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The Structure of Design Orientation and its Relationship with Market Orientation

Sanja Rocco
Zagreb School of Business, Croatia
sanja.rocco@pvzg.hr

Aleksandra Selinšek
University of Maribor, Faculty of Economics and Business, Slovenia
aleksandra.selinsek1@um.si

Abstract

Although market orientation has been investigated in numerous studies, its complex relationship with design orientation lacks research attention, especially in countries with transitional economies. Therefore, existing models of market orientation (MO) and design orientation (DO) have been investigated. The research has been executed in several stages, combining qualitative and quantitative methods. In the first, qualitative stage, a series of face-to-face in-depth interviews were conducted. In the second, quantitative stage, an Internet survey was conducted among managers and CEOs from Croatian companies in different industries. Partial Least Square and Structural Equation Modelling analyses were conducted to examine the relationships between variables of MO and DO. Results confirm the positive relationship between design orientation and market orientation. Further, results also confirm sub-hypotheses that customer orientation and strategic marketing are positively related to all dimensions of design orientation. The model could have implications for marketers, designers and managers in practice. Both concepts, MO and DO, are very complex and multidimensional, so it was not possible to investigate all the aspects of the constructs. Another limitation of the study was the sample size, as a result of a low response rate as well as a relatively high drop-out rate. The research contributes to theory highlighting the role of design as an important element of market orientation.

Keywords: design orientation, market orientation, managers, relationship, transitional economies

Introduction

Concepts in marketing have been continuously developing throughout its history. Today, marketing engages an organization's resources, skills, products, services, and thinking to understand and meet consumers' conscious and latent needs (Bogozzi, 2011). Customers are looking for added value, while in most industries technical and functional qualities are taken for granted. With regard to responding to customer needs, some recent marketing literature mentions three crucial concepts: market orientation, customer orientation, and design orientation (Coley, Mentzer, & Cooper, 2010; Gummesson, 1991; Moll, Montana,

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Guzman, & Praallada, 2007; Venkatesh, Digerfeld-Manson, Brunel, & Chen, 2012).

Comparison of the design-orientation literature (Chitturi, Raghunattan, & Mahajan, 2008; Moll et al., 2007; Srinivasan et al., 2006; Verizer et al., 2005) and market-orientation literature (Gummesson, 1991; Kohli, Jaworski, & Kumar, 1990, 1993) indicates that customer-centered product design strategies are critical to superior market performance and success. Many authors discuss the fact that market orientation has a positive impact on a company's economic result in the market (Bodlaj, 2010; Kahn, 2001; Kohli et al., 1993; Jaworski et al., 1993; Narver & Slater, 1990; Snoj, Milfelner, & Gabrijan, 2007).

Slater and Narver (2000) suggest that market orientation is one component in the architecture of a learning organization that leads to superior learning capability. They believe that this replication provides strong support for the existence of a positive relationship between market orientation and performance and that future research should focus on the processes for developing and reinforcing a market-oriented culture, as well as for implementing it through organizational structure, systems, capabilities, and strategies. According to Bodlaj (2010), existing empirical research adopting both forms of MO (responsive and proactive) and examining the impact on new-product performance (Atuahene-Gima, 2005; Narver et al., 2004, Tsai et al., 2008) or business performance (Voola & O'Cass, 2010) is still very limited and has mostly been conducted in non-European countries. Only a few studies have examined the entire chain of relationships between both market orientation types, innovation and business performance (e.g., Milfelner, 2009).

On the other hand, quite a similar situation can be seen in the case of design orientation. This is a concept that has been a subject of various studies in recent years, but mostly in developed countries. Additionally, various studies have shown evidence that there is a positive relationship between investing in design and improved business results (e.g. Black & Baker, 1987; Borja de Mozota, 2003b; Bruce, Potter, & Roy, 1995; Design Council, 2004-2014; Gemser & Leenders, 2001; Hertenstein, Platt, & Veryzer 2005; Kootstra 2009; Sisodia, 1992; Slater & Narver, 2000; Ulrich & Pearson, 1998;). Investigating the impact of design orientation in Croatian companies as well as the complex relation between design orientation and market orientation is the main purpose of this study. The paper begins with the theoretical background of the researched topic and continues with the development of the conceptual model and hypothesis. Next, the research methodology and results of the research are described. Finally, conclusions, implications and limitations of the study are presented.

