

# MARKETING MANAGEMENT OF A SMALL INDUSTRIAL ENTERPRISE

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## Abstract

The article focuses on establishing the marketing management system of a small industrial enterprise in the B2B market based on the relationship marketing concept. The study aims to develop methodological approach to estimating the relationship marketing performance, and to elaborate the marketing balanced scorecard for a small industrial enterprise. Methodology is based on relationship marketing concept, marketing goals relying on the Kaplan and Norton's business perspectives. The paper presents statistical models to validate the factors influencing the sales. The factors are tested with the regression model, multivariate dispersive analysis in the SPSS software. The models are used for a small-scale PVC producer case study. The findings suggest that advertising and dealer network parameters have the greatest impact on sales. Regression model calculations confirmed the importance of customer satisfaction with products, services, and relations for the sales of a small industrial enterprise in the B2B market. The advantages of the proposed marketing balanced scorecard allowed integrating the marketing management into the overall management system, providing analytical support for managerial decisions, forecasting the demand, developing portfolio of relationship management strategies for major customers based on their values. The study contributes to understanding the importance of relationship marketing for a small industrial enterprise.

**Key words:** small industrial enterprise, B2B market, relationship marketing performance, marketing balanced scorecard, customer satisfaction

**JEL Code:** L60, M31, C12

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## Introduction and literature review

The use of marketing techniques in the context of intensifying competition is one of the factors for ensuring sustainable development and increasing a company's market share. For a small industrial enterprise, the task of establishing an effective marketing management system is crucial.

The search for the ways to increase competitiveness of a small industrial enterprise is often limited by the lack of an organizational unit coordinating the marketing management due to the limited number of managerial staff. Studies show that only 20% of small and medium-sized businesses use relationship marketing tools, while establishing long-term relationships with customers is especially important in the B2B market (Bughin, LaBerge, & Mellbye, 2017). Most researchers consider the importance of marketing management issues in the context of a company's competitiveness and market success. Integration of marketing activities into the management system and the use of marketing as a management philosophy has been recognized as one of the key factors for a company's success in the market.

The study aims to develop the marketing balanced scorecard to improve the marketing management performance of a small industrial enterprise in the B2B market as well as to estimate the impact of external factors and customer relations on the company's sales.

The specifics of the marketing management concept are changing. Managerial approach largely depends on the new findings about the ways to improve the mechanism of interaction between production and consumption. Kotler (2015) emphasizes the need to identify, study and take into account the needs of consumers, as well as those groups interested in interacting with a company – in order to achieve profitability of a business, to strengthen the company's market positions, to increase the sales and market share.

Kotler & Keller (2012) consider the process of marketing management as a system and identify its various interlinked subsystems that affect the behavior of the system as a whole. The system is focused on the market and the external environment and aimed at achieving the strategic goals of the organization. Performance assessment is added as the final stage of the marketing management model, which allows adjusting management decisions. Alford & Page (2015) identify three stages of the marketing model implementation technology for a small business: developing a clear customer orientation, attracting and retaining customers based on the understanding of their values, testing the results of marketing activities and adjusting the goals. They however note that most small businesses do not exploit the potential of the marketing performance assessment and management, as they do not measure the return on marketing investment.

Hanssens & Pauwels (2016) conclude that the assessment of the marketing management performance and the use of marketing analytics can significantly improve marketing-related decision-making. Sánchez-Gutiérrez, Cabanelas, Lampón, & González-Alvarado (2018) identify relationship management and customer values as crucial elements in the marketing

management system of a small industrial enterprise that allow the company to increase its competitiveness not only in terms of profitability, but also by reducing costs and simplifying the use of technologies. Sheth, Parvatiyar, & Sinha (2015) emphasize the importance of cooperation in marketing management, i.e. creating and increasing value for those involved in relations with the company.

Ulaga & Egger (2006) proposed the structure of relations benefits: compliance of product quality with customer requirements, customer support and benefits from using supplier know-how, fruitful social interaction between employees, reduced time needed to market a new product, as well as reduced costs of ensuring effective communication and establishing and maintaining relations – the price and cost of coordinating interaction.

