

BOOK OF ABSTRACTS

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WELCOME MESSAGE

Regional Entrepreneurial Ecosystems and Sustainability – Rethinking the Helix

In an increasingly global and feverish economy, regional cartography is not always sufficiently documented and discussed. At the same time, the narrative “trial-mistake” is often discouraged, considering that when success emerges one should hide hypothetical errors. In a scenario, in which the new industry paradigms and value-adding processes require a critical reflection on the sustainability of entrepreneurial ecosystems and on the relations between firms, governments, society and the processes of knowledge creation emerges the 4th International congress of Regional Helix, under the topic “*Regional Entrepreneurial Ecosystems and Sustainability - Rethinking the Helix*”.

Since its creation, the Regional Helix conference emphasizes the importance of cooperation and this edition is no exception and it results from a joint organization between the School of Technology and Management of the Polytechnic of Porto, through its research center (CIICESI), of the Polytechnic Institute of Castelo Branco, NECE (research center of the Department of Economics and Management of the University of Beira Interior) and University of Trás os Montes and Alto Douro.

The participation of several researchers from national and international institutions is an important step in the achievement of these aims. We are pleased to welcome colleagues from countries across the globe. We believe that this multiplicity reflects the interest that regional entrepreneurial ecosystems and sustainability issues have transversely across the world.

Finally, we would like to call your attention to the several publication opportunities that Regional Helix 2019 bring to you, and we invite all colleagues to submit their papers for the publications that better fit their research.

Welcome to the fourth edition of Regional Helix!

Vítor Braga & Marisa Roriz Ferreira
Chair and Co-Chair of the Organizing Committee



PARALLEL SESSION 10

FORMATION OF THE COMMODITY ASSORTMENT OF THE COMPANY BASED ON ITS OPTIMALITY AND EFFICIENCY

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Extended Abstract

Abstract

The purpose of this research is to show the importance of conducting an assessment of the optimality and efficiency of the product range of any enterprise. Also, as one of the main goals, it is an opportunity to understand whether the product range of the investigated company is aimed at satisfying the needs of consumers, so it should be market-oriented. The results show that all assortment of positions of the enterprise under study should be upgraded in accordance with the potential needs of the market or even withdraw from this market. And it is then that the company may be targeting some leading position in the geographic market of activities. Summing up all information it can say about the importance of assessing the efficiency and optimality of the product range of any enterprise, as an important tool for maintaining the competitiveness of the enterprise, which also understands its profitability.

Keywords: assortment policy, product range of the enterprise, methods of managerial analysis, strategy.

1 Introduction

Currently, companies use various management tools to expand market activity. The formation and implementation of the assortment policy will not only determine the position of the company in the market among competitors but also provide opportunities for maximum profit. Therefore, the issue of the company's product range, as proves it (Flores, Berbeglia & Hentenryck, 2019) does not lose relevance and need research among other managerial problems. The issue of management of assortment requires analysis and evaluation of activity of the enterprise, its competitors, methods of estimation of assortment policy, which will be the basis of justification of directions of its improvement.

The importance and at the same time problematics of determining the most optimal and efficient range of goods, as the work stresses; Bozulenko (2015) determines the market, and therefore weighted assortment policy of enterprises is a guarantee of forming a balanced of the company, which will strengthen the market positions of the enterprise, profit and attract the consumer's goodwill. Therefore, for each enterprise, forming the optimum range is an important strategic component of its commercial activity and competitiveness. According to Bihdan (2014), this consumer and manufacturer optimality is created on the basis of realization of certain groups of features from the point of view of which the given assortment of goods can satisfy the needs of consumers.

2 Literature Review

According to Kharchenko and Pavlenko (2017) the assortment strategy is a subsystem of marketing strategy, aimed at analysing, developing and making strategic decisions on nomenclature, assortment, the volume of sale of goods, quality, the sale of goods in certain markets. The most well-thought assortment strategy for the enterprise not only allows to optimize the process of updating offers on as well as the management of the enterprise as a unique indicator of action, able to correct the current decisions.

