

IDENTIFICATION OF FACTORS AFFECTING BUSINESS MODELS IN ENTERPRISES

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Abstract: This study attempts to identify business models in an international enterprise that affect the processes of management in Poland and Austria. The investigations are divided into three basic parts. The first part presents the concept of business models in terms of strategic management of enterprises. The investigations presented in the second part concern the development of business models according to the St. Gallen Business Model Navigator. The last part of the study presents the findings of empirical studies of two Polish and Austrian enterprises owned by one of the largest cement companies in the world. The aim of the study is to identify and evaluate the determinants of business models in an international enterprise. The research methods used to achieve this were a literature survey, descriptive analysis, trend analysis for profitability ratios and Pearson's linear correlation coefficient for descriptions of relations that occur among the indices studied. The research period was 2008-2013. The problem of identifying factors that affect business models in enterprises is important and topical, due to their influence on strategic management in cement sector enterprises.

Keywords: business model, decision-making in enterprises

1. Introduction

Business models, which represent a tool for strategic management in the enterprise, are of paramount importance, according to recent literature. Permanent changes in organizational environments cause “model travels”, and they transform the models into instruments of perspective management, which are difficult to copy. The identification of key determinants for enterprise development is becoming the basis for revitalizing previous enterprise business models. The aim of this paper is to identify and evaluate determinants of business models in an international enterprise that operates both in Poland and Austria. A literature survey was used to achieve this goal, supplemented with theoretical investigations and examinations based on selected profitability ratios.

2. Business model in strategic management of enterprises

Business models in the enterprise should be considered specific patterns that enable representation with a certain amount of simplification. They represent the method of enterprise management through modelling relationships that occur between markets of products, factors of production and generation of value for various groups of stakeholders (Zott, and Amit, 2010). According to C. Zott and R. Amit, searching for new business models should provide answers to the questions concerning an enterprise's activity, structure and principles of operation (Amit, and Zott, 2012).

A business model in the enterprise is defined as a set of components and relations that occur between these components (Nogalski, 2009) that are aimed at improving enterprise operations given the available resources while taking into account both exogenous and endogenous determinants (Nogalski, 2009). Therefore, a business model represents a system of activities that are connected, interrelated and affect the methods used for business activity and contacts with customers and partners (Amit, and Zott, 2012). This leads to the conclusion that business models are a method of the enterprise's operating in the market that is unique and ensures that the enterprise maintains a long-term competitive advantage through providing customers with added value viewed as meeting or even exceeding the expectations concerning the quality of products and/or services (Brdulak, 2011). J. Brzóska and D. Jelonek describe multiple reasons for the development of applicable theories and work associated with business models: the usefulness of the business model for the creation of the transparent concept of creating values and the creation of the business architecture, acquisition of instruments and ways of achieving competitive advantage, while also treating the business model as a medium of many types of innovations (Brzóska, and Jelonek, 2015). A business model should contain three key characteristics: consistency with the enterprise goals, self-reinforcing character and stability (Stachowicz-Stanush, and Sworowska, 2009). These characteristics of a business model help managers to create feedback and guarantee generation of the value spiral (Casadesus-Masanell, and Ricart, 2011).

According to the dynamic approach in management theory, business model means a static representation of the adopted strategy (Rudny, 2014) and a tool that presents the logics of enterprise operation in a specific domain. The decisions taken at both the operational and strategic level are reflected in economic processes of the analyzed enterprise. Maintaining high operational efficiency requires the selection of appropriate instruments of modern management (Łęgowik-Świącik et al., 2016). According to W. Chan Kim and R. Mauborgne, the development of a business model allows achievement and maintains increased value for the customer. However, there is a risk, which represents the effect of implementation of a business model into the concrete enterprise. It may be buffered through implementation of strategic components in the proper order, which is typical for the concept of "blue ocean strategy" (Chan

Kim, and Mauborgne, 2007). Fitting a business model to the enterprise must consider this strategy along with two other criteria: the ability to adapt to changes in the environment and the predictability of the environment (Stawiarska, 2015). This means that achieving a competitive advantage in a specific market must consider individual criteria for business model choices for the enterprise to adapt to changes that occur in the environment (Reeves et al., 2012). If changes in the environment occur very dynamically, and the enterprise's focus is on reduction of disturbances or adaptation, (Kordel, and Machnik-Słomka, 2015) this response from the enterprise causes the organizational gap to widen (Romanowska, 2010).

