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# EMPIRICAL RESEARCH ON CORPORATE STRATEGIES IN HUNGARIAN DAIRY INDUSTRY

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**Abstract:** *Corporate strategy has never been as important as it is nowadays. Markets are changing rapidly because of consumer demands, innovations, information flow and economic changes. Our paper concentrates on Hungarian dairy industry (hereinafter dairy) and four main objectives were defined to be analysed: (1) domestic dairy company features, (2) main strategic characteristics, (3) how companies' strategy resonates on the consumer side and (4) companies' financial background were analysed as well. A company database was made in order to prepare for the primary research and to understand better the nature of today's market. B2B (26 companies) and B2C (503 people) surveys were used in order to gain primary data. In 2017 132 Hungarian companies were observed in milk processing, but 44% of the market participants are not present in dairy competition. It is a fairly fragmented market structure because 10-20% of the annual turnover is accumulated among the 80-90% of competitors. The factor analysis of the data proved that the dairy companies followed m strategies at the same time; and it is assumed that most of them are unconscious. Strategically, the majority of the dairy sector is not up-to-date and modern enough. SMEs sector management skills and strategic preparedness are considered to be out-of-date and insufficient. Strategic planning can possibly have an influence on financial results, which was only partly proved by the analysed criteria system. The production and use of own raw milk supplies might make companies experience financial benefits. Nearly 78% of the respondents would rather purchase goods made from own raw material. The willingness to pay a higher price for this was in average 5-15%.*

**Keywords:** *dairy market, Hungary, corporate strategy, SMEs, survey.*  
(JEL Code: *L1, L66*)

## INTRODUCTION AND OBJECTIVES

In our globalized world the way companies think and do business have changed and are constantly changing. The insecurity of global markets, the problem of sustainability, and the constant changes of consumer demand are just a few of local and global challenges. Companies are facing hard times to become and stay competitive. The secret of successful companies is made up from several components, one of which is surely the well-chosen competitive strategy. Multinational companies mostly utilize different kinds of strategies and tend to adjust it to the country's capabilities. In our research topic mostly SMEs are involved, therefore this sector will be emphasized in the literature review.

This paper is part of a complex PhD dissertation research. The main goal of this study was to examine if dairy company strategies are effective enough in order to satisfy consumer

needs and produce financial benefits. Therefore the following objectives and sub-objectives were defined in the present study:

1. Dairy companies' outlook: economic forms, location and headquarter, regional location, number of active/closing firms, company size, market shares and concentration levels.
2. Explore main strategic characteristics of the companies that took part in the survey:
  - Strategic planning and generic strategy, product portfolio analyses
  - Raw material base analysis: farm produced milk vs. purchased raw milk, price analyses (purchased and produced), and main contractual tools for favourable supplier relation.
  - Sale: distribution channels, B2B milk prices
3. Based on the objectives (2) mentioned an analysis was

made how companies' strategy resonates on the consumer side.

Look into the companies' financial background. With this analysis we aim to find a relationship between economic performance and strategic attributes.

Besides these aims the complex PhD research contains analysis about dairy cooperation practices that we published in another publication. In order to understand some aspects of this study a few results will be presented here, too.

## LITERATURE REVIEW

Nowadays the influence of SMEs is constantly growing. Similarly to Europe, 99,8% of companies are considered as SMEs in Hungary (MULLER et al. 2015). This sector gives 72,5% of total Hungarian employment nationally and the contribution to GVA1 is 54,4% in comparison to all companies (CHIKÁN, 2016). SMEs are emphasized more due to the higher number of SME companies and higher market influence. Internationalization, innovations (incl.: technological innovations) are not a large- and mammoth company „speciality” any more (KNIGHT, 2001). Enterprises in the SME sector need different strategy approaches both in Hungary and internationally.

SMEs survival rate and business entry is different all over the world depending on the business environment. Discrepancies in productivity result in unequal wages in SME sector compared to large companies (NORTH and VARVAKIS, 2016). MUSSO and FRANCONI (2014) studied the international strategy of Italian SMEs and although their research was limited to one region, they had a conclusion of non-systematic and passive SME behaviour. Disparity in business environment has effects on SMEs in the USA and China as well. Chinese SMEs mainly use cost leadership strategy due to low wages; and differentiation strategy is not commonly used whereas higher purchasing power enable American SMEs to have more strategy opportunities (PARNELL et al. 2015). GHOURI and KIRPALANI (2015) compared to the performance of SMEs and according to the study the following order was found: (1) EU-28 countries, (2) USA, (3) Japan, (4) Brasil, (5) India, (5) Russia. Although Hungary is part of EU 28, Hungarian SME performance was experienced as very low.

Our domestic SME sector mainly contains family businesses and forced entrepreneurs. Hungarian SMEs are underdeveloped compared to the international level, but internationalization and innovation are more and more experienced (VARGA, 2015). Varga said that management of the Hungarian SMEs was based on their own insufficient knowledge and despite performing strategic management they accomplished operational tasks. In many cases they do not have a written strategy. HUGYI and TAKÁCSNÉ (2011) almost came to the same conclusion and their research harmonizes with the establishments of SALAMONNÉ H. (2000) and KARDA (2009). Furthermore, the Hungarian SME sector

has innovation shortage and shareholder communication is not conceptual and productive enough (SÁRA et al. 2014). They believe that domestic SME innovation strategy is rather an „illusion innovation”, which mostly means fusion or acquisition. Besides this, they emphasized financial shortage as the main trigger of innovation knowledge and implementation, thus non-technological innovations are considered as an excellent possibility for domestic SMEs. We agree with the observation of POLERECKI (2011), whereas Hungarian SMEs need time in order to close up, because Western-European SMEs have experience of decades. His research concentrated on the marketing activity of domestic SMEs (focused on dairy and meat industry) and he had a conclusion of insufficient marketing strategy and incompetent managers as well.