In the market economy, the level of specialization of societies is determined by the number of segments they serve. These segments are often defined by the enterprise as a «strategic zone of management» (SZM). Determining the amount of data in strategic areas of business for enterprises is of great importance, as it is their correlation and possibilities of the enterprise will be responsible for optimality of its commodity assortment and efficiency of assortment policy company. The main factors defining the SZM are the needs and products that meet them. In determining the SZM it is necessary to estimate the quantitative and qualitative characteristics of which include: the capacity of the SZM, which is characterized by the volume of current demand; dynamic characteristics of demand; competitive position of the company in the segment; expected sales in current and prospective period; distribution and sales features; actual and forecast values of profit, profitability and other indicators. Formation of the assortment policy of the enterprise is a very intensive process, which includes a number of stages. Given in the work Didenko and Savelyev (2015) the algorithm of management of assortment policy of the enterprise is formed with consideration of well-known managerial approaches, among which are the process, systematic and situational.

After the goods are released to the market, all further actions on management should be based on tracing the stages of the life cycle of each of the types of products. This is explained by the fact that a certain product has the individual duration of this cycle and the decision-making process must take into account the stage on which there are products at this time. On the one hand, if the growth phase is observed, the product will bring the company's income and leadership may not take action on market promotion. In turn, at the saturation phase, as is known, the need or application of a complex of measures to the creation of conditions for the further promotion of goods on the market due to its improvement and stimulation of sales, or gradual output of the current assortment. That is why it raises the importance of the question of a constant estimation of optimality and ephedrine of a commodity range, as the instruments of control of competitiveness of any enterprise.

3 Research Methodologies

In this work, the main method of estimating the optimality and efficiency of a commodity assortment based on analysed research sources is chosen "Markon matrix".

The most fully given method of evaluation of the efficient formation of the commodity assortment is most fully described in the work of Cuban (2010). This method uses simple analysis techniques, ensuring clarity of results. Unlike other matrix methods, this matrix is constructed using a much larger number of parameters, including: the number of products sold (Q), product unit price (p), average replacement costs per unit (c), total gross margin (MCA), and gross margin per unit of production (MCU), percentage of gross margin in the total amount of income from the sale (MCI).

Thus, in this method, three parameters are used:

- General gross Margin (MCA):

$$MCA = P * Q - C * Q \quad [1]$$

where P – product unit price;

Q – Quantity of sold products;

C – Average replacement costs per unit of products.

- Gross margin per unit of products (MCU):

$$MCU = MCA/Q \quad [2]$$

- Gross margin percentage (MCI):

$$MCI = MCA/(Q*P) \quad [3]$$

Future, the research results are images of the "Markon method" explains that after the calculations of each parameter, each assortment position is assigned to binary codes (0 or 1), depending on whether positively or negatively differs from the average weighted value. The assortment portfolio values a certain option of a separate product position. Each assortment position receives two blocks of binary codes: a block of parameters Q, P, C and a block of parameters of MSA, MCU, MCI. The assortment positions having the same series of these parameters are characterized by the same position on the market and belong to one marketing group.

In general, the matrix can be divided into four zones depending on the level of margin of the assortment position and the specific weight of them in the commodity portfolio of the enterprise. Each zone of the matrix has its name and the corresponding characteristic (Table 1, with possible assortment groups).

Table 1. Example of the "Markon matrix"

Q,P,C	111	110	101	100	011	010	001	000
A,U,I								
111		WG				BD		
110								
101								
100			RG					
011						WD		
010								
001								
000			BH				D	

Source: Author's own elaboration based on "Markon method".

The final representation of the final appearance of this matrix when using it in the research is given in the research Abramovich (2017a). That is, we get a dynamic Markon matrix, the essence of which lies in the fact that it can be used as a pattern for analysis earlier and in the form of deviations from the previous indicators by the Markon method (Table 2).