The development of market strategies should consider involving customers in the process of creating products or services (Gospodarek, 2013). The enterprises that rest their strategies of competitive advantage on innovation in organization, products, services, activities and resources are able to generate value adjusted to the individual customers' needs (De Wit, and Meyer, 2007). Taking innovative steps forces competitors to make decisions that maintain or achieve their competitive advantage under hypercompetitive conditions (Kotler, and Caslione, 2009). Realizing the objectives of the innovation strategy are to serve as models of management and coordination that generate new strategic business models used by strategy actors. These models should include public governance principles and include monitoring as an element of the learning system and the implementation of such a complex project as the innovation strategy (Knop, and Brzóska, 2017). The influence of business models on enterprise strategy (Parkhe et al., 2006) helps to achieve the synergy effect (Niemczyk, 2013), which consists of creating a system of interconnected and interdependent activities that affect the methods used for business operation and contacts with customers and partners (Amit, and Zott, 2012) to build market position (Lachiewicz, and Zakrzewska-Bielawska, 2012). It is worth emphasizing that knowledge about business models is considered to be a necessary strategic component that enables understanding of the phenomena that occur in the process of enterprise management.

3. Building the structure for business model development according to the St. Gallen Business Model Navigator

To form a structure for business model development, we employ the concept developed by researchers and scientists from the University of St. Gallen in Switzerland, termed the St. Gallen Business Model Navigator (Gassmann et al., 2013). Studies of business models conducted in this university found that nine in ten new models are created as a recombination of previous solutions. Furthermore, the authors of this concept proposed 55 various business models that can be used as a source of inspiration for developing a new model. An element that distinguishes the concept of the St. Gallen Business Model Navigator from other solutions in this field is that it is limited and simplified to four dimensions, represented by what is termed the "magic

triangle", illustrated in Figure 1. Four dimensions of the "magic triangle" are described through the structure of "Who-What-How-Value". The pillars of this structure are customers (Who?), value creation (What?), value chain (How?) and mechanism of achievement of the results (Value?).

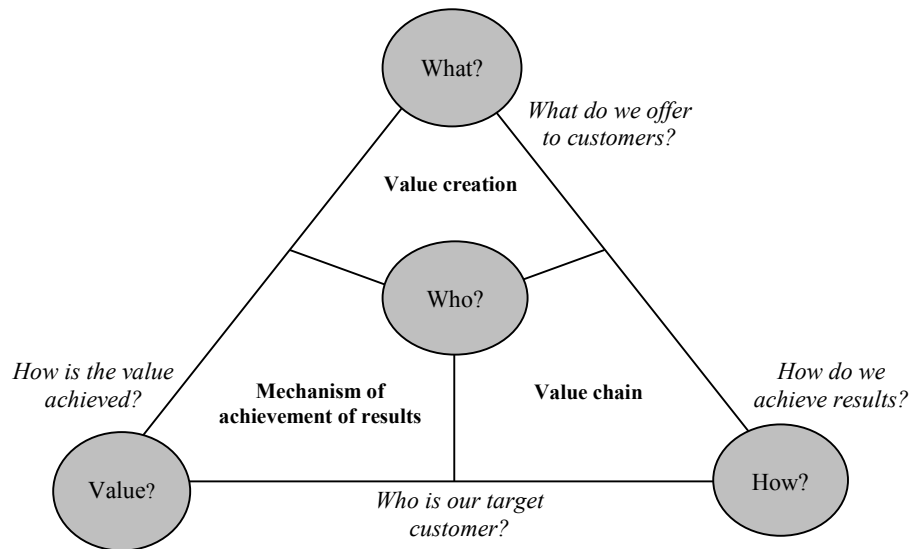


Figure 1. "Magic triangle" with four dimensions of the business model. Adapted from: *Geschäftsmodelle entwickeln: 55 innovative Konzepte mit dem St. Galler Business Model Navigator* by O. Gassmann, M. Csik, and K. Frankenberger, Copyright 2013 by Hanser, p. 6.

