement or disagreement of respondents (owners and/or managers of the selected SMEs) with the stated claims was measured in order to determine not only the cognitive but also the action component of their attitudes regarding various aspects of the activities from the seven areas mentioned above.

The checklist structure corresponds to the conceptual and theoretical framework that is applicable to the socio-economic level of development of Serbia, the competitive position of the observed fruit and vegetable processing sector, as well as the value chain that is inherent to the level of economic development of Serbia.

The opening part of the checklist consists of questions relating to demographic data such as the area in which the company is located, the size of the company, the legal form, the period of establishment and length of business operation, including the questions concerning the professional development of the manager or the owner of the company, as well as the gender of respondents.

Since there is an information gap regarding relevant information on the assessment of the business environment in which the observed SMEs operate, the methodology covers the assessment of the quality of the environment through the issues that are directed at assessing the level of satisfaction of the respondents regarding the cooperation with the companies that produce similar types of products, the

ability to jointly launch the products with other companies, the quality of information infrastructure, the readiness of accredited laboratories to issue certificates in foreign languages, the quality of physical infrastructure in the environment (quality of roads, etc.), the conditions that the state creates for wastewater treatment, quality, dynamics and the price of electricity delivery and, ultimately, the quality of business infrastructure (faculties, institutes, laboratories, etc.).

The methodology was developed and tested while working with focus groups made up of the representatives of the largest exporters of fruit and vegetables in Serbia [28, p. 3].

Geographical distribution of the selected companies is shown in Figure 2. The statistical survey had two phases: statistical observation and statistical analysis. Statistical observation consisted of collecting data by interviewing these SMEs, grouping data, and drawing up tabular and graphical representation of data. Statistical analysis included the processing of the collected data. The basic indicators of descriptive statistics were calculated: average value ( $\bar{x}$ ), extreme values (minimum and maximum), standard deviation ( $\sigma$ ) and coefficient of variation ( $V$ ) [45, p. 55].

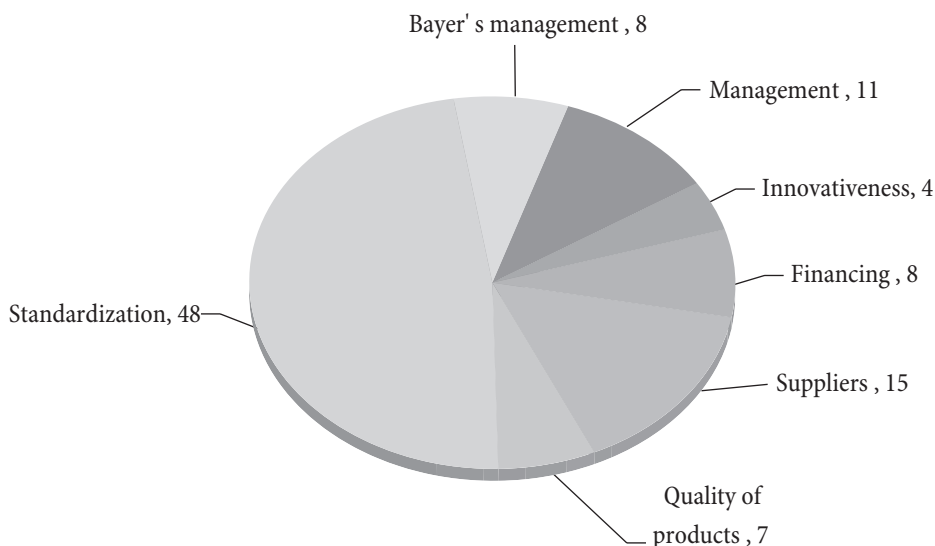
In the preparatory phase, 67 companies were surveyed for the testing of the checklist, which was 84% of the sample planned for the first phase of the survey. The first phase of the survey was conducted in the first half of May 2018, while the second phase of the survey was conducted by the end of September 2018. The number of companies in the sample, the number of analyzed companies and the response rate according to the phases are displayed in Table 2.