It is difficult to describe the strategies of Hungarian SMEs. Furthermore according to the cited authors there is an agreement on the lack of strategy, therefore we think that the main strategy is rather 'ad-hoc' in order to survive. But at the same time SALAMONNÉ H. (2008) distinguishes positioning- and expansive strategies on the SME market. She cites M. E. Porter, whereas upward pressure on economic growth has harmful effects, thus companies need to find a distinguishing factor in order to gain a unique position (positioning strategy). Expansive strategy means that the company grows in size either vertically or horizontally. According to the author, approximately two-third parts of companies use positioning strategy in Hungary, while expansive strategy is used by every third company. Based on a current research (TERNAI and BORBÁSNÉ, 2015) joining to a cluster could be an effective strategy as well. They analysed eBest software platform that enables SMEs to work together, build networks and help management actions. This platform can support removing obstacles from the ways of getting information, communication or cooperations.

As far as we need to summarize the strategic directions of the Hungarian SMEs, it can be said that there are significant shortcomings because conscious strategic planning is not typical, but survival strategies induced by financial shortage are more determinant. We agree that non-technological innovation could be an excellent possibility for domestic SMEs. Furthermore, innovations in cooperation are also a great improvement possibility as far as they are not able to manage innovations on their own.

After the Hungarian political transformation (1989), the ownership of the dairy sector changed. Hungary lost the socialist markets, thus milk production decreased dramatically. Due to the multiplying effects dismissals grew, which resulted in a lower level of consumption. The dairy sector – besides other industries – suffered from multiply shocks, therefore capacities became under-utilized. Foreign investments appeared and by the year 1997 60% of dairy companies had foreign ownership. This ratio was the highest in 2000 with 62,7% (it was only 27% in 1992) (BUDAY-SÁNTA, 2011). During the years of political transformation state owned companies were suffering from capital shortage and most of the investments were realized at foreign owned

1 Gross value added

firms. Approximately 50% of the capacity is used in Hungary (BORBÉLY et al. 2013). This is an estimation, no measurement has been made for ages.

According to TEÁOR '08<sup>2</sup> classification, our milk processing belongs to manufacturing industry, and in 2014 this sector contributed to GDP with 23,5% . Thus manufacturing is the most important economic activity. Within manufacturing, food industry had 2% contribution to GDP in 2014 (KSH, 2016). Dairy industry is the third most significant sector within food industry and in 2014 it gave 9,2% of the total food production. This means 251,8 billion HUF gross production value (FM – AKI, 2015). Compared to 2004 in 2012 dairy industry domestic sales decreased by 30-40%. But at the same time export sales grew by approximately 10%. Dumping of import goods and decrease of purchasing power caused mainly this decline (KSH, 2013).

Considering employment issues, manufacturing industry is the most important sector because it ensured 21,6% of the total employment in Hungary in 2016. Within it, the food industry gave 3,3% of the total employment and this ratio was quite the same in the last few years (KSH, 2016). KENDI (2013) made a comparison between Danish and Hungarian employment in the food industry, and he came to a conclusion that Hungarian employment level exceeded not only the Danish but EU average as well. The author also emphasizes that Hungarian employment level does not have to decrease below the EU average, because many unique factors have influence on employment level such as mechanization, technology, density of population or production potential.

Giant international dairy companies mostly operate in co-operative form, which includes farmers and manufacturers. If we concentrate on EU, mostly Danish and Dutch co-operatives are worth mentioning first. They operate in producer-manufacturer integration and these co-operatives are fully market based, the government does not intervene in their operation. Similarly to dairy companies in the USA, they work purely on economic basis where the focus is on the product and the main goal is income growth for members (SZABÓ G. G., 2005). According to MAYNARD and FRANKLIN (2003) the main strategic element of the market leader dairy companies is innovation (therefore R&D activity). They studied cancer preventive features of functional milk products, because they believed that value added milk product (with higher CLA level in this case) had higher market potential and the market would pay an extra price for them.

SZABÓ (1996), POLERECKI (2011) and RÓZSA and TÁLAS (2014) studied Hungarian dairy company strategies. SZABÓ (1996) made five different groups: (1) foreign owned big companies, (2) big companies with Hungarian ownership, (3) small companies with Hungarian ownership, (4) small local enterprises and (5) small specialised companies. Since this classification the domestic dairy sector has changed. POLERECKI (2011) examined marketing strategy, he created four groups: (1) careful price competitor, (2) connection

oriented, (3) inconsistent, (4) developing optimists. The author suggested niche marketing as an emerging opportunity for small dairy firms. RÓZSA AND TÁLAS (2014) revealed that dairy companies with Hungarian ownership could rise their financial performance and market share in the last few years.

## MATERIAL AND METHOD

### Secondary research

The main domestic statistical data were provided by the Hungarian Central Statistical Office (HCSO) database. Our source of public data of companies was provided by the electronic database of the Ministry of Justice and Opten Company Information database. Our main sources regarding our international secondary research were the database of EISZ (JSTOR, ScienceDirect, SpringerLink).

