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Doctoral School of Management and Business Administration

ANALYSIS OF THE COMPETITIVENESS OF DRY PASTA MAKING MICRO AND SMALL ENTERPRISES

THESES OF THE DOCTORAL (PhD) DISSERTATION

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1. BACKGROUND TO RESEARCH AND OBJECTIVES SET

1. 1. The background of the research and its content

The dissertation is centred around the topic of competitiveness at micro and small enterprises in the pasta industry, with special regard to the impact of consumer behaviour. The **success and failure factors** of small business competitiveness were also put in the limelight.

An unfavourable pasta market trend termed as '**brand cannibalism**', refers to an increase in the market share of own label products of the retail chains. (JELENTÉS, 2016) As a result, the structure of the industry has been modified, **global retail networking has intensified**, and the importance of food chain has been stressed. (LAKNER, 2017)

Pasta has always played an essential role as staple food in the consumption of households around the world. The dynamic development of the pasta industry is evidenced by the fact that **the global consumption of pasta has almost tripled since 1974.** (DONEY, 2018)

The vast majority (94%) of the dry pasta sector in Hungary - in terms of company size - **employs more than half of the employees in the sector, including micro and small enterprises**. (SZÉKELYHIDI, 2016) The popularity of the local producer market is growing.(VÖRÖS, 2013)

Regarding the trends in the global pasta market, **growth is expected to be 5.85% between 2019 and 2023**. The market is driven by the growth of the working population, the need for convenience foods and the changing consumer lifestyle. (PASTA MARKET GROWTH REPORT, 2019). As for the segmentation of pasta products, **market growth is expected in functional food,** organic pasta may dominate the market due to rising demand, and the market of chemical-free foods for health-conscious consumers is also increasing. (MAHARASHTRA, 2017)

As for the structure of the dissertation, the basic concepts were defined and then the competitiveness of the international and domestic pasta industry was analysed based on Porter's diamond model. After the material and method part, the results of the research were outlined in two main parts. One of them is the evaluation of the case studies prepared in the Hungarian and foreign regions, and the other is the statistical processing of the questionnaire survey. I evaluated the research hypotheses test, then I presented the new and novel results of the research. Recommendations were made for small business development, which can hopefully be utilized at an international level.

1. 2. The objectives set

O1. The main objective of the doctoral dissertation is the competitiveness analysis of the national small enterprises in the pasta industry.

O2. One of the sub-goals is the detailed examination of the companies in the pasta sector on the supply side by means of secondary and primary research.

The secondary research is directed at the competitiveness situation of small businesses as well as that of the dry pasta industry while in the primary research the competitiveness factors of entrepreneurs were compared with the help of national and international best practices.

C3. The second sub-goal was the analysis of the behaviour of dry pasta consumers on the demand side of the pasta market by means of secondary and primary research with the help of questionnaires.

In the secondary research the trends that influence consumer behaviour were explored while the questionnaire in the primary research helped analyse consumer behaviour.

In line with the research objectives the following hypotheses were drafted.

Hypotheses H1-H6 on the supply side of the pasta market

H1 From the aspect of the factor supply of the pasta enterprises, the negative effects of natural conditions can be compensated for while improving competitiveness.

H2 The bargaining position of buyers in the pasta business sector is expected to increase.

H3 When examining entrepreneurial strategies, general success and failure factors are expected to be screened.

H4 The bargaining position of businesses towards suppliers is not expected to change or deteriorate, i.e. the threat of this factor stagnates.

H5 By the end of the decade (2010s), economic governance is expected to promote the whitening of the grey-black economy and the commitment to environmentally conscious behaviour will increase.

H6 Businesses are expected to find a variety of solutions to offset the negative impact of accidental events on competitiveness of which success and failure factors can be identified.

Hypotheses H7-H12 on the demand side of the pasta market

H7 The most frequent response to purchase frequency is expected to be "once a week" and "several times a week".

H8 The willingness to pay a premium for handmade dry pasta is low, one and a half times higher than for mass products.

H9 Pastas from plain flour and many eggs are most often expected to be very important, and few people are expected to consider "gluten-free" or "organic" dry pasta.