The data processing has been conducted based on the data analysis from the reports from 59 enterprises, which is considered statistically significant for the conclusions. The structure of the checklist (Figure 1) as well as the number and structure of the questions in individual areas are adapted to the specific features of the (“buyer-driven”) value chain in which the surveyed SMEs aim to get integrated, as indicated by a high share of questions (48%) related to process management, that is, the standards set by leading exporters in the value chain. The evident power asymmetry in the captive value chains does not exclude the possibility of increase; therefore, the challenge was to notice through the management function analysis how the surveyed SMEs perceive these possibilities.

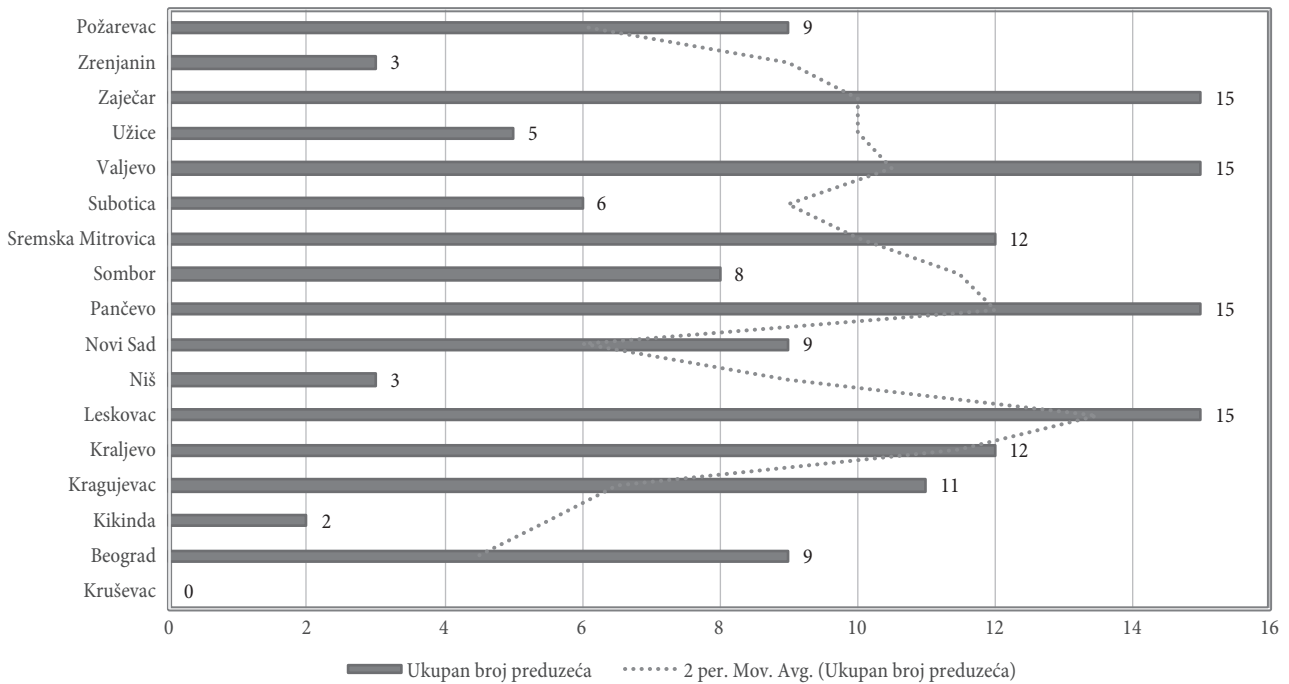
**Table 2: Number of companies in the sample, surveyed companies and responsiveness**

	The number of selected companies	Analyzed companies in the survey	%
The first stage of the survey	80	67	84
The second stage of the survey	240	82	34

