CAPACITY DEVELOPMENT STRATEGY – A CASE STUDY ANALYSIS

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Abstract: The issue of enterprise resource selection and development of existing potential is very important for the company, its competitive position and allows to gain an advantage over its competitors.

Decisions in this area are generally associated with investments and expenditures on the development potential turn back over a longer time horizon and are burdened with high risk. Therefore main problem is to gain good and reliable information and analysis of the initial state. This article shows an example of the company, which sees the need to develop their potential. For this purpose, several analysis have been made to show current situation and which final applications are based on.

Key words: potential, resource management, strategic management

1. Introduction

Ability to benefit from opportunities and chances plays main role in company's development. However, formal analysis of potential opportunities and chances is usually performed by bigger businesses. Even though owners and managers can see the need of costs reduction during price growth they are not able to imagine all the aspects, which they could save money with. They do not know how to improve their efficiency, which opportunities to take to benefit from improved financial condition.

1.1. Resource definition

Organization of APICS (American Production and Inventory control Society) defines resources as ability of a system to execute declared tasks. The tasks are being executed with available resources. Several kinds of resources are distinguish:

- Financial resources,
- Material resources (e.g. buildings, computers),
- Market resources (immaterial aspects associated with clients and market),
- Property of intellect (experience, certified trains),
- Organization resources (technology and processes which allow to run economic activity),
- Relative resources (ability of making relations in a market, among competition).

1.2. Resource management

To retain competitive advantage it is important is collect and keep resources identified by the company. They are very important because the work of a system is based on them. Continuous verification of resources is needed it terms of their quality and size. Managers responsible for resources take care of their improvement to obtain final advantage over the competition. High level of work effects are achieved by companies which understand necessity of continuous improvement and introduce many changes even though they are usually associated with costs and extra risk. Resources, which decide about taking advantage over rivals should have at least one strong feature. Competitiveness of resources is can be describe with following attributes:

- Rarity,
- Unavailability on the market,
- Non-substitutability,
- Uniqueness,
- Flexibility,
- Impossibility of copying or duplicating.

If a resource is defined with features mentioned above, there is a chance that it provides a company with advantage over competitors. First four characteristics prove unique character of resources, flexibility guarantees successful performance in contemporary economy, as adjusting to changes is one of key success factors nowadays. Last feature informs, that no other company is able to use identic resource in respect of its details.

1. 3. Strategic analysis in management

R. W. Griffin in his book called "Fundamentals of Management" presents two definitions of management. First of them is borrowed from Taylor and describes management as a precise recognition, what to expect from people and making them do it as good and cheap as it is possible. Management is also defined as a set of operations associated with available resources (human, financial, material and information), which is executed in intention of accomplishment of one's objectives in legal and effective way.

Literature on subject lists four functions of management including planning, organizing, motivation and controlling.

Strategic thinking is a higher level of evolution of knowledge related to management. The definition, which was took-over by Griffin informs, that strategic management may be interpreted as an accompanying process of information, supported with function tools and its results should be decisions concerning most important, long – term activities and problems of corporation.

The outcome of correct planning should be a strategic plan, which includes descriptions of necessary actions to be taken to meet strategy. It also should take into consideration results of activities conducted and may include some procedures developed to achieve predefined goals.

Proper, long - term planning can be also called strategic analysis. It is therefore a set of operations, which constitutes grounds for diagnosis of a company. What is more, it will help to create and determine exact strategy. Strategic analysis shows in a simple manner potential actions and their influence on future of a company. It should be as holistic as possible, benefiting from tools and approaches from various fields.

2. Problem analysis, considerations and limits

2.1. Company description

The company to be analyzed is located in Zachodniopomorskie voivodeship strategic analysis was developed to project its capacity development for the years 2012 - 2015.

Company is named "Helena Kuta". Registered office, production facility and parking for farm machinery are situated in Radacz near Szczecinek. Most important processes performed in the company are cultivating the land and breeding. Yearly value of each of them amounts appropriately 500 000 zł for grain and between 800 000 and 900 000 zł for meat. Majority of costs of the first process is spent on fuel and fertilizers while in the second on forage. Bigger part of received grain is used to feed animals. Surplus is being sold to grain purchase.

Main investment considered is a new slaughter house, which will meet European standards. This plan is at the stage of cost analysis and waits for building plan to be accepted by site manager. It is expected, that thanks to the new investment production will increase by over 50-60%. The site used so far, as well as stoves, will not be destroyed but kept as a buffer in case of large demand.

2.2. Tools selection

Modern management sciences offer a lot of ways, analysis and diagrams to create long – term plan and show which investments will be the more profitable.