H10 Of the organoleptic characteristics, the shape of the dry pasta will be the most important and the smell will be the least important to dry pasta buyers.

H11 "Wholemeal flour" is expected to be preferred over "spelled flour", "gluten free" or "rice flour".

H12 It is expected that hand-made pasta will have a higher nutritional value meaning that they will also have healthier and more favourable organoleptic properties than mass-produced retail products.

2. MATERIAL AND METHOD

Supporting points have been found in several studies while analysing case studies on the supply side. One such case in Italy was the case of a production cooperative (HASSANEIN, N - GILCHRIST, K. 2013) and in Hungary a research entitled in competition with the world (CHIKÁN, CZAKÓ, 2009) about the culture of inheriting family businesses. (NOSZKAY. 2017.) Building a company's reputation is effective when it comes to building long-term mutual benefits with customers. (DALGIC, 2006)

I had to cope with the fact that micro and small businesses were on the border of the white and grey economy, recommended to each other, therefore the sample could not be considered representative. On the demand side, I received guidance from several similar studies on consumer behaviour (LEHOTA, CSÍKNÉ, RÁCZ, 2017) on risk-reducing consumer behaviour (TARI, LEHOTA, KOMÁROMI, 2016), consumer value systems in methods of researching consumer behaviour. (LEHOTA ZS, 2018. p. 90). and research on expected consumer trends (SHOUKAS, 2013) as well as emotionally based product differentiation (SHEPHERD, - RAATS, 2006). The consumer questionnaire (n = 118) was analysed with SPSS 16. It can be stated from the sample that it is not representative, but it can still be used in the research because it is suitable of exploring new results.

The research was done in several parts. I collected questionnaires and interviews at domestic gastronomy events. In Hungary, I conducted a case study with five companies. I visited two Fresca pasta shops in northern Italy and then did a case study at the dry pasta factory of Alce Nero cooperative. I was welcome in a bakery and mini mill in Moldavia, Romania, and I made interviews in two bakeries of Transylvania. I also examined the changes in the competitiveness of the pasta industry by exploring the events of the period 1960-2019. Finally, an online consumer questionnaire was completed in 2019. (n = 118) This is how the research material was compiled.

3. RESULTS

The purpose of my primary research is to make recommendations to micro-entrepreneurs, small scale producers, and rural tourism decision makers to enhance viable sustainable competitiveness.

3.1. Evaluation of the case studies in Hungary and abroad

Such micro enterprises of pasta production in Hungary were visited where the number of employees is below 10 like Pásztortűz Kft, Józsa Kft, Fehérné Tésztája, Kalász Tészta. An interview was also made at a big company, namely, Gyermely Zrt. In addition to the Hungarian companies, enterprises in two different economic environments were also visited abroad.

One of the countries visited was a typical Eastern European country, Romania, with a developing economy. A micro company was introduced here in Moldova and one in Transylvania. During the research in the micro-region of Oroszhegy, the village of Tibód proved to be good practice, so I recorded the experiences of the development.

The other country is a typical Western European one, Italy, where two "fresh pasta shops" in the province of Emilia Romagna were visited and interviews were made at the pasta factory of Alce Nero Cooperative. In the field I learned about the great local development of the pasta factory in the Isola del Piano micro-region, so I used it as a good practice in my research.

The semi-structured interviews were based on the factors of the diamond model and the responses were analysed in four logical steps. According to this, I recorded the problem and then the response and the impact of the measures on the company. Finally, in the note, I described the factors of competitiveness.

Through the research I intend to use their experience for the domestic enterprises, but not only for the micro entrepreneurs, the primary producers and the small scale producers, but also for the decision makers who develop the micro-region, for the economic utilization of the micro-region.

3. 1. 1. Case study analysis of the diamond model factors regarding

Factor and asset supply

From the case study stories, elements that show the physical, human and R&D resources of businesses were searched.

<u>Examining Hypothesis H1 in terms of factor and asset supply</u>

H1 From the aspect of the factor supply of the pasta enterprises, the negative effects of natural conditions can be compensated for while improving competitiveness.

In terms of equipment supply, the success factors behind the product are the creation of a philosophical background and cultural value added, machine development in-house, adaptive trend tracking, and the distribution of domestic knowledge transfer abroad. The failure factors are the narrow product range and lack of the expected return on investment.