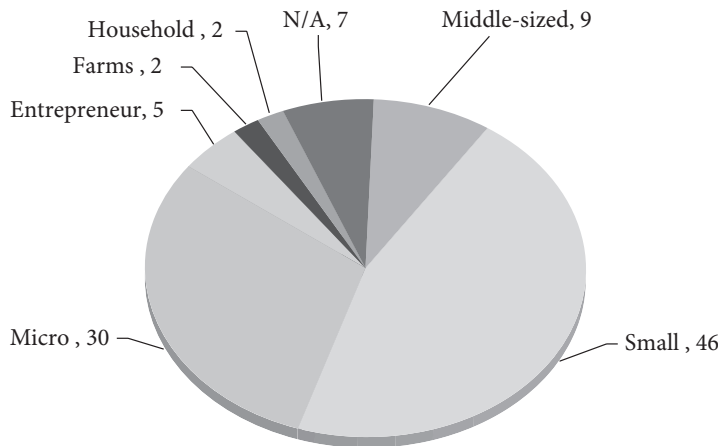
**Figure 1: Checklist structure, participation percentage of seven assessed areas**



**Figure 2: Geographical distribution of the companies from the sample**



**Figure 3: Structure of the sample according to the size of the enterprises**



As for the size, the biggest percentage accounts for small enterprises (45%), followed by micro enterprises (30%), while other enterprises are less than 10%. Figure 3 shows the structure of the sample according to the size of the enterprises.

### Results and discussion

The assessment of competencies of the selected SME group in the seven areas indicated their readiness in each area regarding the integration into export-oriented value chains of fruit and vegetable processing. Deviations in relation to the maximum possible number of points in each of these

areas indicate the extent to which intervention is needed to improve their readiness.

Simultaneously, deviation of the achieved number of points from the maximum possible number of points represents the percentage of risk that a company faces when entering value chains. Based on the relationship between the achieved and the maximum possible number of points in each group, or on the basis of the percentage of the achieved score, all analyzed SMEs are classified into four groups. The first group consists of the companies operating in the high-risk zone, the second group of the ones operating in a moderately high-risk zone, the third group includes companies from moderately low-risk



zone, and the fourth group consists of the companies from a low-risk zone. The percentages of the achieved score (risk interval) were determined during the work with focus groups [11, p. 4]. Table 3 gives an overview of the percentage of achieved score by risk groups. The assessment of the activities within each of the analyzed areas was conducted in the same way. In the paper, the focus is on management activities.

We decided to consider the activities in the field of management, since this is the area that has been assessed as belonging to a moderately high-risk zone. Figure 4 shows the results of the assessment of individual areas of SMEs, where it can be seen that the area of management belongs to a moderately high-risk zone. Therefore, if the SME group wants to get integrated into value chains, there should be further development of their ability to improve the management function. In the long run, the lack of planning, the unwillingness to delegate authority and responsibility, the lack of knowledge to formalize and standardize processes will keep the SME group in the forms of resource and labour intensive competitiveness,

which, consequently, can only result in captive value chain, with great power asymmetry and low potential for SMEs to move towards higher stages of finalization. The lack of planning is directly related to SMEs' inability to realize the full potential of their growth regarding their revenue, employment rate, as well as the rate of sales growth and survival rate [27, p. 460].

The readiness of SMEs to integrate into value chains in the area of management was assessed according to the answers to 10 questions. The maximum number of points per question was 5, so the maximum total number of points that a management could get was 50.

Managers' activities in the high-risk zone were identified based on the SMEs' answers to the following questions:

- 1) Do you have normative acts for managing protection against natural disasters?
- 2) Do you have a normative act for financial risk management?
- 3) Do you have a media and marketing plan?

Table 3: Risk interval

Groups of companies	Achieved score
Companies that do business in high-risk zone	from 0 to 54%
Companies that do business in moderately high-risk zone	from 55% to 64%
Companies that do business in moderately low-risk zone	from 65% to 84%
Companies that do business in low-risk zone	from 85% to 100%