Theoretical Background on Design and Market Orientation

Because of its complexity, companies and researchers take different approaches towards design and its meaning. Design can be observed as the process of designing products or as the result of this process – the final, tangible or intangible product that has been designed. Depending on the context, design implies an objective, the intention of designing, particularly in the analytical and creative phases, as well as a process, a drawing, a sketch or a model in the execution phase, to give form to an idea.

Recent years have seen a development in the use of design, from shaping and aesthetics to strategic design policies in business innovation processes, as well as in a number of societal development processes. Design, its methods and a design-oriented way of thinking have been emphasized by many researchers as resources for increasing a company's innovation capability (Beverland & Farrell, 2007; Ulrich & Eppinger, 2000; Veryzer and Borja de Mozota, 2005). Also, most design management research results indicate that design improves the performance of innovation, whether or not it is technological (Borja de Mozota, 2003b; Von Stamm, 2008).

Although the role of design within organizations can be difficult to define, it is clear that giving design a seat at the table adds significant value that helps differentiate and elevate companies beyond the norm and helps to deliver tangible business results (Rae, 2013, p. 37).

The importance of design as a key discipline for bringing new ideas to the market has also been recognised in commitment 19 of the Innovation Union, an initiative in the Europe 2020 Growth Strategy, as a result of different studies undertaken in the UK, Denmark, Finland and other developed countries. This consensus has resulted in the European Commission's Action Plan for Design-Driven Innovation (EC, 2013).

According to Venkatesh et al. (2012), design orientation (DO) involves a strategic way of employing a company-wide vision that integrates design into the creation of customer value. It has also been identified as a factor integrating decisions at different levels of an organization and involving customers as a key element (Bloch, Brunel, & Arnold, 2003; Moll et al., 2007).

Design orientation can also be described as a managerial strategic approach based on choosing design as a source of competitive advantage (Borja de Mozota, 2003a). Design-oriented companies are those that incorporate their design process into their business strategy (Moll et al., 2007). However,

design orientation and design implementation are also related to the environment in which a company operates, including social, political and economic circumstances; design tradition; education; and national design policy. From this perspective, it is clear that design should also be managed. Therefore, design management is directly concerned with the place of design within an organization, the identification of specific design disciplines that are relevant for key management issues, and the training of senior managers to use design effectively (Gorb, 1990). It can also be interpreted as the implementation of design within a corporation by communicating the relevance of design to long-term corporate goals and coordinating design resources at all levels of corporate activities to achieve the corporation's objectives. This includes contributing to corporate strategic goals by developing a design policy alongside corporate identity and strategy, managing design resources and building a design network of information and ideas (Blaich & Blaich, 1993).

Design management, according to Best (2006), is about managing design in every organization and can be implemented in three stages. Design strategy, as the first stage of design management, identifies opportunities and creates conditions in which design projects can be proposed. Managing the design process, as the second stage, focuses on developing design projects and agendas, thus making strategy visible through design. It develops a culture of collaboration, investigates the acquired skills and engages creative teams. Managing design implementation, as the third stage, is focused on delivery of design projects and outcomes in practice. It includes decision-making in the process of designing, as well as working relationships and responsibilities.

According to Buchannan (2015, p. 16), there are clear benefits that come from investment in design in various countries. The problem is that some of these studies have focused more on the traditional areas of industrial design and related tactical practices rather than on the overall benefit of making design a central feature of management that ranges from goods and services to operations to vision and strategy – that is, the uses of design in "design-centric" organizations.

Market orientation (MO) can be defined simply as the implementation of the marketing concept – that is, generating market information within the entire organization regarding the current and future needs of customers and clients (Kohli, Jaworski, & Kumar, 1990). The majority of studies from the 1990s suggest that MO is related to superior performance, sales growth and new product success (Atuahene-Gima, 1995; Desphande & Farley, 1998; Han, Yun, Kim, & Cho, 1998; Jaworski et al., 1993; Slater & Narver, 1994). MO can also be explained as the extent to which a firm engages in the generation, dissemination, and response to market intelligence pertaining to current and future customer needs, competitor strategies and actions, channel requirements and abilities, and the broader business environment (Morgan et al., 2009). MO and marketing capabilities are complementary to one another in ways that generate economic rents, and each may be viewed as an individual source of competitive advantage. The interaction between MO and marketing capabilities possesses the characteristic of 'asset interconnectedness' (Teece et al., 1997). For Grinstein (2008), market orientation is positively related to a number of strategic orientations. To be successfully implemented, all alternative orientations should be guided by the necessary underlying system of beliefs.