Based on the above, it can be stated that Hypothesis H1 can be justified by the details of the above interviews, i.e. the disadvantaged natural conditions of the enterprise in terms of asset

and factor supply can be reversed in order to increase competitiveness. The hypothesis is confirmed.

Threatening buyers' bargaining power

From the stories of the case studies, elements that reveal the technology of making pasta, the demand, and the sensitivity of entrepreneurs to consumption trends were looked for.

Examining Hypothesis H2 in terms of threat to demand and bargaining power of buyers

In terms of customer bargaining position, success factors include loose collaboration with competitors and multi-directional sales. Failure factors include a strengthening of retail bargaining position and a weakening manufacturer brand.

H2 The bargaining position of buyers in the pasta business sector is expected to increase.

Based on the above, it can be stated that the exposure of businesses to customers has increased. Several success and failure factors were identified ranging from avoiding strategy to resignation to vulnerability. The hypothesis is confirmed.

Strategies of enterprises

From the case studies parts which shed light on the relationship of the enterprises with competitors, the strategy of the enterprise and how quick they reacted to consumer needs were looked for.

Examining Hypothesis H3 in terms of selecting strategy by the enterprises.

Regarding business strategies, success factors include a wider range of services, organising cyclical production, including family members, umbrella branding, public engagement in complex micro regional strategy. The failure factors consist of disregarding consumer value system and misjudging, miscalculating bank loans.

H3 When examining entrepreneurial strategies, general success and failure factors are expected to be screened.

Based on the above, it can be stated that of the entrepreneurial strategies, overall success and failure factors at international level can be excluded, despite various environmental influences. The hypothesis was confirmed.

Threatening the bargaining power of suppliers

From the case studies parts which shed light on what suppliers the enterprises had relationship with were looked for.

Examining Hypothesis H4 in terms of threatening the bargaining power of suppliers

Success factors in suppliers' bargaining power include trust between members of the food chain, joining manufacturer networking, horizontal and vertical collaboration, joint innovation with research institutes, while failure factors are mistrust, and lack of fair competition behaviour.

H4 The bargaining position of businesses towards suppliers is not expected to change or deteriorate, i.e. the threat of this factor stagnates.

Based on the above it can be stated that hypothesis H4 is confirmed. The threat of supplier bargaining power stagnates.

Economic-political environment and its impact on competitiveness

From the case studies elements that reveal the type of relationship between economic and political issues were looked for.

<u>Examining Hypothesis H5 in terms of the economic-political environmental impact</u>

Success factors regarding the bargaining power of suppliers are as follows: level-playing ground, ethical behaviour in competition, EU regulations and sanctions. The failure factors include forging and debatable product quality.

H5 By the end of the decade, economic governance is expected to promote the whitening of the grey-black economy.

Hypothesis H5 seems to be confirmed because non-industry specific economic governance will help to whiten the grey-black economy in 2019 and strengthen commitment to responsible entrepreneurial behaviour. The hypothesis is confirmed.

The impact of accidental events on entrepreneurial competitiveness

From the case studies parts which shed light on what role accidental events played in the life of the enterprise may they be either nature or technology related or incidents in the management.

<u>Examining Hypothesis H6 in terms of accidental events</u>

Regarding accidental events the main **success factors** include preparedness for generation change and networking to set off the disadvantages of accidental events. The **failure factors** perceive accidental events as unavoidable economic tsunami and they just drift away without being prepared.

H6 Businesses are expected to find a variety of solutions to offset the negative impact of accidental events on competitiveness of which success and failure factors can be identified.

It can be stated that Hypothesis H6 has been justified. Several solutions can be found to offset the competitiveness-reducing effect of accidental events, among which success and failure factors can be identified. The hypothesis was confirmed.

3. 1. 2. Comparison of case studies

Similar analyses have already been made in the literature in the wine, milk and meat sectors (KOMÁROMI - LEHOTA, 2004). A benchmarking tool (comparative matrix) was prepared to analyse the competitiveness of the companies in the case studies. (EVANS, 1997) In preparing the table, I have taken into account that "the benchmark is the concentration on a benchmark that achieves best practice in the process." (CAMP, 1995, p. 37)

The following categories were established to characterise the single factors in the matrix.