Figure 4: Results of the assessment of individual areas of SMEs

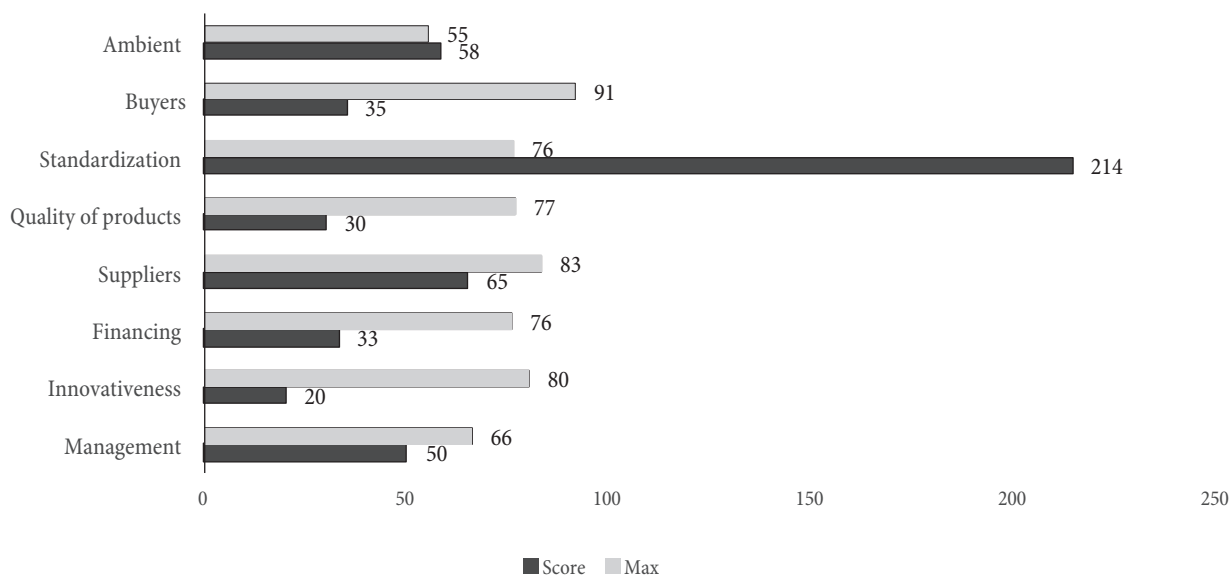
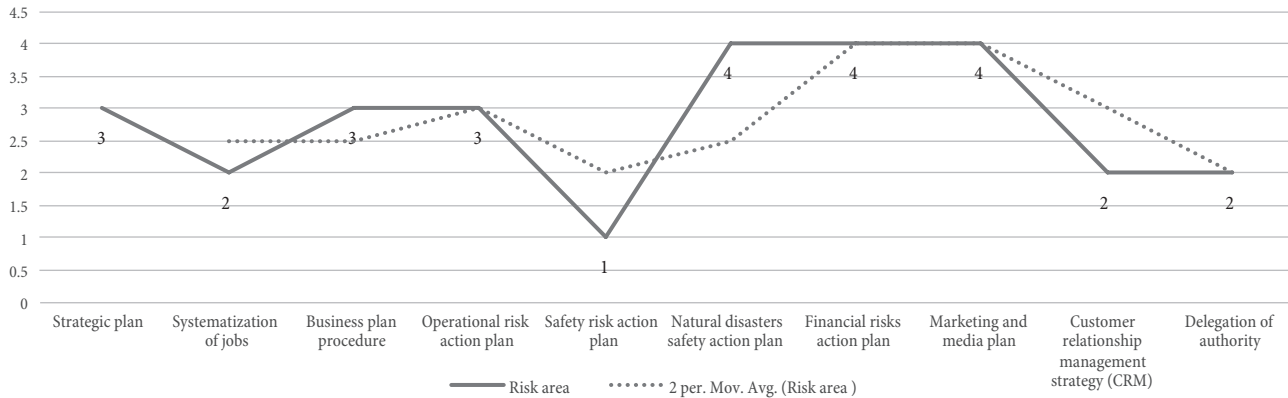


Figure 5: Management activities by risk zones



The activities in moderately high-risk zone were identified on the basis of the answers to the following questions:

- 4) Do you have a written development plan?
- 5) Do you have the procedures and deadlines for developing business plans?
- 6) Do you have normative acts for operational risk management?

The activities in the low-risk zone were determined based on the following questions:

- 7) Do you have job systematization?
- 8) Do you have a customer relationship plan?
- 9) Do you delegate authority to your associates?

The managerial activity in the low-risk zone was based on the answer to the following question:

- 10) Do you have normative acts on occupational safety management?