Business model development in accordance with the St. Gallen Business Model Navigator can be considered from the standpoint of the process and methodology. The process of model development is divided into the project and implementation phases. The project phase distinguishes between the stages of initiative, idea generation and integration. Analysis of the concepts indicates that the first stage includes activities that relate to thoroughly understanding the current business model, identification of its stakeholders and identifying the factors necessary for development of a new business model. In this phase, the current business model and its environment are analysed in detail (Brzostek, and Michna, 2015). The creators of this concept emphasized the choice of heterogeneous expert team members and the necessity of analysis at a level of abstraction that enables avoiding excessive details during the analysis of the problem. The problems connected with the business model are analysed using the structure of "Who-What-How-Value." With this framework, the weaknesses of current business model are often identified, providing the basis for developing further activities.

Another stage concerns creating ideas for business model development. Brainstorming is used for this purpose, which facilitates creating plans around developing potential business models. The principal criterion that orients activities at this stage is adopting the perspective of customer requirements. The St. Gallen Business Model Navigator authors indicate that it is helpful to use 55 example solutions for building business models as they will often help

implement innovative solutions for the current model. Making the business model decision represents the final part of this stage.

The next stage is integration, in which the new business model is formed and becomes coherent in both internal and external contexts. This means that the new model should show cohesion with both the internal requirements and the external environment of the enterprise. The internal cohesion means harmonious formation of the structure of "Who-What-How-Value", and the external cohesion refers to the attempts to fit the business model with the enterprise's environment. The focus of investigations at this stage concerns the analysis of opportunities for meeting the needs of individual stakeholders, finding adequate reactions to current trends and devising competitive conditions of enterprise operation.

After developing the initial business model project in the previous phase, the principal phase of business model development, or implementing the solutions, occurs. It represents a substantial challenge, which is justified by the complexity of resistance and the difficulties of implementing new solutions. These difficulties can be caused by factors such as the market environment, business partners or co-workers.

In the concept of the St. Gallen Business Model Navigator, after the business model has been developed, the methodology of activities is the second basic perspective used to analyse business model structure. One of the most important methodologies used in the initial stages of this activity is analysing the current business model to gain a more distant perspective. The goal of this analysis is to discover obstacles that point to changes in the business environment that prevent long-term success. Furthermore, it is not recommended to copy other business models. These "borrowed" business model solutions should be always considered from the viewpoint of how they relate to other models and how well they fit with opportunities present in the organization. However, the entities that are able to copy solutions from other sectors should implement those solutions.

4. Identification of business models in an international enterprise that operates in Poland and Austria

Empirical examinations were carried out in two cement enterprises in Poland (p_1) and Austria (p_2), which belong to an international cement company (Cemex) that operates in over fifty countries all over the world. Two-phase empirical examinations were carried out to identify the business models in these selected cement entities. In the first phase, the research method used profitability ratios presented in a logical series, which offered the point of reference for the analysis of the parameters that determined business models in the enterprises. The second phase involved calculating Pearson's linear correlation coefficients to determine the

strength and direction of correlations between selected parameters. The research period covered the years 2008-2014. The empirical data analysed in the study concerned:

- return on equity (ROE),
- return on assets (ROA),
- return on sales (ROS).

Empirical examinations focused on analysis of the level of involvement of assets and capitals for generation of profit. The focus of the study was on a logically organized set of rates of return that enabled the evaluation of economic process patterns to interpret the economic values analysed in the study in individual areas of the enterprises' operations.

Table 1.

Comparison of rates of return in enterprises p_1 , p_2 in 2008-2014

	p₁			p₂		
	ROE	ROA	ROS	ROE	ROA	ROS
2008	22.05	24.84	37.73	46.63	28.44	35.50
2009	28.59	28.16	41.65	49.70	34.84	39.32
2010	36.33	22.06	41.05	53.16	29.94	33.76
2011	31.42	17.66	38.31	39.94	24.69	31.54
2012	28.89	17.77	31.82	37.12	22.45	18.18
2013	27.86	16.74	30.78	36.09	21.42	27.15
2014	27.42	16.31	30.55	36.52	20.98	26.71

Note: author's own estimation.