Based on the HCSO data we have created a database that includes the most important data of the milk processing companies in Hungary. The purpose of the database was to prepare for the primary research and to understand better the nature of today's market. With the help of the database we laid down the main characteristics and specialties of the milk processing market. The main parameters of the database are presented in Table 1.

Table 1.: The main parameters of milk processing companies' database

Goal of the database	1. Preparation for the primary research 2. Laying down the characteristics/specialties of the market
Sources used	1. Electronic Company Information Service, Ministry of Justice 2. Opten Company Information Service
Steps of creating the database	1. Main filter condition: main activity 1051 <sup>3</sup> TEÁOR code 08' 2. Input the examined characteristics into database (Microsoft Excel) 3. Summarize of information, filtering data 4. Actualization of data in case of new annual report
Number of companies	132 <sup>4</sup>
Examined features	1. Economic form 2. Location, headquarter details 3. Regional location 4. Number of active/closing companies 5. Company size 6. Market share 7. Market concentration

Source: own data

### Primary research

The primary research of this study can be divided in two parts, which are shown in Table 2. The B2B survey was anonymous, thus we did not include the names of the companies in our study.

2 Statistical Classification of Economic Activities in the European Community 2008 (identical with NACE Rev.2. )

3 Milk processing

4 Data known at the latest update (January 2017).



Table 2.: The main phases of the primary research

	Goal	Method	Sample size
Corporate Survey (B2B)	Laying down company strategies	Questionnaire	26
Consumer Survey (B2C)	Checking results of company survey with consumer demands	Questionnaire	503 people

Source: own data

In order to study company strategies a complex survey was made. After a successful testing the dairy market was noticeably unforthcoming and the number of respondent companies was very low. Therefore we restructured the survey in order to increase sample size. In the final methodology the strategy was surveyed by questionnaires (sample size of 26 companies) and cooperation was examined by interviews. After B2B research B2C survey was made with 503 people. The criteria system of the primary survey is presented in Table 3.

Table 3.: Criteria system of primary methods

Criteria	Parameters	
	B2B survey	B2C survey
Date of Query	September 2014- May 2015	July 2015 - August 2015
Location	national	national
Method	questionnaire	questionnaire
Group of people questioned	management	consumers
Base of population (sampling frame)	88	Age 18-75
Sample size	26	503 people
Willingness to respond (%)	29,6 <sup>5</sup>	-
Total market share in 2014 (%)	15,5	-
Representative background variables	economic form	region, type of settlement, sex, age group
Special Sampling Criteria	main activity based on 08'TEÁOR 1051 excluded: companies under closure and liquidation excluded: companies with zero or minus income for 3 or more years	random walk, birthday key

Source: own data

Only managers were asked by B2B survey. The goal was to study the whole dairy market (meant 136 companies in 2014), but some sampling criteria were necessary to use. 26 companies answered, which meant 15,5% of the market (net turnover based). 503 people answered the B2C survey, which was representative for region, type of settlement, sex and age group. Random walk and then birthday key sampling criteria were used.

<sup>5</sup> 26 out of 88 respondents

## METHODS USED FOR THE RESEARCH

We used the IBM SPSS 20.0 and Microsoft Excel programs to process the data we had collected during our research. During our statistical analysis we determined a 95% confidence level with a 0,05 or less percentage rate as a significant relationship. For data reduction we applied factor- and cluster analysis. We present the final parameters below (Table 4):

Table 4.: Parameters used for factor- and cluster analysis

Factor analysis	
Factor extraction method:	Principal Component
Data authenticity test:	Kaiser-Meyer-Olkin (KMO) and Bartlett's Test
Definition of the number of factors:	Kaiser-criterion
Rotation of factors:	Varimax
Steps of cluster analysis	
First cluster method:	Ward's Hierarchical method
Used scale type:	Interval scale: Squared Euclidean Distance
Second cluster method	Non-hierarchical K-Means Cluster
Number of clusters:	3

Source: Sajtos and Mitev, 2007

During our financial analysis we examined years between 2011-2015 and we used the following formulas:

1. Relative change of financial data and ratio: chain/base index calculations
2. Indebtedness ratio = liabilities/balance sheet total
3. Debt/Equity ratio = liabilities/equity capital
4. Net profit margin = earnings before interest and taxation/net turnover
5. Quick liquidity ratio = (current assets-supplies)/short-term liabilities

## RESULTS AND DISCUSSION

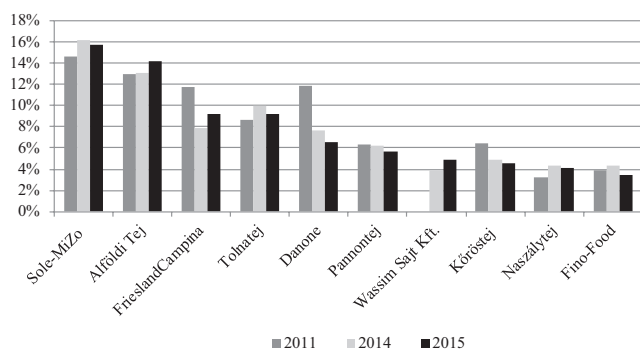
### MAIN ATTRIBUTES OF THE DOMESTIC MILK PROCESSING COMPANIES

According to our database there were 132 Hungarian companies at the beginning of 2017, whose main business was milk processing. Out of these companies 110 were *actively working* as milk processors but after the financial background analysis, it can be stated that a significant section of these companies does not produce income at all. 56,8% of all (132) the companies make some sort of profit, and if we only look at the active companies we can say that 68,2% of them have income. As for the *legal forms*, please consider that depending on legal systems Hungarian business entities could differ from types of forms in other countries. Data shows that from all (132) companies 79,5% work in limited liability company (Ltd.) form, 10,6% operate as company limited by shares (public and private), 6,1% work as co-operative, 3% have limited partnership form and one company functions as a