Table 2. An example of a dynamic matrix Markon

Q, P, C	+++	++-	+ - +	+ --	- ++	- + -	- - +	---
A, U, I								
+++								
++-		Winning				Exploited		
+ - +								
+ --								
- ++								
- + -		Bandages				Programmable		
- - +								

Source: Author's own elaboration

The dynamic method of Markon splits the assortment into zones in which separate goods are divided into winning goods, «respond» too invested funds in them), exploited (provide funds for financing of other directions), supporting (goods in which resources are involved, do not give a positive result for the company) and the lost (lose interest of consumers, their production is economically justified). Exploring this method of analysis of the commodity range Cuban (2010) species thereof as certain advantages and disadvantages. It is possible to include the possibility of analysing the efficiency of production and marketing activity in the sphere of assortment policy and other directions on a set of parameters, and this comparison occurs simultaneously. The Markon method allows conducting a joint analysis of internal and external factors forming the assortment policy of the enterprise, which is very important for marketing and strategic control. Instead, Abramovich (2017b) in his research proves that the dynamic Markon method allows you to track any changes that have not yet become explicit for other methods of analysing the assortment policy.

Thus, according to the chosen method on the basis of the "Markon matrix" is planned to investigate the efficiency of a commodity assortment in terms of analysis of its basic indicators, which characterize its logistic process. In the process of analysis, it is planned to use the dynamic method of the "Markon matrix", because this type of matrix can be used as a picture for analysis of previous periods.

4 Discussion and Results

Thus, according to the chosen method based on the "Markon matrix" on the example of one of the Ukrainian enterprises is planned to investigate the efficiency of a commodity assortment in terms of analysis of its basic indicators, which characterize its logistic process. Estimation of efficiency and optimality of commodity range was held on the example of LLC «Kovelskiy hlibokombinat» on the basis of data 2014-2018. On the basis of the data on the financial activity of the company Markon parameters were determined for each assortment and depending on the assortment position they were assigned binary codes (0 or 1) depending on the position of the assortment position with a high margin of total profitability and low (Table 3 – Table 5).

Table 3. Characteristics of areas of the assortment analysis for 2014.

Q,P,C A,U,I	111	110	101	100	011	010	001	000
110								
101			1				2	
100								
011								
010								
001			-				3,4	
000								

Source: Author's own elaboration.

Table 4. Characteristics of areas of the assortment analysis for 2015-2017.

Q,P,C A,U,I	111	110	101	100	011	010	001	000
110								
101			1,2				-	
100								
011								
010								
001			-				3,4	
000								

Source: Author's own elaboration.

Table 5. Characteristics of areas of the assortment analysis for 2018. Q,

P,C A,U,I	111	110	101	100	011	010	001	000
110								
101			-				2	
100								
011								
010								
001			1				3,4	
000								

Source: Author's own elaboration.

Thus, in accordance with the conducted analysis one can observe that 1 and 2 groups are steadily given the potential profit of LLC "Kovelskiy hlĭbokombinat". Only that changes this amount of sales in the profit of the enterprise (Tables 6-9).

Table 6. The "Markon matrix" analysis of assortment groups for 2014, 2017.

Q,P,C A,U,I	111	110	101	100	011	010	001	000
111		WG				BD		
110						2		
101			1					
100			RG					
011						4		
010						WD		
001							3	
000			BH				D	

Source: Author's own elaboration.

According to the analysis of the situation with strategic zones the same as in 2014, only there are changes in positioning 2 groups and changing the position of "Blue dwarfs" to "White giants", that is, this year significantly increased profitability and demand for this product.

Table 7. The "Markon matrix" analysis of assortment groups for 2015.

Q, P, C	111	110	101	100	011	010	001	000
A, U, I								
111		2				BD		
110		WG						
101			RG					
100			1					
011						WD		
010						4		
001							3	
000			BH					D

Source: Author's own elaboration.

Table 8. The "Markon matrix" analysis of assortment groups for 2016.

Q, P, C	111	110	101	100	011	010	001	000
A, U, I								
111		WG				BD		
110				2				
101			1					
100			RG					
011					4	WD		
010								
001							3	
000			BH					D

Source: Author's own elaboration.