The level of ROE in enterprises p_1 and p_2 was analogous. However, the return on equity in the enterprise p_2 (Austria) is greater than in enterprise p_1 , which reflects the decisions made about the enterprises' financial policy. Their returns on assets provide information about various managerial decisions of property management. The cement sector is characterized by limited opportunities of cost reduction, particularly with respect to fixed assets. A similar effect on the decline in profitability is observed in the use of factoring and set-off in the entities, which may cause information distortion about the market position of the enterprise.

Analysis of the enterprises' level of return on sales revealed information concerning the relations of net profit to net sales. It should be noted that the decision process of enterprise sales depends on, among other things, the product range structure, costs of manufacturing and the pricing and marketing policies across the entire corporation, not only in the enterprise headquarters. A strong decline in the level of return on sales was observed in Poland in 2012, caused by the completion of investments connected with organizing the Euro 2012 Championships. A decline in return on sales was also observed in Austria in this period, although it was not as substantial as in Poland.

The second phase of empirical examinations was based on the value of Pearson's linear correlation coefficient calculated for the enterprise p_1 . A strong correlation was observed between the return on equity and return on sales (see Table 1). A positive correlation is understood to mean that the increase in the return on equity was followed by the increase in the return on sales. The examinations demonstrated moderate correlations between return on equity

and return on assets and a strong correlation between return on equity and return on sales in the enterprise p_1 . This means that in the enterprise p_1 , the increase in return on sales is conducive to an increase in return on equity more than an increase in return on assets.

Analysis of correlations in the enterprise p_2 demonstrated a positive, very strong correlation between return on equity, return on sales and return on assets (see Table 2). This means that the increase in return on equity is accompanied by simultaneous increases in return on sales and return on assets. The correlations examined in the study were also supported by the significance test (at the level of $\alpha = 0.05$).

Table 2.

Correlations between factors that affect return on equity (ROE) in enterprises from the cement industry in 2008-2014 (between p_1, p_2)

Pearson's correlation coefficient between:	Return on equity (ROE)	
	p_1	p_2
Return on sales	0.70	0.96
Return on assets	0.56	0.97

Note: author's own calculations: statistically significant correlation at the 0.05 level of significance (at the 0.01 level of significance: Student's t-test).

Evaluation of enterprise p_1 's business model leads to the conclusion that its priority is maintaining its competitive position in the construction material market. The examinations revealed a strong positive correlation between return on sales and return on equity. A high share of return on equity in the total structure of liability ensures stability in the enterprise p_1 under variable external conditions. The enterprise p_1 implemented a quality (high price) policy, which is reflected in the rate of return. Building a strong competitive position in the enterprise p_1 is based on creating specific value for the customer through the quality of the products.

Analysis of the business model used in the enterprise p_2 shows that its priorities are both increasing its level of sales and increasing its strength of property management. The study revealed a strong positive correlation between return on sales and return on assets ($r = 0.97$), which can be understood to mean that the entity strives to strengthen the use of its assets to generate profits. The business model used in the enterprise p_2 is characterized by mutually adjusted and supplementing processes and activities aimed at achieving a competitive advantage in the cement market sector.

It should be emphasized that global decisions made in international corporations are often contrary to decisions made in a particular country as they do not account for economic tendencies or the scale of transfer between dependent entities and fiscal policy that has a direct effect on the level of return on sales in those entities.

5. Conclusions

The aim of this paper was to identify and evaluate determinants of business models in an international enterprise that operates in both Poland and Austria. Business models represent an instrument for supporting the choice between short-term and long-term decisions. They facilitate reductions in information complexity through selection of data, which can be used to evaluate opportunities for continuation and development of activities and avoiding threats. Implementing decision models in cement industry enterprises must consider such factors as the market segment of the enterprise's sector and instruments for strategy implementation. Business models in the cement industry enterprises also represent tools for achieving adopted goals. Their advantage is the primacy of the value created for the customer, which focuses the attention of managers on indicators that generate profitability of business activities in its specific market segment. This enables the achievement of a competitive advantage.

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