joint venture. In the process of closing down 77,3% of the 22 companies are Ltds., 9% are company limited by shares and 13,6% are limited partnerships. Eleven companies were founded in 2016, six of them as Ltds., three as co-operatives and two as company limited by shares. Concerning *company size*<sup>6</sup> from the 110 active firms 53,6% (59) belong to micro, small and medium enterprise (MSMEs) sized business and 7,3% (8) are considered as large companies. In 43 (39,1%) cases no employee data was available, but they had no or negligible turnover, therefore they are assumed to be micro or small firms as well. It is notable that one small company works as company limited by shares. Four of the market leaders (see Figure 1. below) are considered as medium sized firms (Danone, Kőröstej, Naszálytej, Fino-Food) and six from the top processors are classified as large companies (Sole-MiZo, Alföldi Tej, Tolnatej, FrieslandCampina, Pannontej, Wassim Sajt). As of the regional distribution, 37,9 % (most of the companies) are located in the Central Hungarian Region. We found a strong positive relation between the number of companies<sup>7</sup> and the development<sup>8</sup> of the region (correlation factor= 0,87), although the location of headquarters does not show the real picture as very often no production takes place here. There is a poor relation between the regional development and the number of factory sites (correlation factor= 0,096). The reason for this seems to be that most of the milk processing factories were built where former active ones used to be functioning.

Based on the net income data we present below the milk processing *market leaders* in the last couple of years (Figure 1).

Figure 1.: The 10 highest market share of milk processing companies in Hungary



Source: own calculation based on annual reports

Sole-MiZo and Alföldi Tej were market leaders in the three analysed years, their market position did not change. Danone<sup>9</sup> and FrieslandCampina lost their market share compared to 2011, but they are still among the first five companies. In 2014 and 2015 Tolnatej's position was more favourable compared to 2011. It is worth paying attention to Wassim Sajt (owned

by Kőröstej) because it was founded in 2009 and in 2011 no market share was experienced.

Dairy industry concentration is a worldwide phenomenon. In order to examine the domestic concentration level, we calculated CR ratios (Table 5) and Lorenz curve (Figure 2.).

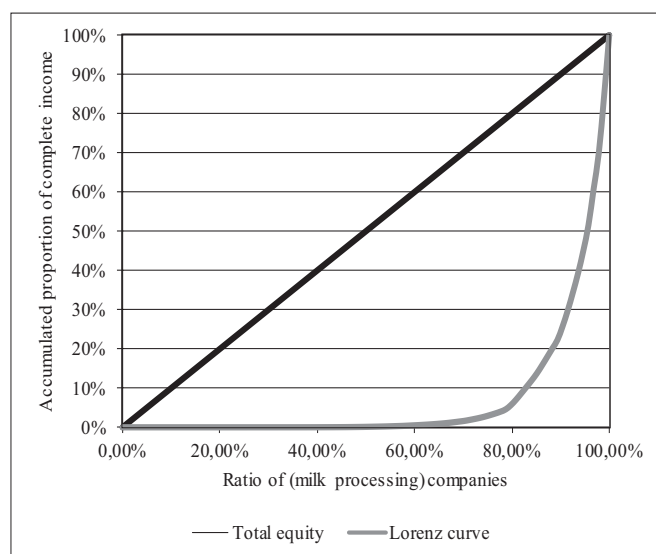
Table 5.: Concentration rates in domestic dairy sector (%)<sup>10</sup>

	2008	2011	2014	2015
CR2	29,14	27,85	29,30	29,90
CR3	43,59	39,74	39,26	39,14
CR4	60,08	51,56	47,14	48,37
CR5	66,80	60,22	54,78	54,96
CR6	72,42	66,72	61,01	60,62
CR7	77,77	73,12	65,85	65,56
CR8	81,93	77,03	70,18	70,17

Source: own calculation based on annual reports

In 2015 the first two market leader companies owned almost 30% of the market's turnover, while eight companies of the highest turnover owned 70% of the market. From 2008 concentration levels fell back by 10-12%, except in case of CR2 and CR3. According to CR rates, Hungarian dairy market is medium concentrated but it was stronger in 2008. Analysing dairy market concentration with Lorenz curve gives us a slightly different picture.

Figure 2.: Lorenz curve of the Hungarian milk processing market (2015)



Source: own calculation based on net income data

Figure 2 shows that 80-90% of the market participants own 10-15% of the turnover, therefore 10-20% of the participant means the market leader firms. Compared to CR ratios stronger concentration is outlined by Lorenz curve.

6 based on number of employees

7 in case of market leader firms

8 based on GDP (KSH, 2014)

9 in 2015 Hungarian production was finished

10 based on net income

In sum we can state that the phenomenon of concentration is present to some extent in our domestic milk processing market, although based on the CR rates it can be determined as rather average or medium-strong. The Lorenz curve shows a more concentrated market, but it is still different from the international process, because in the Western European market the common structure is monopole or oligopol.