Studies about the influence of design on some parts of marketing like customer satisfaction, product development, and innovation or business performance also exist, but there is a lack of research about the relationship and possible role of design in strategic marketing, as well as of the possibilities and potential of the common platform for closer collaboration.

To be successful in the same way as marketing, design has to be integrated into all functional parts of an organization. Understanding design potentials and design implementation efficiency, when integrated at all levels of an organization, would allow marketers and managers to achieve better results. The new proposed conceptual model extends current thinking by integrating market and design orientation towards strategic competitive advantage.

The Conceptual Model and Hypothesis Development

After studying the existing literature, a new initial model of the relationship between design and market orientation has been proposed. The basis of the new design-market orientation conceptual model was the existing market orientation model in relation to new product (and service) success (Narver et al., 2004), combined with the managerial model of design (Moll et al., 2007), where market orientation and design orientation are put into a relationship. It is the result of an empirical qualitative study undertaken in three Spanish industries concerning design orientation, market orientation, and design management. However, the model does not show the precise correlation between different variables of design and market orientation.

Design orientation describes a strategic managerial approach based on choosing to use design as a source of competitive advantage (Best, 2006; Borja de Mozota, 2003b, 2009;

Brown, 2008; Buchanan, 2015, Design Council, 2015, 2018; DMI, 2015; European Commission, 2013; Gorb, 1990; Kootstra, 2009; Moll et al., 2007; Rae, 2013; Rau, 2017; Venkatesh et al., 2012; Von Stamm, 2008), which means that both concepts are oriented towards a higher value in the eyes of their customers on one hand and both represent a higher value for the company in today's competitive environment on the other hand. Based on this definition, we can conclude that design orientation has a positive relationship with market orientation. Therefore, we propose the main hypothesis:

H1: *Design orientation of a company is positively related to its market orientation.*

Moreover, in accordance with the above discussion, we further develop two sub-hypotheses:

H1a: Customer orientation is positively related to all dimensions of design orientation.

H1b: Strategic marketing is positively related to all dimensions of design orientation.

Research Methodology

The research was conducted combining qualitative and quantitative methods. The measurement instrument for empirical model verification was developed in several phases. After analyzing the literature, relevant items for the questionnaire were used from previous reliable research for two constructs: market orientation and design orientation (see Table 1). The first, qualitative stage of the research was focused on the design orientation of market-oriented companies. Two groups of respondents were interviewed (five managers and five designers) in a series of qualitative, face-to-face interviews, in order to design the questionnaire for quantitative research. The interviews lasted 45-60 minutes each. The sample of selected professionals was chosen, based on the assessment of the researcher, as typical representatives of the future respondents in the quantitative research.

In the second stage, the quantitative research was conducted using an Internet survey of managers and CEOs from Croatian companies in different industries, with at least three employees in each company. The testing phase with nine experts from the fields of marketing and design preceded the execution of the quantitative research, in order to determine the quality of the questionnaire. The experts answered the questionnaire but were also given the opportunity to comment on the questionnaire's clarity and length as well as any possible difficulties. Most of their comments were taken into account in preparing the final questionnaire, which consisted of 21 questions in six blocks: market orientation, design orientation, managerial approach, interfunctional coordination inside the company, business results and design environment.