Asset supply (*low, medium, high);* geographical limits of market; (*local, national, abroad*), market bargaining power (*no, mutual, subordinate, highly subordinated*), degree of product differentiation (*low, medium, high).*

Need for innovation (*no, low, medium, high*); branding, (*own label brand orientation, the brand is oriented on custom production*); sign of origin (*yes, no),*

form on market orientation (*technological, customer, competitor, planning orientation*).

Pasta industry competition structure in the environment of the enterprise (*atomistic, oligopolistic or bipolar*), entrance and exit barriers (*no, low, medium, high*); dependence on supplier, (*no, weak, mutual, subordinate, highly subordinated*).

The rows of the table present the competitiveness factors while the columns stand for the numbers that represent the entrepreneurs.

TABLE 1. Comparison of the results of case studies

			Hungarian enterprises						**Italian**		**Transylvanian**		**Moldavian**	
	Factors of competitiveness		**1**	**2**	**3**	**4**	**5**		**6**	**7**	**8**	**9**	**10**	**11**
1	**Assets**	Natural resources	low	low	low	medium	high		medium	high	medium	medium	low	medium
		Physical resources	low	low	low	medium	high		medium	high	low	medium	low	low
		Machines	medium	medium	medium	high	high		high	high	medium	medium	low	medium
		Investment	low	medium	medium	high	high		high	high	medium	high	low	medium
		Use of current assets	low	low	low	medium	high		low	high	low	high	low	medium
2	**Supply chain, demand**	Geographical limits of market	local	local	residence	national	abroad		residence	abroad	residence	local	residence	residence
		Market bargaining power	highly subordinated	subordinated.	subordinated.	mutual	mutual		mutual	mutual	subordinated	mutual	subordinated	mutual
		Product differentiation	low	low	medium	high	high		medium	high	medium	high	medium	low
3	**Characteristics of entrepreneurial strategy**	Innovation	medium	medium	high	high	high		medium	high	medium	high	medium	low
		Branding	own label	own label	own label	own label	own label		own label	own label and trade		own label, and trade	own label	own label
		Sign of origin	yes	no	yes	yes	no		no	yes	no	yes	no	no
		Marker orientation	technol.	compet.	planning	compet.	customer		compet.	customer	technol.	customer	technol.	competitor.
		Competition structure	atomist.	atomist.	atomist.	atomist.	oligopoly.		atomist.	oligopoly	atomist.	atomist	atomist.	atomist.
4	**Entrance barriers**		high	high	high	high	high		high	high	medium	medium	medium	low
	Exit barriers		high	high	high	high	high		high	high	medium	medium	medium	low
5	**Supply chain**	dependence on supplier	mutual	mutual	mutual	mutual	no		mutual	no	weak	mutual	weak	mutual

Source: author's own editing based on own research

3. 2. Analysis of consumer behaviour, the statistical processing of the questionnaire

This chapter analyses the buying habits of pasta consumers and the product characteristics.

The questionnaire was compiled to reveal the pasta buying habits as well as identifiable product characteristics and pasta consumption segments.

The variables inform us about frequency of buying habits (**H7)**. The willingness to pay the premium price is relative to the retail prices (**H8**). First, the variables describing the direct properties of the pasta products were examined (**H9**). Then, the group of flour ingredients was considered. (**H11**) I asked about the organoleptic characteristics of the product (**H10**), the taste, smell, shape and colour of the pasta were also analysed. Then I analysed the external properties from the point of view of packaging, brand, manufacturer and highlighted the abstract product characteristics. The description of the term "**handmade pasta**" (**H12**), the "healthy pasta" and the spontaneous mentioning of the brand followed.

3. 2. 1. Descriptive statistical analysis

In my first analysis, I inquired about buying habits, volume of purchase, frequency, and location of purchase.

Customer responses revealed that dry pasta was staple food as almost everyone consumes it. (95%) In contrast, only one-quarter of the respondents (22%) require stuffed pasta. It is clear from the volume of the purchase that 43% of the respondents consume 1 kg dry pasta per month and 65% do not consume any stuffed pasta at all.