## B2B SURVEY RESULTS

### Strategy

Corporate strategy is crucial for market success, but the management is responsible for how efficient this corporate strategy will be. Our B2B research allowed us to analyse the following factors: (1) is there any difference between strategy planners and non-planners; (2) what kind of genetic strategy and product portfolio (3) are used by the analysed companies?

Based on the B2B primary data almost 35% of the companies have a planned *written strategy*. 77% from them do not require help from consulting firms and only two dairy companies considered to use such a service in the future. We applied 13 questions<sup>11</sup> in order to examine *what kind of strategy was used*. On their own admission the questioned groups state that they use the differentiation strategy mostly. They were mainly focusing on giving the consumer better valued products, but cost leadership strategy was used at the lowest extent (average was below 2,8). In order to position themselves on the market milk product companies have to follow consumer needs and market trends but according to the answers, companies just more or less follow milk market trends (Likert-scale average: 3,4).

We made factor analysis to understand better the strategy of companies. From these 13 variables we gained four components that have 70% of explanatory power (total variance explained). Based on the Bartlett's test ( $p=0,000$ ) and Kaiser-Meyer-Olkin test ( $p=0,349$ ) we can say that the data are not suitable for factor analysis. On the basis of the outcome of the paradox results and the rotated component matrix test, we came to the conclusion that some variables did not only favour one factor but one variable might take part in more factors at the same time. This means that the milk processing companies tested in the research do not necessarily use one strategy, they might use two or more at the same time. Hybrid strategy is commonly used by firms, in this case we have to examine if dairy companies combine strategies deliberately or at random.

Considering *product range*, we can see that  $\frac{3}{4}$  of the questioned groups produce sour dairy products. However, this is not the major leading product and the income made from these products are also not too considerable. Little more than half of the factories produce mature cheese and other cheese products, which is slightly surprising despite the low rate of cheese consumption in Hungary (12,9 kg/capita) compared to the European average (19,1 kg/capita)<sup>12</sup>. Because of its

added value, the income it creates is proportionately higher (together with heat-treated products) so mature cheese turns out to be one of the leading products. Less than 1/3 of the companies produce liquid milk. This group of products has the lowest added value, and based on the answers, the income these products add is far less than those of mature cheese and heat-treated dairy products. The two lowest value products were butter/"butter products"<sup>13</sup> and cream. This result is due to lower consumption. Still, more companies produce these products than liquid milk. No question that the first on the list of leading products is mature cheese, because most of the companies named this product as their leading product. Approximately  $\frac{1}{4}$  of the companies named more products as their leading product, furthermore it is obvious that it barely influences the amount of leading products of a company, whether they have or do not have a strategic planning.

*Financial analyses* were made in order to examine if companies with strategy plan had better financial performance. The average net turnover was around two billion HUF in case of companies in the sample (Table 6.)

Table 6.: Average values of the analysed financial data, 2011-2015<sup>14</sup>

	2015	2014	2013	2012	2011
Net turnover					
Sample average <sup>15</sup>	2 279 363	2 400 753	2 228 572	2 103 656	1 890 974
SP <sup>16</sup>	3 731 847	3 973 521	3 867 021	3 367 899	3 142 826
WSP	1 553 121	1 666 794	1 463 962	1 471 535	1 306 777
Operating income					
Sample average	4 111	13 361	-1 797	-7 196	-7 231
SP	-11 214	-95 795	-137 134	-129 013	-151 770
WSP	11 774	64 301	61 360	53 712	60 220
Profit/loss balance					
Sample average	-6 494	-4 220	-21 636	-19 929	-24 014
SP	-23 259	-95 178	-149 494	-130 022	-155 724
WSP	1 889	38 227	38 030	35 118	37 451

Source: own calculation based on annual report data

Firms with written strategy had on average one or one and a half billion higher turnover than companies without a written strategy. It is confusing that operating income and net turnover show an opposite tendency. After analysing the firms, it seems that the efficiency of the independent and non-independent companies is different. By independent companies we mean those enterprises that are not part of other companies and do not own another company either, they are independent both legally and in decision. Non-independent companies are ones that are part of other companies or own another company, not independent legally and in decision. We made a conclusion that independent companies have significantly lower net turnover compared to non-independent firms, but

11 Likert scale from 1 to 5

12 KSH, 2015 and CDIC, 2015

13 similar to cream cheese products in English speaking countries

14 data in thousand HUF

15 All companies answered (n=26)

16 SP: strategy planning, WSP: without strategy planning

they have favourable profit/loss balance. Non-independent companies had negative profit/loss balance in every analysed year. This result seems to indicate income reallocations in case of dependent companies. According to the relative change of these indicators, companies with written strategy showed a more favourable tendency (Table 7.) We considered a growth when negative value has improved to the next year but remained still negative. Regarding these results we needed further analyses in order to ascertain strategic planning influence, therefore four more indicators were examined (debt ratio, D/E ratio, net profit margin and quick liquidity ratio). Based on the results we can say that strategic planning can possibly have an influence on financial results, which was only partly backed by the analysed criteria system (Table 7.). Neither groups' (SP, WSP) financial performance was clearly better than the other. Net turnover, earnings before interest and taxation and balance sheet total values were examined in order to estimate company growth, but neither groups (SP, WSP) showed favourable company growth compared to the other group.