Most of the questions were answered on a five-point Likert scale. An additional nine questions about general data were

Table 1. The basis for developing the questionnaire

Market orientation	Title	Variables
Lafferty B. A. and Hult G. T. M. (2001)	A synthesis of contemporary market orientation perspectives	Four variables of MO as basic approach: emphasis on clients, importance of information, inter-functional coordination and receptivity to change
Narver J.C., Slater F.S. and Mac Lachlan D. L. (2004)	Responsive and Proactive Market Orientation and New-Product Success	Variables for proactive market orientation
Marketing Department, Faculty of Economics and Business, University of Maribor with Marketing Institute (2008)	Marketing in the 21st Century	Variables of MO: marketing management, customer orientation.
Design orientation		
Venkatesh A., Digerfeld-Mansson T., Brunel F. F. and Chen S. (2012)	Design Orientation: a grounded theory analysis of design thinking and action	Key questions as basic subthemes of design orientation.
Centre for Design Innovation Ireland (2007)	Design Difference – Research Methodology with Questionnaire. Design Innovation Research	Variables of innovation by design, questions about design environment and design policy.
Design Management Institute (2013)	DMI Design Value Scorecard survey	Variables/levels of design implementation: Tactical, organisational value, strategic value of design
Borja de Mozota B. (1998/2003a)	A model for design management excellence in European SMEs	Variables of design – perception of design by managers

included at the end, for a total of 30 questions altogether. The pretesting exploratory factor analysis (EFA) was conducted on the sample of N = 95 consisting of 75.8% small and medium-sized enterprises and 24.2% large-sized enterprises. The SPSS statistical program was used for the analysis of the data.

All the scales were verified for construct validity in the pretesting EFA analysis, which indicates the extent to which the items on a scale measure the abstract or theoretical construct (Chandler, 1991). The EFA was conducted using IBM SPSS Amos 22 software. The results also confirmed a positive relationship between DO and MO. Finally, we applied the PLS SEM Partial Least Square / Structural Equation Modelling to present these relations between constructs in more detail, taking into account the factors of DO and MO. The PLS was conducted in Smart PLS 3 software.

Final Results and Hypothesis Testing

Sample

A list with 2,184 e-mail addresses of CEOs, general managers or marketing managers was compiled based on data provided from several reliable sources: the Croatian Chamber of Commerce; the Croatian Ministry of Entrepreneurship and Crafts (MINPRO); the Croatian Agency for SMEs, Innovation and Investments (HAMAG-BICRO); and the list of Croatian companies with the GREEN MARK Sign of Excellence 2016. Managers received an email explaining the general purpose of the study and a link to the Internet survey. The survey was created in Lime Survey software at the www.engeres.com domain. The electronic questionnaire was designed so that the respondents could not see all the questions at once and therefore could not alter their answers in light of additional information.

The survey was conducted from April to July 2017. A total of 397 undelivered e-mails were omitted from the list, and a follow-up email was sent to non-respondents in September. From the total number of sent emails, 233 clicks on the sent link were generated (click-through rate 13.04%). However, a significant number of respondents did not finish the questionnaire. A total number of usable questionnaires from 143 managers were received, yielding a 61 percent completion response rate. A total of 112 respondents were qualified for the research (i.e., CEOs or managers of companies with more than 3 employees), or 78% of the total number.

The study sample consisted of 40% product companies, 33% service companies and 27% combined industry sectors. The final sample of 112 CEOs/managers came from companies of different sizes: 27 with 3-10 10 employees (24%), 38 with 11-50 employees (34%), 17 with 51-100 employees (15%), 7 with 101-200 employees (6%), and 23 with more than 201 employees (21%). According to the European Commission recommendation of 6 May 2003 concerning the definition of micro (<10 employees), small (11-50 employees) and medium-sized (51-250 employees) enterprises (OJ L 124, 2003, p. 36), the sample consisted of approximately 80 % micro, small and medium-sized enterprises and approximately 20% large-sized enterprises, which is an acceptable ratio for the Croatian economy.

The general data show that the respondents were 42% female and 58% male. While 60.7% of managers were in various positions, ranging from executives to marketing and communcations, sales or design managers, many of the respondents were also owners or CEOs (39%), which is logical considering the large percentage of SMEs. With regard to age, most respondents were in the group between 40 and 49 years old (42.9%), followed by 30-39 and 50-59 (both 22.3%). Most of the respondents had a graduate degree (47.3%), followed by master degree (15.2%) and bachelor's degree (13.4%).

Testing the Hypothesis

To verify the main hypothesis (H1) regarding the relationship between market orientation and design orientation, we first used EFA on the final sample in order to identify the number of extracted factors of both constructs and to define the dimensions of each construct. After that, correlation analysis was conducted to determine whether intercorrelations exist between the factors of MO and DO.