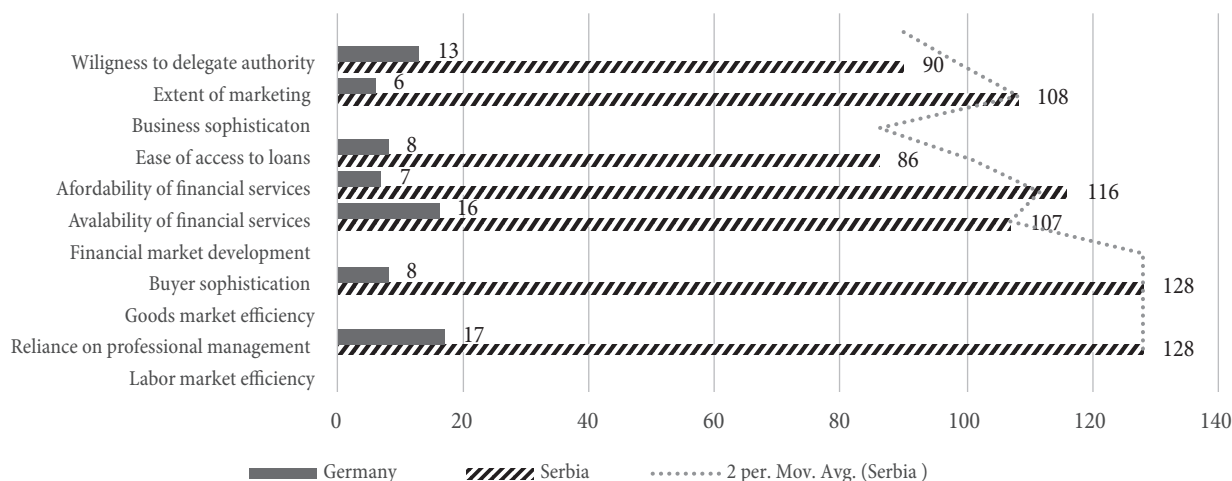
It was found out that most of the analyzed SMEs in the field of fruit and vegetable production and processing have normative acts on occupational safety management, so that no improvement is needed in this area to increase the ability of SMEs to integrate and upgrade within export-oriented production value chains in processing of fruit and vegetables.

The activities in a moderately low-risk zone are: planning customer relationships, readiness to delegate authority to associates and the existence of job systematization in the company.

The evident power asymmetry in the value chains of fruit and vegetable processing indicates the dominant status of leading firms that set ad hoc conditions on their suppliers, which reinforces the need to control the fulfilment of these conditions.

The reluctance to delegate authority to associates implies that owners or managers have to control management functions. The lack of willingness to delegate authority to associates is an obstacle to the growth of a company and it has been present in Serbia for a long time. According to Hofstede’s findings, Serbia is classified as a group of countries with a high distance of power [23, p. 501], which implies that organizations in Serbia tend to have highly centralized hierarchical forms. The concentration of power, or decision-making from a single centre, is one of obstacles to corporate growth [26, p. 274]. When it comes to willingness to delegate authority, this dimension, according to WEF findings, indicates the sophistication of the business environment. The more sophisticated corporate environment is, the more receptive the state is regarding the stimulation of the development of innovation-driven competitiveness. If Serbia’s readiness to create the conditions for the development of the model of innovation-driven competitiveness is assessed, then its ranking in the indicators of business sophistication have to be assessed. One of these indicators is the willingness to delegate authority, and according to the findings of the Global Competitiveness Report for 2017-2018, Serbia ranks 90<sup>th</sup> out of 137 countries [40, p. 257]. Another perspective, when it comes to SMEs’ growth opportunities in the field of fruit and vegetable production and processing, is the nature of the fruit and vegetable value chain. There is evident power asymmetry in favour of leading firms, the lack of “ethical leadership” when it comes to the value chain management, and, in particular, ad hoc attitude towards suppliers when it comes to prices, standards, quantities, delivery terms, etc.

**Figure 6: Comparative overview of the ranking of Serbia and Germany based on the indicators from the Global Competitiveness Report regarding management function**



Source: The Global Competitiveness Report 2017-2018.