**Table 7.: Criteria system of companies with strategic planning and without strategic planning<sup>17</sup>**

	With strategic planning (SP)	Without strategic planning (WSP)
Net turnover (value)	more favourable (in every analysed year)	
Operating income (value)		more favourable (in every analysed year)
Profit/loss balance (value)		more favourable (in every analysed year)
Net turnover (relative change)	neither group is dominant	
Operating income (relative change)	more favourable (in every analysed year)	
Profit/loss balance (relative change)	more favourable (in every analysed year)	
Indebtedness ratio	higher (in four analysed years)	
D/E ratio		mostly higher (in three analysed years)
Net profit margin		more favourable (in four analysed years)
Quick liquidity ratio	higher (in four analysed years)	
Company growth	neither group is dominant	

*Source: own calculation based on annual reports*

Based on the strategy results it is assumed that analysed companies mostly use or combine their strategy randomly. The most important signs of "stuck in the middle" strategy are low profitability, low market share (PORTER, 2006) and unsteady management (KÖNCZÖL, 2007). Profit margin had a negative average value in all analysed years<sup>18</sup>. High number of negative EBIT is the reason for this tendency and no difference was

experienced in case of companies with capital shortage or with solid financial background. We mentioned above (see objectives) that some of the cooperation results would be introduced here in order to understand better some aspects. During the cooperation interviews we gained meaningful information about management attitude to the strategy. Half of the managers did not mention possible solutions as success factors of cooperation or they did not want to deal with that issue. They said that no concept was made how to start and manage a cooperation. Based on the interviews with the company leaders we drew the conclusion that most of them did not handle this "problem" on the level a leader should do. By that we mean that creating and maintaining partnerships require a modern approach of management, which as we could see was not yet present on this market. On the other hand, insignificant number of managers with concepts of strategy plans try to reach their market goals alone and do not wait for partners to come.

### *Raw material supply (raw milk)*

50% of the questioned groups have an own dairy farm. From this group most of them (69,2%) have one personal estate. 84,6% of those who own one estate are exclusive owners, the rest own a 50% share in average. 54% of the respondent groups must buy the raw materials from other resources. Within this group 38,5% can cover 15-20% of their needs for raw milk. 46% relies partly or fully on its own supplies. 67% of the production of micro- and small companies are made up from their own supplies. Medium-sized enterprises rely on their own supply at a rate of at least 35%, but it is more typically around 50-70%. These data in case of large companies are significantly lower.

Companies without dairy farm or insignificant own raw milk basis are using numerous strategic tools in order to maintain strong relation with suppliers. Most of the companies (38,9%) use contracts longer than one year. Almost 25% pay higher milk price than competitors and also 25% reduce their payment deadline. Although professional counselling between farmers and manufacturers (11,1%) is another tool but not determinant. Companies without dairy farms apply at least two tools and most of the manufacturers with own milk basis do not use these maintaining strategy tools. No relation was experienced between frequency of application and financial situation or company size.

The financial data of the self-supplied raw material production is as follows: based on the net turnover, operating income and profit/loss balance, those companies with own produced raw material supplies (apart from how raw milk cover their base material needs) have done better in value during the years examined, although the dynamics of change shows an unbalanced tendency.

We have distinguished two different groups of raw material base (RM1, RM2) with the following attributes (Table 8).

<sup>17</sup> Analysed years: 2011, 2012, 2013, 2014, 2015. In case of relative change 2011=100%.

<sup>18</sup> (2011: -12,98%, 2012: -95,25%, 2013: -534,42%, 2014: -6,29%, 2015: -13,24%)



**Table 8.: Criteria system in case of different own produced raw milk supply**

	Raw material base 1 (RM1) <sup>19</sup>	Raw material base 2 (RM2)
Net turnover (value)		more favourable (in every analysed year)
Operating income (value)	more favourable (in four analysed years)	
Profit/loss balance (value)	more favourable (in every analysed year)	
Net turnover (relative change)		more favourable (in three analysed years)
Operating income (relative change)		more favourable (in every analysed year)
Profit/loss balance (relative change)		more favourable (in every analysed year)
Indebtedness ratio		higher (in every analysed year)
D/E ratio	mostly higher (in three analysed years)	
Net profit margin		more favourable (in four analysed years)
Quick liquidity ratio	higher (in every analysed year)	

Source: own calculation based on annual reports

Producing and using their own raw material supplies, companies might experience financial benefits, but we had to consider that nationwide known companies that own a dairy farm thus work with a higher rate of capacity rarely use their raw milk supplies, they determine the performance of the group "RM2".

After studying the *purchase price of raw milk* as raw material, it is clear that the change of the average price of these materials followed the change of national prices in the past four years (Table 9.).

**Table 9.: Purchased and own produced raw milk prices (HUF/l)**

	2010	2011	2012	2013
Purchase market price (excluding own farm)	83,5	84,6	85,4	96,3
Purchase market price (national average) <sup>20</sup>	71,5	86,1	86,6	96,1
Milk production cost (own farm)	n.a. <sup>21</sup>	n.a.	n.a.	n.a.

Source: PÁIR, 2014 and own calculation

There was a significant difference between the two average rates in 2010, when the national average was well below the average rate of the companies tested. We wanted to analyse if

19 RM1: total or very high own raw material coverage, RM2: most of raw milk must be purchased from the market.

20 PÁIR, 2014

21 not available

the use of own produced raw milk is more cost-effective than buying it from the market, but none of the companies could give us information regarding the costs of using own raw milk materials. However, if we want to estimate a price, according to KÖMÜVES and LUKÁCS (2015) large farms produce around 70-80 HUF, while small farms produce around 90-110 HUF on average. This price depends on capital adequacy, farm size, feeding and market demand.