The foundation is definition of a character of strategy which can be done with SPACE method (*Strategic Position and Action Evaluation*). SPACE takes many qualitative aspects into consideration and helps to diversify business. It was originally developed by H. Rowe, R. Mason and K. Dickel and was modified for years to receive more objective strategic assessment. Proper order of needed operations is describe in a book called "Zarządzanie strategiczne – Metody analizy strategicznej z przykładami" written by employees of Politechnika Poznańska.

SPACE method is characterized by mathematic way of showing results, describing company in a reliable way, interesting conclusions and strategic tasks interpretation.

Another significant tool is SWOT analysis, which helps to identify strong and weak key factors, also suggests opportunities and threats emerging from environment. Factors are nothing else that advantages and disadvantages of the corporation. They have an internal character. In case of opportunities and treatments, they are of external character and refer to environment, on which the company has no influence. Actions needed to perform SWOT analysis are listed in a book mentioned before. A result of analysis is a set of information insert a relation matrix – collection of relations between internal and external factors. Amount of relations suggests their priority.

Ishikawa diagram helps to improve results obtained with SWOT method. The diagram is useful only to internal factors analysis. Because of its fish shape, each factor is presented in a clear way being divided to five components such as: men, machines, manufacture, materials, management and environment. Merger of SWOT analysis and Ishikawa diagram shows the best and the worst parts of the company. They can be further spread in detail.

A tool, which also supports analysis mentioned above in a clear, mathematic way is called Commercial de France method. The basic for the method is to define sets of factors. Each of them has allocated function grade and its weighted values. Multiplication gives a count, which is base to create a hexagonal chart. Method presents results in a graphic way, chosen on pursuant to number of relations. It displays these ones, which dominate and also which should be modified. The hardest part of using Commercial de France method is to provide an objective opinion of company's condition. Deep profound knowledge is required, just as keeping distance to its managing.

3. Company resource analysis

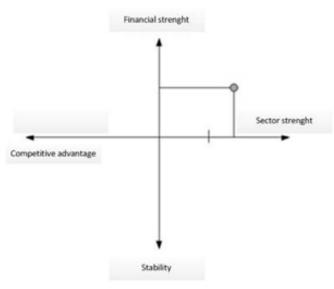
3.1. SPACE method

Position of the company is defined with four dimensions: financial strength, sector position, competitive advantage and stability. Each dimension is being characterized with the same amount of factors.

As a result, competitive advantage and stability are identify as the most important components. These factors make that strategy point is located in positive quarter, which means, that the chosen strategy is marked as an aggressive one.

SPACE method is in any manner whatsoever connected with other analyses. Its essence is to show the way to fight for customers.

First analysis strictly connected with capacity development suggested directions is SWOT analysis. Its fundament is to declare advantages, disadvantages, opportunities and threats to the company.



Scheme 1 Diagram specifying the character of new strategy. Own elaboration.

Internal factors, which were specified in table 1., are identified as factors with high priority. Relations matrix mentioned earlier is being created on the basis of that table and it looks as follows:

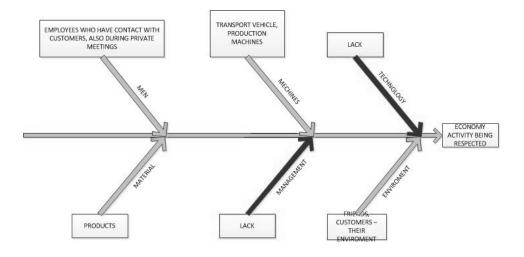
ST	RONG FACTORS	WE	AK FACTORS
1.	Good reputation within 60km range	1.	Lack of proper transport vehicles
2.	Checked recipe, that doesn't require	2.	Over dated technic infrastructure
	chemistry agents	3.	Lack of advertisements
3.	Dispose toward customers, correct	4.	Limits of production caused small
	relations		number of employees
4.	Big production	5.	Absence of separation between
5.	Proper breeding, good quality		production and home parts
6.	flexibility	6.	Economic activity is being credited
7.	Experience in meat sector	7.	Lack of modern management technics
8.	Good manners of employment	8.	Rough terrain, necessity of
9.	Experience in trading		investments
10.	Advanced character of improvements	9.	Lack of certificates to confirm quality of
	guarantee new work places		product
		10.	Shortcoming in competition recognition
OP	PORTUNITIES	TR	EATMENTS
1.	Advertising "from mouth to mouth"	1.	Policy can disturb economic activity
2.	Not numerous competition	2.	Inattention may cause waste of material,
3.	Negative opinions about competition	3.	Speed of information
4.	Small city 10km over from the	4.	Refusal an order in case, when there is
	registered office, habituated by over		too many orders
	50 000 people	5.	Specific qualification of the
5.	People, who live in the country respect		employment makes them hard to replace
	tradition	6.	Increasing prices of components
6.	Lack of massive producer in the	7.	Traffic
	neighborhood	8.	Pig-farm diseases
7.	Affluence of community	9.	Nature origin disaster
8.	Increasing respect for smaller	10.	In case of cutting off the electricity, the
	producers		is a possibility that raw material will be
9.	Dotation's from the European Union		wasted
10.	Current law doesn't interrupt business		
	activity		

Table 1 SWOT method. Own elaboration.