<u>Frequency of purchase is highlighted: examining H7</u>

Regarding the frequency of purchase, it can be stated that typically 50% buys it on a monthly basis; 52% of the respondents do not buy stuffed pasta at all.

H7 The most frequent response to purchase frequency is expected to be "once a week" and "several times a week".

The hypothesis can be partially justified because in the case of dry pasta the frequency of purchase is 45% per week and 50% per month. This part of the hypothesis is confirmed. In the case of stuffed pasta, 51.7% do not require it at all. This part of the hypothesis has not been justified.

<u>Willingness to pay premium price is highlighted: examining H8</u>

The premium nature of pasta categories was measured by the willingness to pay the premium price. The willingness to pay a premium for handmade pasta is almost 40%, the same as for mass produced pasta products. (51%)

H8 The willingness to pay a premium for handmade dry pasta is low, one and a half times higher than for mass products.

The willingness of the respondents to pay a premium price is low, they would not pay one and a half times more, but the value of a handmade product for a consumer is just as much as a mass-produced pasta product. So, the hypothesis was not confirmed.

Traditional and free variables of the direct product characteristics are highlighted: examining H9

34% would like to buy traditional 8 egg pastas in the order of preference for dry pasta product categories. The other categories of pasta are rejected to various degrees. They do not require pasta from quail eggs (81%), gluten free (67%), vegetable (56%), organic pasta (46%), low carbohydrate (42%), and durum pasta products (33%).

H9 Pastas from plain flour and many eggs are most often expected to be very important, and few people are expected to consider "gluten-free" or "organic" dry pasta.

Of the dry pasta categories, quail egg pasta (81%) is not required, gluten-free pasta was chosen by 67% and 46% opted for organic pasta. So, the hypothesis is confirmed.

Analysing organoleptic product characteristics are highlighted: examining H10

The characteristics of the products by eyesight, touching, smelling and tasting were investigated. The results showed that taste (67%) and shape (42%) are very important. The smell is a bit important, (28%), but the coloured nature is not at all important. (56%)

H10 Of the organoleptic characteristics, the shape of the dry pasta will be the most important and the smell will be the least important to dry pasta buyers.

According to the respondents, the shape of the pasta is very important, but the taste is even more important. The least important is the smell of the product. The hypothesis is confirmed.

Analysing the flour base of dry pasta is highlighted: examining H11

Pasta made from plain wheat flour is a bit important, and whole wheat flour (31%), spelled flour (30%) is not important. Not at all important factors are glass pasta flour (47%), gluten-free flour (46%) and rice flour (41%), as well as whole grain spelled flour. (29%).

H11 "Wholemeal flour" is expected to be preferred over "spelled flour", "gluten free" or "rice flour".

Whole wheat flour is slightly important (31%), spelled flour is indifferent, gluten-free flour is not at all important, rice flour and glass pasta are rejected. The hypothesis is confirmed.

Analysing handmade pasta products of the abstract characteristics is highlighted: examining H12

Most people think that 'handmade pasta' is a product made by hand (28%), has a high nutrient content (18%) and its organoleptic properties are important. (17%).

H12 It is expected that hand-made pasta will have a higher nutritional value meaning that they will also have healthier and more favourable organoleptic properties than mass-produced retail products.

The definition of "handmade", according to consumer perception, is a product made exclusively by hand, a high nutritional value is attributed to it with a better organoleptic quality than mass products. The hypothesis was confirmed.

3. 2. 2. Evaluation of the correlation between several variables

During the analysis of product properties, I wanted to know to what extent the preference of different types of pasta was typical of the questionnaire respondents. I revealed this by factor analysis, while I measured the relationship between the variables with seven variables (Table 1).

Table 1 The own label values of factor analysis

Degree of importance of variables	Components of factor weigh		
	1	2	3
Low carbohydrate	0.669	-0.251	0.071
Gluten free	0.635	-0.415	0.347
Organic pasta	0.506	0.046	0.494
Traditional pasta of 8 eggs	-0.495	0.333	0.594
Colourful, enriched with vegetables	0.504	0.695	-0.033
Made of quail egg	-0.36	0.455	0.575
Made of durum flour	0.491	0.489	-0.515

Source: Own label editing based on own label research results (n7118)

Based on the calculations, there are three factors that show the correlation with the original variables.