## Sales

Among the respondents, a domestic milk processing company typically has six wholesale and 33 small-scale partners. Only a few groups use direct sales, which is surprising because the method is getting more and more popular. SZAKÁLY et al. (2008) also pointed out its existence. Direct salesmanship happens in the form of customers buying products directly in the shops of the companies.

As a matter of fact, 44% of all products sold by responding enterprises are *private labelled goods*. There was no significant difference between the commercial products in terms of the size and the financial performance of the companies. There is not a significant difference for which commercial partner they are producing, but Spar, Lidl and Tesco are three of the main partners. Other partners mentioned were CBA, Penny, Aldi, Coop, Auchan and Metro.

According to managers the biggest problems for them is to sell their products. They mentioned that retail companies (for example hyper- and supermarkets) have stronger bargaining position and they cannot compete with cheap foreign dairy products. In accordance with company managers, they would like to create differentiable products but it has higher costs, which is not compensated for in price well by the market. Those companies that have a lower income feel the differentiating strategy to be more pricy. Furthermore, companies with higher income feel better the price compensation of differentiated products on a retail market. From this we drew the conclusion that the size of a company – based on income – can mean a bargaining, negotiating power.

## Comparison of dairy company strategies to consumer feedback

In our research we made a B2C survey about dairy product consumption. In this paper we focus on the comparison between the processing and the consuming groups on the basis of the previously mentioned factors.

## Main strategy directions

While testing the generic strategies we found out that most of the processing groups follow a differentiation strategy, but when we examined more closely it was obvious that most of them applied more than one strategy. According to most of the consumers, they consume dairy products as part of their

healthy diet (4,4)<sup>22</sup>, also reliability and product traceability (4,12) were mentioned as main reasons. Interestingly, the demand for unique products (3,31) comes later.

In the course of testing how well consumers know the producer and the brand, and the difference between them, it was clear that people who live healthy lives consciously are the ones who are aware of the manufacturers and do not mix it up with the definition of brand/branding ( $p=0,016$ ). The test on knowing the brands had a positive result, identifying 74,1% ( $n=385$ ) of the products. This ratio was 59,5% ( $n=451$ ) in case of manufacturer identification. However, in many cases the answers were not exact or were sketchy. Two observations are definitely worth mentioning: Many consumers thought margarine to be a dairy product and most of the consumers could not connect the products to a brand and its producer (for example if the product's name is not associated with the company's name).

As for product composition, there is a difference between the producers and the consumers, especially on butter. According to B2C results, butter was the second most consumed product after liquid milk. We find the reason to be the notional misconception between butter and margarine that was presented before by other researchers (HUSZKA and POLERECZKI 2008; BERKE, 2003). Repositioning of this product can open up new markets and possibilities for producer groups. In case of the other dairy products we did not experience a sharp difference between the producer and the consumer groups.

After factor analysis we made cluster analysis (all factors  $p=0,000$ ) and three clusters were identified, which are helpful to a better design for a company strategy. It turned out that 'Mass product consumers' ( $n=157$ ) could be addressed from most sides. Besides assuring the low price and availability, they can be addressed with the issues of health and taste. For them repositioning of the mass products could also be effective. Furthermore, we believe that people of this group are most likely to choose imported goods if those are cheaper than domestic ones. That is why they need to be oriented towards Hungarian products. The 'Open for innovation' group ( $n=195$ ) can be easily addressed from a point of view where new products are presented. It would be beneficial for producers to produce unique, functional products for this group, the ability to afford these products would not mean a problem to them. The disadvantage of this group is that their loyalty is hard to maintain, their demands need to be observed constantly. As for the 'Hypocrite local patriachs' ( $n=151$ ) it is difficult to determine the needs of this group. Emphasizing localism is seemingly important to them, so they are probably open to local products. However, this group is full of contradictions, because they tend to buy products that are not necessarily local as they claim.

In case of private labelled products we can speak about a significant market because nearly 80% of consumers buy such products. As for the processing side, we can state that nearly 44% (on average) of manufactured products are private

labelled goods. In this case we find the producing attitude satisfactory as a nearly 50% is a large proportion in the production of commercial brands. It is important for them to be present on the market with unique and own brands.

### Raw material base

The analysis showed that 50% of respondents had a milk producing site of their own but only 29,2% produced liquid milk as a product. The leftover is probably exported because of the higher purchase prices. After cheese and heat-treated milk products, liquid milk is the most often mentioned ready-made product. The results of the consumer survey showed however that liquid milk is the most commonly consumed dairy product, especially among women ( $p=0,027$ ). The corporate survey revealed that the profitability of liquid milk fell behind of cheese and heat-treated products. The consumer answers showed us that the liquid milk (and other dairy products) could be repositioned by using own raw materials. Nearly 80% would rather buy from producers who make the raw material themselves. In this case 5-15% would be the extra cost that the market could still tolerate, therefore the processor might settle a *hypothetic reservation price*. Women are more willing to purchase such goods than men ( $p=0,008$ ). In particular women aged between 18 and 39 ( $p=0,013$ ) could well be targeted with these products. Basically wealthier customers would pay a raised price ( $p=0,007$ ). If producing own raw material could be done in an economical way and selling price of these product could be higher, it would definitely result in a competitive advantage instead of buying it from other farmers which would increase the final price. Corporate strategy could be built on focusing on the own base material.