Finch, O'Reilly, Hillenbrand, & Abeza (2015) note the interdisciplinary foundation of the relationship marketing concept, which is at the intersection of management, psychology and sociology. They further conclude that relationships quality is an integral part of consumer behavioral intentions (Finch, O'Reilly, Hillenbrand, & Abeza, 2018). Gordon (1998) implies personalizing marketing efforts and targeting the tools on establishing and developing relationships with customers.

We propose forming a marketing management system for a small industrial enterprise based on the concept of relationship marketing, taking into account the following key principles:

- customer values are regarded as a core factor;
- external and internal environments are included in the marketing management system as elements that influence the process of making and implementing managerial decisions;
- the role of information is to ensure the soundness of decisions at each stage of marketing management of a small industrial enterprise;
- it is necessary to assess the marketing management performance from the customer's point of view (satisfaction with the values obtained in the interaction with the company) and from the company's point of view (achieving the marketing and strategic goals).

We understand the concept of marketing management based on the relationship marketing as a system that combines analysis of market opportunities and the company's external and internal environment, planning, implementing and assessing marketing activities aimed at identifying and creating new values for business customers and sharing benefits from interaction and thus achieving the strategic goals of the company (Izakova & Kapustina, 2015).

The main goal of establishing a marketing system for a small industrial enterprise based on the relationship marketing concept is to achieve the company's strategic goals by increasing the effectiveness of relationships with major business customers, retaining business customers by increasing their satisfaction with the values provided by the company. We propose the system of marketing balanced scorecard for a small industrial enterprise that can be used to assess the contribution of marketing activities to achieving the strategic goals of the company and identify the factors that have major impact on customer satisfaction.

## 1 Research methodology

In order to assess the impact of the most important factors on the sales of a small industrial enterprise in the B2B market, we have developed a set of methodological tools for monitoring external and internal environment, which includes methods of statistical analysis.

1. Multivariate dispersion and covariance analysis are used to assess the impact of classical marketing tools (pricing, dealer network breadth, advertising activity, and the time the company has been present in the market) on the sales of a small industrial enterprise in the B2B market (1).

$$Y_i = F(X_1, X_2, X_3, X_4) \quad (1)$$

where Y is the company's sales; X<sub>1</sub> - dealer network breadth (1 - narrow, 2 - medium, 3 - large-scale network); X<sub>2</sub> - price (1 - low, 2 - medium, 3 - high); X<sub>3</sub> - advertising activity of companies (1 - low, 2 - medium, 3 - high); X<sub>4</sub> - the duration of presence in the market, the number of years (the quantitative value is included in the analysis of variance as a covariate).

This approach allows assessing both category and quantitative factors, their influence on sales, which is particularly relevant provided that a small business has limited resources needed to organize regular collection and update of the market information.

2. We propose a hypothesis that forming a marketing management system based on the relationship marketing concept is most suitable for small industrial enterprises and contributes to achieving their business goals. A regression model was created in order to test the hypothesis, that takes into account the dependence of the sales on two major factors: market demand and customer satisfaction with the relationship with the company.

The use of a regression model allows forecasting the demand for industrial products based on the changes in the customer satisfaction level. Regression analysis helps to identify the dependence of sales on the market demand and business customer satisfaction with the company's relations and make decisions on the development of relationship marketing aimed

at increasing customer satisfaction with business values provided by the company and maintaining long-term mutually beneficial relationships (2) .

$$\ln Y_i = \alpha + \beta_1 \times \ln D_i + \beta_2 \times \ln C_i + \varepsilon \quad (2)$$

where Y is the sales of a small industrial enterprise; D - demand for products on the market; C –customer satisfaction level;  $\alpha$  - constant;  $\beta_1, \beta_2$  - regression coefficients;  $\varepsilon$  - residues.

3. We propose to assess the degree of marketing goals achievement on the basis of calculating the balanced scorecard of marketing indicators and relationship marketing performance indicators. The marketing indicators balanced scorecard is based on the Kaplan & Norton’s (2005) business perspectives. Corresponding expertise and competent management of the employees’ intellectual potential is a crucial factor in for an industrial enterprise in achieving success in relationship marketing (Tzokas & Saren, 2004). We propose 9 marketing indicators for a small enterprise taking into account the budget constraints. The calculation methods are shown in Table 1.