		OPPORTUNITIES:O									TREATMENTS: T																		
											1														1				
-		1	2	3	4	5	6	7	8	9	0	a	b	с	d	1	2	3	4	5	6	7	8	9	0	а	b	с	d
s	1	a	b	b	b	а	-	b	а	-	-	3	4	0	0	-	-	а	b	-	-	-	-	-	-	1	1	0	0
	2	-	b	b	-	а	-	b	a	a	b	3	3	0	0	-	-	-	-	b	а	-	а	-	-	2	1	0	0
	3	a	a	a	а	b	-	b	a	a	-	6	2	0	0	-	Α	а	b	-	-	-	-	-	-	2	1	0	0
RS:	4	-	а	а	а	b	а	-	а	b	a	5	2	0	0	b	В	b	-	b	-	-	а	b	а	2	5	0	0
CI O	5	а	а	а	а	b	а	а	а	b	-	7	2	0	0	b	-	-	b	а	а	а	а	b	b	4	4	0	0
FA	6	b	b	а	а	а	-	b	b	а	a	4	4	0	0	а	В	-	-	-	-	а	-	-	-	2	1	0	0
ONG	7	-	а	a	-	а	-	-	-	b	a	3	1	0	0	а	В	-	а	a	-	-	а	-	-	4	1	0	0
STRONG FACTORS: S	8	a	-	a	-	-	-	-	b	-	-	2	1	0	0	-	В	b	b	а	-	-	-	-	-	1	3	0	0
	9	-	а	-	а	-	-	а	-	b	a	3	1	0	0	-	-	-	-	b	-	-	-	-	-	0	1	0	0
	1																												
	0	-	-	-	а	-	b	-	-	a	b	2	1	0	0	-	-	-	-	-	-	-	-	-	-	0	0	0	0
	a	4	5	6	6	4	2	2	5	4	4	-	-	-	-	2	1	2	1	3	2	2	4	0	1	-	-	-	-
	b	1	3	2	1	3	1	4	2	4	2	-	-	-	-	2	4	2	4	3	0	0	0	2	1	-	-	-	-
	1	-	d	-	d	-	d	d	c	c	-	0	0	2	4	-	С	с	d	d	d	с	-	d	с	0	0	4	4
	2	-	d	-	c	-	-	-	d	c	-	0	0	2	2	d	D	d	d	d	-	-	-	-	с	0	0	1	5
	3	-	-	-	c	d	d	-	c	-	-	0	0	2	2	-	-	-	-	d	-	-	-	-	-	0	0	0	1
WEAK FACTORS: w	4	-	c	c	c	-	c	-	c	d	d	0	0	5	1	-	-	-	с	с	-	-	-	-	-	0	0	2	0
ĮQ.	5	-	-	-	-	c	-	-	-	-	-	0	0	1	0	d	С	-	-	с	-	-	-	-	с	0	0	3	1
FAC	6	-	-	-	-	d	-	-	-	c	c	0	0	1	1	с	-	-	-	-	d	-	-	-	-	0	0	1	1
AK	7	-	d	d	c	-	d	-	d	c	c	0	0	2	4	d	D	-	с	d	с	-	d	d	d	0	0	2	6
WE	8	-	d	-	-	-	-	-	-	c	d	0	0	1	1	d	D	-	-	-	-	d	-	-	-	0	0	0	3
	9	-	d	-	c	d	-	d	-	-	-	0	0	1	3	с	-	-	с	-	-	-	-	-	-	0	0	2	0
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	c d	0	2	2	6	1	1	0	3	5	2	-	-	-	-	2	2	1		2	1	1	0	0	4	-	-	-	-
	a	0	4	1	0	2	2	2	-	1	-	-	-	-	-	4	,	1	1	2	1	1	1	1	1	-	-	-	-

Table 2 Synergy between the environment and company's potential. Own elaboration.