In the moderately high-risk zone in the management of the analyzed SME group, there are activities regarding planning (manifested by the existence of written development plans), the setting up of processes and relationships (manifested by the existence of procedures and deadlines for business plan development), as well as the activities related to the ability to manage operational risks (manifested by the existence of normative acts for operational risk management). The level of development of these activities indicates that, within the analyzed SME group, there are enterprises that are in their initial phases, characterized by very few business policies, systems, procedures in the organization, etc. Organizations in their initial phases can function until the founder loses control of the organization. The companies at this stage have high rates of mortality, so the elimination of these characteristics contributes to the higher vitality of SMEs in this group [28, p. 14].

In captive value chains, power asymmetry in favour of the leading companies is evident in their intention to set standards that are not codified, as well as their expectations that suppliers and executors of all other complementary activities (designing, packaging, transport, etc.) operate according to the standards that are established ad hoc. Under such circumstances, the ability of suppliers to plan their business and formalize their processes is very limited. In the network-based value chain management (which is characteristic of modular or relational value

chains), the relationships between buyers and suppliers are characterized by the exchange of knowledge and standards that are codified. The fact is that this kind of relationship can allow suppliers to plan their activities, as well as to formalize processes within their companies.

In the high-risk zone in the areas of management of the analyzed SME group, there are activities related to natural disaster management (lack of written procedures related to this type of risk), willingness to manage financial risks (lack of normative acts related to financial risk management), as well as willingness to communicate with the environment based on the media and marketing plan. The lack of normative acts for financial risk management indicates the short-term orientation of the analyzed SMEs and the maintenance of liquidity, while neglecting other objectives of financial management. In a large number of cases, in value chains that are modular, leading firms choose to finance a large number of activities transferred to their suppliers. When the supplier base is poorly organized, and when the goal is to connect suppliers much better and technically upgrade them to get them integrated in value chains, technical assistance can be of great importance.

The results of our analysis are confirmed and further explained by the results of The Global Competitiveness Report 2017-2018. According to the report, in terms of availability of financial services and the qualification of companies regarding financial services, Serbia has quite a low position. According to the readiness of companies

to apply for loans, Serbia ranks 116<sup>th</sup> out of 137 analyzed countries worldwide [40, p. 257]. The lack of willingness to apply for loans is also confirmed by our research, which can be explained by the lack of collaterals. In addition to the lack of collaterals, the low willingness of companies to decide to take loans is influenced by other factors, such as the development and quality of the financial market. The ease of access to loans is one of the indicators of the development of the financial market, and the development of the financial market of Serbia ranks 86<sup>th</sup> in relation to the 137 analyzed countries worldwide [40, p. 257].

The lack of willingness to communicate with the environment in the form of a planned media performance or marketing plan indicates that companies have not handled kinetic costs and the costs of knowledge. The fact is that, according to the findings of WEF for 2018 [40, p. 257], Serbia has a very low ranking when it comes to the development of marketing. According to the business sophistication and marketing development, as one of the dimensions that measures the marketing sophistication, Serbia is 108<sup>th</sup> in relation to 137 countries in the sample. How far Serbia is behind in this area can be seen from the comparative presentation of the rankings of Serbia and Germany, shown in Figure 6. The above findings lead to the conclusion that a more efficient involvement of the observed SME group into export value chains can be expected after improving efficiency of the commodity market, labour market, financial markets and sophistication of the business environment.

Value chain management is based on three key factors: reduction in transaction costs, the costs of codification of knowledge about processes and products, and the ability of the supplier base to respond to the requirements regarding the standards set by leading companies in the value chain. Transaction costs depend on the complexity of the information and are connected to knowledge transfer essential for the communication between the participants in the value chain. In the case of the export-oriented value chain of fruit and vegetable production and processing, the transaction costs include the costs of communication between the exporters in the field of fruit and vegetable processing in Serbia and the suppliers – the selected SMEs,

and these costs are high due to the ad hoc practice and informal establishing of standards.