Table 9. The "Markon matrix" analysis of assortment groups for 2018.

Q, P, C	111	110	101	100	011	010	001	000
A, U, I								
111		WG				BD		
110								
101							1	
100			RG					
011						WD		
010		2					4	
001							3	
000			BH					D

Source: Author's own elaboration.

For 2018, there is a shift in all assortment groups, only 3 groups remain stably unprofitable in all years of research. Other assortment groups do not have the charm to any particular product group, but 1 group, for example, is characterized by falling demand, 2 - falling of this profitability. For the 4 assortment group, this group is characterized by the direction of a transition to the strategic zone "Descents", indicating the decline of this group. On the basis of this we build a dynamic "Markon matrix" of commodity assortment of LLC "Kovelskiy hlibokombinat" in "Table 10".

Table 10. The Dynamic "matrix of Markon" analysis of commodity assortment of LLC "Kovelskiy hlibokombinat" in terms of 2014–2018.

Q,P,C	111	110	101	100	011	010	001	000
A,U,I								
111		WG					BD	
110							2	
101			1					
100			RG					
011							4	
010						WD		
001								3
000			BH					D

Source: Author's own elaboration.

Thus, according to the received data, we can observe that assortment group, as "Bread and bakery of short-term storage" during the analysed period brings a large share of profit to the enterprise and occupy the zone "Red giants", although in 2018 the approach to the zone "Blue dwarfs", which can be connected with decreasing demand for products is observed. As for "Cakes and confectionery bakery other with the addition of sweetened substances" this product during the analysed period was at the stage of growth and occupied the zone «Blue dwarfs». However, at the time it was observed to the zone "Red dwarfs", which is connected with increasing demand for this product and increase of profit from the sale of this product. "Crispy bread, crackers, toast and the products like fried" during the analysed period is an outsider at this enterprise and occupies the zone "Descents". As for "Sweet biscuits, including elephant, except partially or fully covered with chocolate or other, mixtures containing cocoa", the occupies a zone of White dwarfs, indicating that this product has a reserve of profitability, but does not bring significant revenues and gross margin. And in accordance with data in 2018, there is approaching of this assortment group to the zone "Descents".

5 Conclusions

Thus, according to the analysis of estimation of efficiency of the commodity assortment of LLC "Kovelskiy hlibokombinat" by means of the chosen method of "Markon matrix", this work will help to understand that the efficiency and optimality of this commodity range are on the not rather satisfactory level. Also, it will show that most of the products of this enterprise are at the stage of decline. More or less profitable are the two of the four assortment groups of LLC "Kovelskiy hlibokombinat". The other two assortment groups are at the stage of decline and are not profitable for the enterprise. However, their exclusion from a commodity range is due to the enterprise only losses. So, as for example, such assortment group as "Crunchy bread, rusks, toast and items like fried" is made of recycled products, which gives waste from the first two types or for example, as for "Bread and products of bakery short-term storage" comes in the form of the return of the nuns spoiled and impossibility to implement this product. Basically, if analysing the name of the assortment position of this enterprise it is possible to understand that in the main enterprise does not carry out production of products that meet market demands and is innovative competitive. For example, this assortment group, such as "Bread and bakery of short-term storage", which must be the basis for the collection of profits from activity for the most part of the product has the traditional assortment of bread. And such assortment group as "Cakes and confectionery bakery other with the addition of sweeteners" is characterized by not the entirely modern design of products, which is known also is of great importance for the potential consumer of this product on the market of bread and bakery products of Ukraine. Also, in the formation of assortment policy of the given enterprise, it is necessary to take into account the latest trends of consumer preferences in this market, which can also improve the optimality and efficiency of commodity assortment of LLC "Kovelskiy hlibokombinat". In general, the value of this work is that in the process of its activities, each enterprise should carry out the same assessment. Because we know that any market is very changeable. Today you are a market leader, and tomorrow no. Therefore, the question of the formation of the product range in accordance with the needs of potential consumers and the cyclical assessment of this optimality is quite acute.

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