- Chemical-**free** pasta is the most popular. Low carbohydrate (0.67), gluten-free (0.63) and organic dry pasta (0.50) were grouped.
- The group of "**fortified**" pasta consists of coloured pasta (0.69) enriched with vegetables and pasta made from durum flour (0.48).
- '**Traditional '**pasta (0.45) consists of eight-egg dry pasta groups. According to the role of variables in the context model, 'traditional' has the highest value in Factor 3 (61.5%), 'Enriched' in Factor 2 (43.6%), and finally, 'Free' in Factor 1 has a value of 23, 1%, respectively.

Cluster analysis in the light of demographic variables

To characterize consumer segments, demographical data were compared with the three clusters, and then looked for the relationship between clusters and product categories; between clusters and product properties, and finally clusters and additives.

- "**Leading intellectual, middle-aged women**," the first consumer segment (n = 61) includes women in the capital aged 31-50 who have graduated from university.
- "**Rural Working Men**" is the second cluster (n = 36) consisting of small-town men aged 31-50 with a certificate from secondary school.

- "**Intellectual Women from the capital**" (n = 21) are college graduates, 41-50 years old living in the capital.

Cluster analysis in the light of product characteristics
Based on the preference order of product characteristics, I wanted to know what type of consumer segments can be identified by organoleptic (shape, taste, smell, colour) and external (packaging, brand, manufacturer) rankings. Based on the properties of the pasta products, the test sample can be divided into the following segments:

- The **brand-trusted** (**n = 61**) preference group (fourth cluster) chooses pasta based on the external product attributes and is least interested in the vegetable-enriched coloured pasta of the internal product attributes.

- For the **manufacturer-trust (n = 29) preference group** (first cluster), the external product characteristics are decisive when making a choice, but packaging is less appreciated.

- For the **fragrance-centred preference group (n = 14)** (second cluster), the intrinsic property of the product is important, but the product brand of the external attributes is less appreciated.

- The **fortified product consumer preference group (n = 14)** (third cluster) prefers coloured pasta enriched with vegetables, but the packaging is not important for them. It is noteworthy that this cluster has a very low rating for all variables compared to other cluster variables. This may be due to the fact that they also consider different aspects when selecting pasta products.

3. 3. Summary of hypothesis testing (H1-H12)

Summarising the research was started with reviewing the hypotheses test followed by the new and novel scientific achievements (Table 2).

Table 2 Testing the research hypotheses

Hypothesis	Test
H1 From the aspect of the factor supply of the pasta enterprises, the negative effects of natural conditions can be compensated for while improving competitiveness.	Confirmed
H2 The bargaining position of buyers in the pasta business sector is expected to increase.	Confirmed
H3 When examining entrepreneurial strategies, general success and failure factors are expected to be screened.	Confirmed
H4 The bargaining position of businesses towards suppliers is not expected to change or deteriorate, i.e. the threat of this factor stagnates.	Confirmed
H5 By the end of the decade (2010s), economic governance is expected to promote the whitening of the	Confirmed

grey-black economy and the commitment to environmentally conscious behaviour will increase.	
H6 Businesses are expected to find a variety of solutions to offset the negative impact of accidental events on competitiveness of which success and failure factors can be identified.	Confirmed
H7 The most frequent response to purchase frequency is expected to be "once a week" and "several times a week".	Partially confirmed
H8 The willingness to pay a premium for handmade dry pasta is low, one and a half times higher than for mass products.	Rejected
H9 Pastas from plain flour and many eggs are most often expected to be very important, and few people are expected to consider "gluten-free" or "organic" dry pasta.	Confirmed
H10 Of the organoleptic characteristics, the shape of the dry pasta will be the most important and the smell will be the least important to dry pasta buyers.	Confirmed
H11 "Wholemeal flour" is expected to be preferred over "spelled flour", "gluten free" or "rice flour".	Confirmed
H12 It is expected that hand-made pasta will have a higher nutritional value meaning that they will also have healthier and more favourable organoleptic properties than mass-produced retail products.	Confirmed

3. 4. New scientific results

Result 1: Results of the secondary research

I have examined the competitiveness of the pasta industry, the technological and product innovation, and the micro-entrepreneurial sector. I have identified the elements of competitiveness factors. I have stated about the past period that the dry pasta sector can be divided into four competitiveness stages between 1969 and 2019. While examining the future trends, I have found that the competitiveness of micro-enterprises in the dry pasta market is affected by horizontal networking and vertical local cooperation. I have found that 3D pasta printing is expected to appear in the hospitality market.