Matrix shows synergy between features and informs that quarters SO and WO (*Strengths – Opportunities and Weaknesses – Opportunities*) consists of the biggest counts of relations. Company should focus on operations related with opportunities. Using SWOT analysis in addition with Ishikawa diagram gives some more information on high impact factors.



Scheme 2 Example of Ishikawa diagram used on strong factor such as respected economic activity. Own elaboration.

Another way used to project company strategy is Commercial de France method.

Firstly, criteria groups have to be pointed as they will be assessed with predefined scale. Analysis is going to be used for two groups of factors: advantages and disadvantages. For the first one scale is increasing (1 - very weak, 5 - very strong). Scale for the second group is decreasing (1 - very strong).

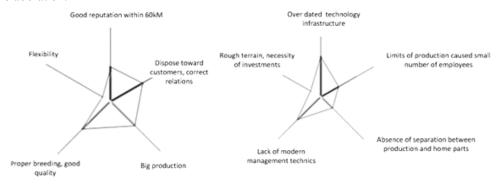
Criteria	Mark according to weight	Weight	Final mark
Good reputation within 60kM	3,5	0,2	0,7
Dispose toward customers, correct relations	2,5	0,3	0,75
Big production	3,5	0,2	0,7
Proper breeding, good quality	4	0,2	0,8
Flexibility	1,5	0,1	0,15
sum	1	3,1	

Table 3 Commercial de France method for the strongest factors of the company.

Next move is to create hexagonal graphs. Value of each factor result is treated as a length of line. Each group of factors has a common point, where every line has its end. Lines are spread all over in a geometric way. Angle of a circle (360°) has to be divided by number of criteria. That will give an angle, which is a difference between every next line. Finally, it is necessary is to connect points and create geometric figures.

Criteria	Mark according to weight	Weight	Final mark
Over dated technology infrastructure			
Limits of production caused small number of employees	2,5	0,25	0,625
Absence of separation between production and home parts	3,5	0,05	0,175
Lack of modern management technics	4	0,25	1
Rough terrain, necessity of investments	1,5	0,15	0,225
SUMA	1	3,075	

Table 4 Commercial de France method for the weakest factors of the company. Own elaboration.



Scheme 1 Hexagonal diagrams. Own elaboration.

Commercial de France method requires proper interpretation. Analyzed features determine strong and weak aspects of the company. Scales and their characteristics have to be taken into account. Diagram of advantages informs, that flexibility factor is the weakest one from the group of the strongest. Second drawing refers to features, that do not work properly and should be repaired, because they generate costs. Absence of management system and outdated infrastructure are qualified as aspects, which generate to many losses.

Components of production processes mentioned above were chosen among forty features via SWOT and Ishikawa diagram. What is more, hexagonal diagram specified three factors, that have to be corrected because of their major priority to the company.

In order to work out a strategy, that will develop company's potential, one more analysis was taken. It has roots in operation research and is named multi criterion decision support. It is able to give results in simple, mathematic way. It also assumes declaration of primary criteria and assigns value weights to them. Every result should be subjected to an interpretation.

Problem, that was brought up within the framework of audit, concerns location of shopping point decision. Owners consider five cities in Wielkopolska and Zachodniopomorskie voivodeship: Bydgoszcz, Gdańsk, Piła, Poznań and Toruń. It was necessary to choose strategic factors wisely, as are going to be helpful in city description and final comparison. Features, which will shape final result can be divided into two kinds: related to city as a place to live in and a profitable place to run own business. First sort contains factors such as: number of competition, city localization, its prestige, level of employment, life standards, international contacts, number of inhabitants and area. Second group includes for example the distance to main office and cost of renting a 100m² local both in centrum of the city, as in the suburbs.

Comparison of all five locations, achieved with multi criterion decision support method is included in table 5.

	Weight	Bydgos	zcz	Gdai	isk	Pił	a	Pozr	iań .	Toru	ń
Criteria	[w1]	ril	ri1 w1	ri2	ri2w1	ri3	ri3w1	ri4	ri4w1	fö	$\mathbf{f}_{i3}\mathbf{W}_{1}$
Competition	5	9	45	6	30	6	30	7	35	8	40
Localization	3	5	15	10	30	7	21	9	27	8	24
City prestige	3	3	9	9	27	5	15	9	27	6	18
Level of employment	4	4	16	7	28	5	20	8	32	6	24
Life standards	4	4	16	6	24	4	16	7	28	5	20
International Contacts	3	3	9	8	24	5	15	10	30	6	18
Transport link	4	6	24	8	32	6	24	9	36	10	40
Number of inhabitants	4	6	24	8	32	4	16	10	40	5	20
Area	2	8	16	10	20	6	12	10	20	6	12
Distance to registered office	3	7	21	5	15	10	30	5	15	5	15
Rent cost (centrum)	5	9	45	2	10	8	40	7	35	7	35
Rent cost (suburbs)	3	8	24	5	15	9	27	6	18	9	27
		SUMA:	264	SUMA:	287	SUMA:	266	SUMA:	343	SUMA:	293

Table 5 Multi criterion decision support method for each city. Own elaboration.