**Tab. 1: Marketing balanced scorecard of a small industrial enterprise calculation methods**

Kaplan & Norton’s business perspectives	Marketing balanced scorecard indicators
Financial	1. The share of major customers in total revenue (DY), % $DY = \frac{V_i}{ARB} \times 100 \%,$ where $V_i$ – sales to business customers, rub; $ARB$ – the company's Annual Recurring Billings, rub. Correlation coefficient: $R_{xy} = \frac{\sum (x_i - \bar{x}) \times (y_i - \bar{y})}{\sqrt{\sum (x_i - \bar{x})^2 \times \sum (y_i - \bar{y})^2}}$ where $x$ – the share of major customers in total revenue (DY), %; $y$ – Customer Satisfaction level (CSAT), numerical score
	2. Customer Profitability (CP), rub.: $CP = V_i - TC_i,$ where $TC_i$ – total costs per one customer for the given period of time, rub
Customer relations	3. Customer satisfaction level (CSAT), C, %: Numerical score (from 1 to 10 points): 1-6 – not satisfied; 7-8 – neutral attitude; 9-10 – completely satisfied $C = \% \text{ of Completely Satisfied Customers} - \% \text{ of Unsatisfied Customers}$
	4. Customer Retention Rate (CRR), %: $CRR = \frac{E - N_n}{S} \times 100 \%,$ where E – number of customers at the end of the period; $N_n$ – number of new customers attracted during the period; S – number of customers at the beginning of the period

	<p>5. Customer lifetime value (<i>CLV</i>), rub:</p> $CLV = CP \times \frac{CRR}{1 + DR - CRR},$ <p>where <i>CP</i> – customers profitability, rub; <i>CRR</i> – customer retention rate, %; <i>DR</i> – discounting rate, %                  Correlation coefficient:</p> $R_{xy} = \frac{\sum (x_i - \bar{x}) \times (y_i - \bar{y})}{\sqrt{\sum (x_i - \bar{x})^2 \times \sum (y_i - \bar{y})^2}}$ <p>where <i>x</i> – Customer Lifetime Value (<i>CLV</i>), rub; <i>y</i> – customer satisfaction level, score</p>
Internal business processes	<p>6. On-time orders processing (<i>P</i>), %</p> $P = \frac{VCP}{VP} \times 100 \%,$ <p>where <i>VCP</i> – number of orders fulfilled on time; <i>VP</i> – total number of orders</p> <p>7. Cross sales ratio, %</p> $Cross = \frac{N}{K} \times 100 \%,$ <p>where <i>N</i> – total number of customers; <i>K</i> – number of products purchased by customers during the period</p>
Learning and growth	<p>8. Employee Satisfaction Level                  Numerical score (from 1 to 10 points): 1-6 – not satisfied; 7-8 – neutral attitude; 9-10 – completely satisfied.</p> <p>9. Duration of interaction between employees and customers (<i>Q</i>), years                  The median value of the ranked series of employee interaction with customers by the end of the selected period</p>

Source: authors' elaboration

Financial indicators reflect the effectiveness of investments in marketing. Thus, they are indicating the compliance of marketing management with the overall corporate goals of a company. Customer relations perspective indicators are crucial for assessing the effectiveness of relationship marketing. Internal business processes perspective indicators are used to identify the activities that are of the highest importance for customers in industrial markets, and influence their decisions regarding further interaction with a small industrial enterprise. Employees of the company contribute greatly to creating the value for the customer, which is reflected in the proposed marketing balanced scorecard.

## 2 The results of implementing the impact analysis and the marketing balanced scorecard in a small industrial enterprise

The objective of the study is to implement the relationship marketing concept and introduce the marketing indicators balanced scorecard at Adeplast LLC, a manufacturer of a wide range of PVC profile molding products in the Ural region of Russia.

We have analyzed the Russian PVC profile market in 2014–2018 concluding that it is a moderately concentrated market (Kapustina, Izakova & Drevalev, 2018). With this level of

concentration, manufacturers largely depend on each other's actions: the choice of the production volume and the product price is determined by the response of competitors. The market research showed that the situation in the market is complex, with most of the macroenvironment factors not favoring the development of PVC profile production in Russia.