Result 2: Results of the case studies

I have examined the competitiveness of the Hungarian and foreign entrepreneurs. I have identified the *success and failure factors* of the competitiveness of micro-entrepreneurs. I have proved that the networking activity of pasta manufacturers is intensifying. The emerging horizontal networking ranging from the research institute via the farmland to the table, the vertical networking, rural tourism, hospitality, and networking on local values have already begun.

Result 3: Results of consumer behaviour

I have examined the behaviour, frequency, quantity, location, and willingness to pay the premium price at purchase, and then the characteristics of the pasta products. I have concluded that one kilogram a month is bought from large shops by female shoppers. I have proven that consumers are generally not willing to pay a premium price. I have distinguished three consumer segments: the first is made up by the 31-50-year-old **female college graduates in the capital** (n = 61), the second comprises the 31-50-year-old college graduate **males in small towns** (n = 36), and the third a group is of 41-50 year old **women college graduates** living in the capital. (n = 21)

Result 4: Results of pasta product characteristics

I have examined the properties of pasta products and found that the selection of pasta from smooth flour and many eggs has the most significant effect. I have proved that the shape of pasta products is the most important of the organoleptic properties. I have found that 'handmade pasta' is a product made by hand with a high nutritional value. I have concluded that domestic pasta brands are more in demand than retail pasta brands, and the popularity of commercial pasta brands are on the rise.

I have also examined the correlations with the consumer demographic data by factor analysis. I have concluded that the most significant product group is the "**free**" (carbohydrate, gluten) and the "**fortified**" (with vegetable, durum flour) the third is the "**traditiona**l" (eight-egg) pasta products.

I have analysed the supply of products according to their organoleptic and external properties. I have found that four clusters were distinguished: the **brand-oriented** (n = 61), characterised mostly by external product attributes. The other is the **manufacturer-oriented** cluster (n = 29), which is mainly influenced by external product characteristics. The third is **fragranc**e-centric (n = 14), the effect of the internal characteristic is strong. The fourth group is those who like **fortified** products (n = 14) and are influenced by coloured pasta.

4. CONCLUSIONS AND RECOMMENDATIONS

4. 1. Conclusions

In the case of pasta consumption, an increase in pluralized trends can be noticed, i.e., following the opposite value orders. The consumer behaviour of dry pasta, according to the respondents to the questionnaire, is based on the following stratification: "**Who like free products**" go for gluten free and low carbohydrate dry pasta", "**Those who like traditional products**" prefer traditional 8-egg homemade pasta. The "**Enriched Pasta Consumers**" like durum pasta enriched with colourful vegetables.

4. 2. Recommendations for utilising the research

The significance of the research is that it will bring economic benefits not only to domestic, small, rural and micro entrepreneurs, but also to local micro-region developers and decision-makers.

Recommendation 1: It is recommended to *extend the horizontal and vertical business relations* to pasta manufacturers, in the direction of tourism, rural tourism and other hospitality, as well as a variety of complementary activities.

Recommendation 2: To increase the competitiveness of micro and small businesses, I recommend product innovations that not only offer gluten-free and carbohydrate-poor dry pasta but also keep traditional homemade pasta products.

Recommendation 3: *Rethinking and transforming old economic knowledge* not only boosts its micro-region but also spreads to other continents as good practice. The key to this is human resources, which means a consistent economic commitment that is philosophically based and enjoys the trust of the local community.

At the end of the dissertation I emphasize that if a local micro-region becomes depopulated, the local economic process can be reversed. The prerequisite for this is human resources, a leader who feels a call to the community of own label. The knowledge of the re-populated, micro-region is transformed and utilized by micro-enterprises on other continents. In the future, further research about the impact of human resources on local economic development is recommended.

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ILONA FEHÉR

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