According to table 5., Poznań is the place, that should be chosen as a strategy shopping point. It has significant competitive advantage. Final result of Gdańsk and Toruń are very similar with predominance the second one. Also the outcome between Bydgoszcz and Piła turned out to be resemble.

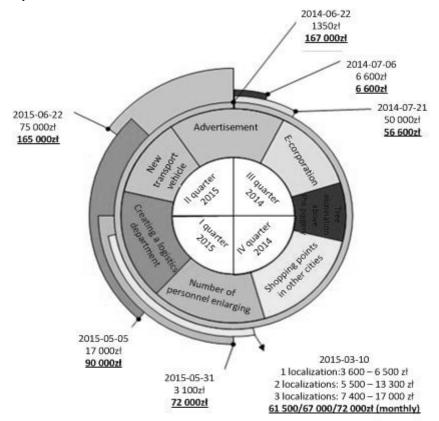
4. Suggested strategy of capacity development

The result of observation and analysis carried out is a set of strategic suggestions referring to capacity development. Each of them is motivated relation with stronger or weaker component of the company.

Group of correcting factors is composed of:

- Advertisement,
- E-corporation,
- Tree elimination above the piggery,
- Shopping points in other cities,
- Number of personnel enlarging,
- Creating a logistics department,
- New transport vehicle.

Strategy, that was built is based on modification of seven aspects of the company. They were chosen because of the cost that they generate – it would be much smaller than expected increased profit. Diagram below shows that aspects, suggested date and time of their implementation and related costs.



Scheme 2 Final diagram consisting of implement dates, duration and cost. Own elaboration.

Graph was built pursuant to Gantt diagram. It shows all required information concerning modified aspects and cost/time characteristic. Time intervals are located inside (it refers to the period from third quarter 2014 to second quarter 2015). Colors of each aspect respond to diagram sectors situated outside, which length depends on how much

time improvement takes. Footnotes all over the graph inform about time and costs. The date means optimal day off starting modification in respect of priority and duration. First cost applies to approximate cost of the change. The second one informs how much money is needed at each stage of the project.

5. Conclusion

All methods and analyses mentioned help to find out which resources need to be modified, which should disappear and what aspects require a bit of attention to inflict on bigger profit. These analyses have roots in strategy science with a little addition of mathematics and logistics. Result can give information about the company which have not been noticed earlier.

In case of discussed company, it should switch over to modern production. At the beginning, to increase profit simple management tools are recommended. Management technics should be developed step by step to make use of potential and keep using opportunities that appears. Every businessmen aims to reach maximum profit knowing at the same time that it can happen in a specific set of circumstances. The environment is something managers do not have large influence at, however they can strive for better performance of their companies. That is why the idea of continuous improvement has been written in management theories.

6. Bibliography:

- 1. Andrews K.R, The concept of corporate strategy, Irwin, Homewood 1971,
- 2. Gierszewska Grażyna, Zarzadzanie strategiczne, WSPiZ, Warszawa 2000,
- Gierszewska Grażyna, Romanowska Maria, Analiza strategiczna przedsiębiorstwa, Polskie Wydawnictwo Ekonomiczne, Warszawa 1997
- 4. Gołębiowski Tomasz, Zarzadzanie strategiczne. Planowanie i kontrola, Wydawnictwo Difin, Warszawa 2001,
- 5. Griffin Ricky W., Podstawy zarzadzania organizacjami, Wydawnictwo Naukowe PWN, Warszawa 1998,
- 6. Koźmiński Andrzej, Piotrowski Włodzimierz, red., Zarządzanie teoria i praktyka, Wydawnictwo Naukowe PWN, Warszawa 1995,
- 7. Krupski Rafał., Zarządzanie strategiczne. Koncepcje, metody, Wydawnictwo Akademii Ekonomicznej we Wrocławiu, Wrocław 2003.
- Pierścionek Zdzisław, Strategie rozwoju firmy, Wydawnictwo Naukowe PWN, Warszawa 1997,
- Pierścionek Zdzisław, Zarządzanie strategiczne w przedsiębiorstwie, Wydawnictwo Naukowe PWN, Warszawa 2011,
- 10. Słownik APICS, Dictionary 12th Edition 2008, APICS The Association for Operations Management, 2008

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