### Main distribution channels

From the corporate side it was shown that retail and wholesale stores (chains) were the main actors of daily product sales; direct marketing was marginally present. According to customer replies the main places of purchase are still the hyper and supermarkets as well as discount shops (Tesco, Spar, Lidl, Penny Market). The two sides of consumers and producers correlate in this aspect. And another thing is that consumers show a greater demand for direct selling as opposed to companies. Processors will have to pay more attention to this sort of demand in the future. Direct selling can be developed in two ways in case of the companies. The first one is to run own shops in towns/villages, or even in markets. Secondly, online selling will prove to be an extremely good alternative of producers considering direct selling. Mainly those processors have to consider this opportunity that make unique products (e.g.: special flavour or texture), but due to their size, they are not capable of producing vast supplies of ready-made goods and being present on the national retail market. Although the distribution of food products online in particular perishable ones, is still at an early phase, in our opinion the digital world will make a change.

22 Likert-scale average: 1-minimum, 5-maximum

## CONCLUSIONS

### *Market structure*

We can conclude that the Hungarian dairy industry shows a rather diverse picture. Currently 44% of the market participants are not present in the dairy competition. We have to talk about a fairly fragmented market structure because 10-20% of the annual turnover is accumulated among the 80-90% of the competitors. On the other hand, the concentration values and the Lorenz curve showed a concentrated market. In the light of the Western European milk processing market structure we can state that the one here does fall behind in comparison.

*Suggestion:* In our case the market structure would be „healthier” only if the mentioned enterprises, currently not participating in the competition, left the market. A monopole or oligopol processing structure could not be necessarily realised in Hungary. There is a need for middle-sized and large companies which are present nationwide with their products and at the same time smaller ones producing unique products are also desirable. To achieve this, a scale of value added products and modern corporate strategy are inevitable.

### *Strategy*

Besides the special Hungarian dairy market structure we still suppose that there are enterprises where a competent strategy results in measurable financial effect. Based on this research, we can state that although we can identify a connection between strategic planning and financial result, the data do not support a related tendency. We have to bear in mind that during the years analysed the domestic dairy market faced a number of challenges like quota elimination, Russian embargo, Chinese import, and military conflicts. In our opinion the respondent companies' strategy does not show an effectiveness to influence the financial outcome significantly. Strategically, the majority of the dairy sector is not up-to-date and modern enough. This observation of ours is parallel to those of other researchers' findings who drew the same conclusion as far as the small and middle sized sector management skills and strategic preparedness are concerned<sup>23</sup>.

After a factor analysis we proved that the dairy companies followed several strategies at the same time. However, the results suggested they mostly used them unconsciously because during the examination of the financial effects some relations could be shown but we had expected a more definite relation thus we attributed this to a less effective strategy. In addition, the random strategy is supported by another observation: the executives frequently showed attitudes without concept.

*Suggestion:* If strategic planning does not exist yet, enterprises should introduce one. Where it already exists, it should be made more precise in accordance with consumer demands. We think planning a strategy does not depend on

the size of the company. It is vital for managers to acquire and deepen strategic skills.

Within strategy, during the examination of *raw material basis* we could conclude that half of the respondents owned a milk producing site. Slightly over half of them are forced to purchase the majority of raw material from elsewhere. Also, less than half of the manufacturers are capable of covering 10-20% of their need for raw milk on average. The rest of companies mostly or completely cover the annual need from their own raw material. The enterprises with own farms perform better financial results than the ones without own raw milk basis, but the dynamics of positive results is more fluctuating. In case of raw material coverage the „Raw material basis 2” values are better, which is due to knowing the processors with more nationwide popularity among consumers. Concerning manufacturing price analyses, none of the companies could give us information regarding the costs of using own raw milk materials.

*Suggestion:* It is highly recommended to make financial analysis of each division. It would be important to examine the level and efficiency of milk production. The findings, however, are interesting because the own produced raw material for the purpose of secure raw material supplies means a strategic advantage.

### *Consumer feedback*

Nearly 78% of respondents would rather purchase goods made from own raw material. The willingness to pay higher price for this was 5-15% on average. The main target customers could be women under 40 with a salary of higher than average.

*Suggestion:* In this strategy we suggest using marketing tools that really make the customer be aware of such positive features of the product. If the production of the raw material can be done at lower cost than the raw material purchased and the end product was sold at higher cost, this would definitely mean a competitive advantage. As liquid milk profitability falls behind that of higher value added products, it is advisable to reposition this product accordingly.

We can claim that there was a significant difference between the customer and manufacturer side in terms of the range of products, particularly those of butter. It might be caused by the notional confusion of butter and margarine, which had already been proved by former researchers. In case of other dairy products there was no such significant difference between the customer and the manufacturer. Neither have we found extreme difference among the demand for commercial brands. Analysing selling/purchasing channels we found no significant difference as for purchasing points, either. But at the same time we raised attention for the opportunities of direct marketing, especially the possible spread of online food product distribution.

*Suggestion:* Repositioning butter might open new markets for processors. Exploiting direct marketing channels could become part of a future strategy, especially among low-capacity manufacturers with unique products.

After analysing customer interrogations it became clear

23 Varga (2015), Hugyi and Takácsné (2011), Salamonné Huszti (2000), Karda (2009), Sára and colleagues (2014)



that the consumers who considered themselves as conscious local product consumers know milk producers less near their hometown. *Improving local patriotism* could create a potential market for milk factories. For a micro- or small company with low capacity the brand presence can prove to be insufficient to be known by local customers. On the other hand, if it becomes known by the consumer, he will probably search for or purchase the product in the future. In order to achieve a reputation a well-thought marketing strategy is needed.

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