

ASSESSING THE INNOVATION POTENTIAL OF THE FURNITURE INDUSTRY VALUE CHAIN IN BULGARIA

by

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Agenda:

- ✓ The project at a glance
- ✓ The main goal of the paper
- ✓ The methodology used and data collection
- ✓ Results
- ✓ Conclusions



Project „Development and implementation of a model for assessing the innovation potential of global value chains as a basis for increasing regional competitiveness” financed by the National Science Fund, contract No KII-06-H55/8 from 16.11.2021 at a glance:

- The subject matter of research are global value chains as systems of companies and processes where the different stages of adding value are located across different national and regional economies. They will be examined within the context of the impact of their innovation potential on the regional competitiveness.
- The project goal is to develop an Assessment model for the innovation potential of Global Value Chains on the basis of two pilot case studies involving representatives of the high-tech and low-tech sectors in Bulgaria.



The main goal of the paper is....

To analyse the innovation potential of furniture manufacturing companies in Bulgaria from the perspective of their global value chain (hereinafter GVC) participation through:

- literature review, where information regarding the current status, challenges, and opportunities for the innovativeness of the furniture industry is studied;
- pointing out some factors related to the innovation potential of enterprises, which could have an impact on the GVC;
- a questionnaire survey among furniture manufacturing companies in Bulgaria.



The methodology used and data collection

- We identified 3980 firms operating in Bulgaria with the subject of activity according to the NCEA-2008 code 31 – Furniture manufacturing.
- 330 were selected for the representative study. Due to missing information on some variables used in this study or the company has stopped working the number of firms included in the analysis is further reduced to 85 firms.
- The final survey was made based on questionnaires (consisting of 33 questions) distributed on the spot during the months March-April 2022 by external company.



Some Results (1)

In the last 12 months, your company has introduced new or significantly improved product?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	80	94,1	94,1	94,1
	No	5	5,9	5,9	100,0
	Total	85	100,0	100,0	

In the last 12 months, your company has made significant changes in the packaging of the products?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	23	27,1	27,1	27,1
	No	62	72,9	72,9	100,0
	Total	85	100,0	100,0	

In the last 12 months, has your company introduced new or significantly improved production methods?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	53	62,4	62,4	62,4
	no	32	37,6	37,6	100,0
	Total	85	100,0	100,0	

In the last 12 months, has your company introduced new or significantly changed sales and distribution methods?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	35	41,2	41,2	41,2
	No	50	58,8	58,8	100,0
	Total	85	100,0	100,0	



Some Results (2)

Who developed.....

	The new / improved production methods of your company	The new to the market products
	(%)	(%)
Internally	77.4	83.5
With collaboration with external companies	22.6	16.5



Some Results (3)

Strength of association (correlation) has been measured between the following variables:

1. Company size (Medium; Large) and Product innovations (Partnerships; Company): Moderate positive association ($\Phi = 0.561$; $V = 0.396$).
2. Company size (Medium; Large) and Process innovations (Partnerships; Company): Moderate positive association ($\Phi = 0.375$; $V = 0.265$).
3. Information technologies (Business SW, 3D, CAD/CAM, Other business and communication) and Process innovations (Partnerships; Company): Moderate positive association ($\Phi = 0.335$; $V = 0.235$).



Some Results (4)

Strength of association (correlation) has been measured between the following variables:

4. Information technologies (Business SW, 3D, CAD/CAM, Other business and communication) and Product innovations (Partnerships; Company): **Medium to Strong** positive association ($\Phi = 0.686$; $V = 0.487$).
5. Challenges (Economical risk, Cost of investments/Financing, Governance-based control, IP protection, Learning/Information, Labor/Management potential, Competition/ Market demand) and Product innovations (Partnerships; Company): **Strong positive** association ($\Phi = 0.740$; $V = 0.495$).
6. Challenges (Economical risk, Cost of investments/Financing, Governance-based control, IP protection, Learning/Information, Labor/Management potential, Competition/ Market demand) and Process innovations (Partnerships; Company): **Moderate positive** association ($\Phi = 0.365$; $V = 0.258$).



Some Results (5)

Hypothesis development:

H1: GVC participation of a company is positively related to its size.

H2: GVC participation of a company is positively related to its age.

H3: GVC participation of a company is positively related to its revenue.

The prediction equation is

$$\log(p/1-p) = -1.858 + 0.006*Size + 0.025*Age + 0.000*Rev,$$

where p is the probability of being in GVC participation

The dependent variable in logistic regression in our case have two outcomes, and the method is called Binary Logistic Regression.

Dependant variable (DV) is GVC participation of companies, with two outcomes: Company and Partnership in Product Innovations (0 – Company; 1 – Partnerships). Independent variables are the following; Size of companies, and it is measured by the number of employees working in the company in the last year; Age, or the number of years for which the firm has been operating, and Operating Revenue (Turnover in the last year).



Some Results (6):

The Beta coefficients in logistic regression are to be interpreted as follows:

- A value of 1.025 for Age indicates that for a one-year increase in the age of the company, the odds of a company having a GVC participation increases by a factor of 1.025
- Beta coefficient for the number of employees is 1.006, and indicates that for unit increase in the Size of the company, the odds of a company having a GVC participation increases by a factor of 1.006
- The beta coefficient for operating revenue has a value of 1, indicating no influence on the dependent variable



Conclusions (1):

- ❑ Most of innovations have originated out of Customers, Traders, and Suppliers requirements (about 56% for product innovations and 51% for process innovations, equally in partnerships and company dimension).
- ❑ Most important sources for learning and knowledge transfer are Customers and Suppliers (for product innovations 36% in partnerships and 28% in company; for process innovations 30% in partnerships and 30% in company).



Conclusions (2):

- ❑ With increasing size and age of a company, its chances of having a GVC participation improve.
- ❑ Bigger and older companies have better GVC participation than bigger but newer companies.
- ❑ The main challenges faced by the companies have the strongest impact on their product innovation development.



Thank you for your attention!

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