We analyzed the main factors that influence the sales of PVC profiles: the number of dealers working with the manufacturer, experience in the market, the average price per ton and the company's advertising activity level.

1. Analysis of the sales variation of 22 PVC profile manufacturers with the use of multivariate analysis of variance (MANOVA), covariance analysis with the Statistical Package for Social Science (SPSS) software showed that belonging to the price segment does not affect the PVC sales ( $F = 1.484, p = 0.290$ ). Sales are influenced by the dealer network breadth ( $F = 2.760, p = 0.009$ ). It has been established that the sales do not depend to any significant extent on the time the producers has been present in the Russian market ( $F = 3.733, p = 0.102$ ). The influence of advertising activity on the sales has been identified ( $F = 26.366, p = 0.000$ ). An increase in advertising activity significantly increases sales of high and medium price companies; for enterprises of the low price segment, an increase in advertising expenses does not result in an increase of sales ( $F = 7.087, p = 0.003$ ).

2. The regression model of dependence of sales of a small industrial enterprise was built for Adeplast based on the data of 2006–2018:

$$\ln Y = -14,287 + 0,619 \times \ln D + 0,449 \times \ln C + \varepsilon,$$

(0,01)      (0,002)      (0,011)

where Y - the company's sales; D - demand in the Russian market of PVC profile; C - the business customers satisfaction level. The R-squared value is 0.83, the regression coefficients are statistically significant. The 1% growth in the market demand results in the sales growth by 0.619%, while increasing customer satisfaction with the company's relations by 1% *ceteris paribus* ensures sales growth by 0.449%.

3. Carrying out activities aimed to improve the relationship marketing performance has increased the efficiency of the enterprise as a whole, which confirms the positive dynamics of the marketing indicators balanced scorecard (Table 2).

**Tab. 2: the Dynamics of the marketing indicators balanced scorecard for Adeplast**

Indicators	Adeplast LLC	
	2017	2018
The share of major customers in total revenue (DY), %	2.00	1.20

Profitability of consumers of the target segment ( <i>CP</i> ), rub.:	2.48	2.51
– the most profitable client	2.67	2.01
– the least profitable client	1.07	1.36
Customer satisfaction level ( <i>CSAT</i> ), %	10.00	21.8
Customer retention rate ( <i>CRR</i> ), %	1.60	1.80
Target segment lifetime value ( <i>CLV</i> ), rub.:		
– the most profitable client	10.70	11.40
– the least profitable client	8.96	6.45
On-time orders processing ( <i>P</i> ), %	3.60	4.23
Cross sales ratio, %	5.00	6.60
Employee Satisfaction Level	1.76	2.12
Duration of interaction between employees and customers ( <i>Q</i> ), years	0.70	0.95

Source: authors' elaboration

The increase resulted from setting marketing goals formulated for Adeplast based on customer segmentation by Kaplan and Norton's business perspectives. Portfolio of strategies for managing relationships with major customers was developed based on their values as well as the plan of marketing activities that contributed to the positive dynamics of all the marketing activities indicators of Adeplast.

## Conclusion

The development of marketing management based on the relationship marketing concept aims to integrate marketing management into the overall management system of a small industrial enterprise in order to increase its effectiveness and improve relationships with customers in the B2B market. The regression model developed by the authors allows forecasting the sales for several years.

The findings suggest that the greatest impact on the sales is caused by advertising and dealer network parameters. The study contributes to understanding the importance of relationship marketing for a small industrial enterprise. The advantages of the proposed marketing balanced scorecard allowed integrating the marketing management into the overall management system, providing analytical support for managerial decisions, forecasting the demand, developing portfolio of relationship management strategies for major customers based on their values.

The research proved that the proposed methodology is applicable for assessing the marketing balanced scorecard for validating the improvements of marketing management and establishing long-term mutually beneficial relations with major business customers of a small industrial enterprise.



The results of the research and their approbation showed that a small industrial enterprise can achieve better results in unstable external business environment conditions when its marketing management is based on the relationship marketing concept.

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