The level of transaction costs is affected by the need to control directly each part of the supplier manufacturing process. The need for direct control of all parts of supplier manufacturing process is not necessary when the leading companies in the value chain are ready to codify standards, as well as to improve the communication with suppliers. The codification of standards and knowledge leads to lowering transaction costs.

The value chain management models differ in relation to the level of power asymmetry, as well as the level of explicit coordination between the participants. Thus, the relationship in the captive value chain is characterized by a high power asymmetry between suppliers and leading firms, as well as the relationships of explicit coordination, while relational value chains are based on a lower power asymmetry between the value chain participants.

Based on the aforementioned management features of captive value chains, such as the chain of production and processing of fruit and vegetables, it can be concluded that training the supplier base to become more receptive in terms of standards and quality of products and processes can be achieved by greater engagement of leading firms regarding the codification of knowledge on products and processes. If there is no effort to codify knowledge on processes and products, there is a “transactional dependence” between buyers and suppliers, with the tendency to keep suppliers “locked” and dependent on leading firms. The companies located in captive value chains can initiate the change of the position of power by planning innovation, especially in the situations where competitive firms can offer more favourable prices and conditions.

The lack of planning regarding the development of products and processes, financial planning, as well as the formalization and standardization of processes and relations in the analysed SME group, indicates the captive nature of fruit and vegetables value chains. In order to strengthen the receptivity of the supplier base to the requirements of the leading companies in the field of fruit and vegetable production and processing, it is necessary to reduce the level of transaction costs that the leading companies in this field have in relation

to the transfer of information and knowledge regarding the production and process specifications, as well as the costs of the codification of information and knowledge related to products and processes. The analysis of the management activities of the analyzed SMEs indicates that the companies are “externally guided” on an ad hoc and informal basis by leading customers. Innovation of the process, and above all innovation of management, depends on the willingness of companies to delegate authority and responsibility, to plan as well as formalize processes and relationships.

Regarding risk management process related to natural disasters, i.e., the management area that represents a high-risk zone for the analyzed SMEs, innovation in this area depends to a large extent on the capacity of the analyzed SMEs to cooperate with the environment, but also with the SMEs that produce the same or similar types of products.

All of the abovementioned shortcomings of the analyzed SMEs can be eliminated if there is willingness to cooperate. Cooperation leads to a phenomenon called “unintended consequences of proximity” [32, p. 41], and it is manifested as the influence on governments of countries to create the policies and measures aimed at improving the environment in which SMEs can operate smoothly. A large number of small companies can create a large volume demand for a certain type of physical or business infrastructure, thus encouraging the government to provide the necessary infrastructure.

## Conclusion

With the application of the VCRA methodology, the readiness of SMEs in Serbia to be integrated in export-oriented value chains of fruit and vegetable production and processing is estimated based on the assessment of 92 parameters in seven areas [11, p. 5].

According to the survey, in order to improve the competitiveness of the analyzed SMEs, i.e., captive value chain of fruit and vegetables production and processing, the transaction and codification costs should be lowered. The costs of communication between the leading companies in the value chain or the exporters in the field of fruit and vegetable processing and their suppliers, and the analyzed

SMEs, are high, ad hoc and include high costs of direct control of all parts of the production process. The costs of codification of standards and knowledge are high.

The improvement of the competitiveness of the analyzed SME group leads to the strengthening of the supplier base, which from a low capable base characteristic of captive value chain becomes a high capable one, thus creating the preconditions for the existing value chain to upgrade into a relational or modular value chain, characterized by a lower power asymmetry between the analyzed SMEs as suppliers and leading firms. To sum up, regarding the improvement of the competitiveness of the analyzed SMEs, their integration in the value chain and the state-level interventions in Serbia, the survey results suggest that at this moment it is very important to encourage innovation not only in high-technology sectors, but also in the sectors distinguished by low and medium technological intensity (fruit and vegetable processing sector). In addition, SMEs should be encouraged to prepare development plans, formalize processes, delegate authorities and responsibilities, and cooperate not only horizontally but also vertically with the leading companies that manage value chains. Such kind of cooperation would also have impact on the state’s willingness to provide the infrastructure that would reduce the level of strategic costs, and, ultimately, develop the strategy of integrating into value chains.

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