Five significant factors for all the questions of market orientation and design orientation were extracted with EFA analysis, which account for 63.5% of variance. The first two factors each explain about 20% of the variance (21.9% and 19.6%, respectively), while the other three factors each explain less than 10% of the variance. According to the extracted factors and variables that saturate the individual factors to the greatest extent, a total of five measuring dimensions were constructed: two market orientation factors (consumer orientation and strategic marketing) and three design orientation factors (the role of design, design as competitive market advantage and design level).

After the construction of each factor, Cronbach's alpha coefficients for each of them were calculated to see if the factors obtained were consistent (i.e., whether each of them measures one dimension of market or design orientation). All Cronbach's alpha values are acceptable according to

Nunnally (1978), who offered a rule of thumb of 0.7. (More recently, scholars have cited 0.8 as a minimum alpha.)

Regarding the internal consistency, Cronbach's alpha coefficients results for each factor of both constructs show that all the variables of MO and DO initially used to calculate their factors remain in the analysis of the data. Table A1 in the Appendix shows MO and DO factors extracted on the final sample with Cronbach's alpha coefficients.

In the next step of the data analysis, we concentrate on the correlation between MO and DO in order to test the main hypothesis (Table 2). Moderate correlations in some pairs of factors are an additional indicator that exploratory factor analysis obtained relatively independent (but to some extent related) factors, which makes further analysis possible.

Partial Least Square / Structural Equation Modelling (PLS-SEM) analysis of the relationship between variables

In the final stage of testing H1, H1a and H1b, we used PLS-SEM analysis. PLS-SEM offers a good approximation of common factor models in situations where factor-based SEM cannot deliver results due to its methodological limitations in terms of model complexity, sample size requirements, or inclusion of composite variables in the model (Reinartz et al., 2009; Sarstedt et al., 2016; Willaby et al., 2015, Sarstedt et al. in Homburg et al. (Eds.), 2017, p. 33). One of the most important advantages in using SEM is that it provides two kinds of weights: one measuring the impact of each indicator on the corresponding composite indicator and the other measuring relations among the composite indicators in the system (Trinchera et al., 2008).

The PLS SEM model with factors of MO and DO is shown in Figure 1. The first step of analysis is the outer, measurement model. The construct of MO consists of two factors: strategic marketing (five indicators) and customer orientation (14 indicators). In strategic marketing, the indicator P2_3 (marketing communication activities planning) is the most influential (weight 0.764), the second is P2_5 (market research) and the third is P2_1 (long-term marketing plans). In customer orientation, the indicator P3_1 (Our commitment to serving customers is closely monitored) is the most influential, with a value of 0.903. The second most influential indicator is P4_9 (Our objectives and strategies are driven by increasing value for customers), while the indicators P4_1 (We systematically measure customer satisfaction) and P3_3 (We achieve rapid response to competitive actions) are the third most influential.

The construct of DO consists of three factors: design as competitive advantage, the role of design in communication and management, and the level of design implementation. In the first of these factors, the indicator P9_2 (Design contributes significantly to benefits perceived by consumers) is the

Table 2. Intercorrelations between factors of MO and DO

Correlations (N = 112)						
Factor of strategic marketing (**StraMarF**)	Pearson Correlation	1	.594	.336	.387	.526
	Sig. (2-tailed)		.000	.000	.000	.000
Factor of customer orientation (**MarCustF**)	Pearson Correlation	.594	1	.379	.469	.471
	Sig. (2-tailed)	.000		.000	.000	.000
Factor of design as competitive advantage (**DesCompF**)	Pearson Correlation	.336	.379	1	.622	.579
	Sig. (2-tailed)	.000	.000		.000	.000
Factor of the role of design (**DesRoleF**)	Pearson Correlation	.387	.469	.622	1	.581
	Sig. (2-tailed)	.000	.000	.000		.000
Factor of design levels (**DesLevF**)	Pearson Correlation	.526	.471	.579	.581	1
	Sig. (2-tailed)	.000	.000	.000	.000	

MARKET ORIENTATION (MO) **FACTORS**

StraMarF strategic marketing
MarCustF customer orientation

DESIGN ORIENTATION (DO) **FACTORS**

DesCompF design as competitive advantage
DesRoleF role of design (in Comm & Mngmnt)
DesLevF level of design (implementation)

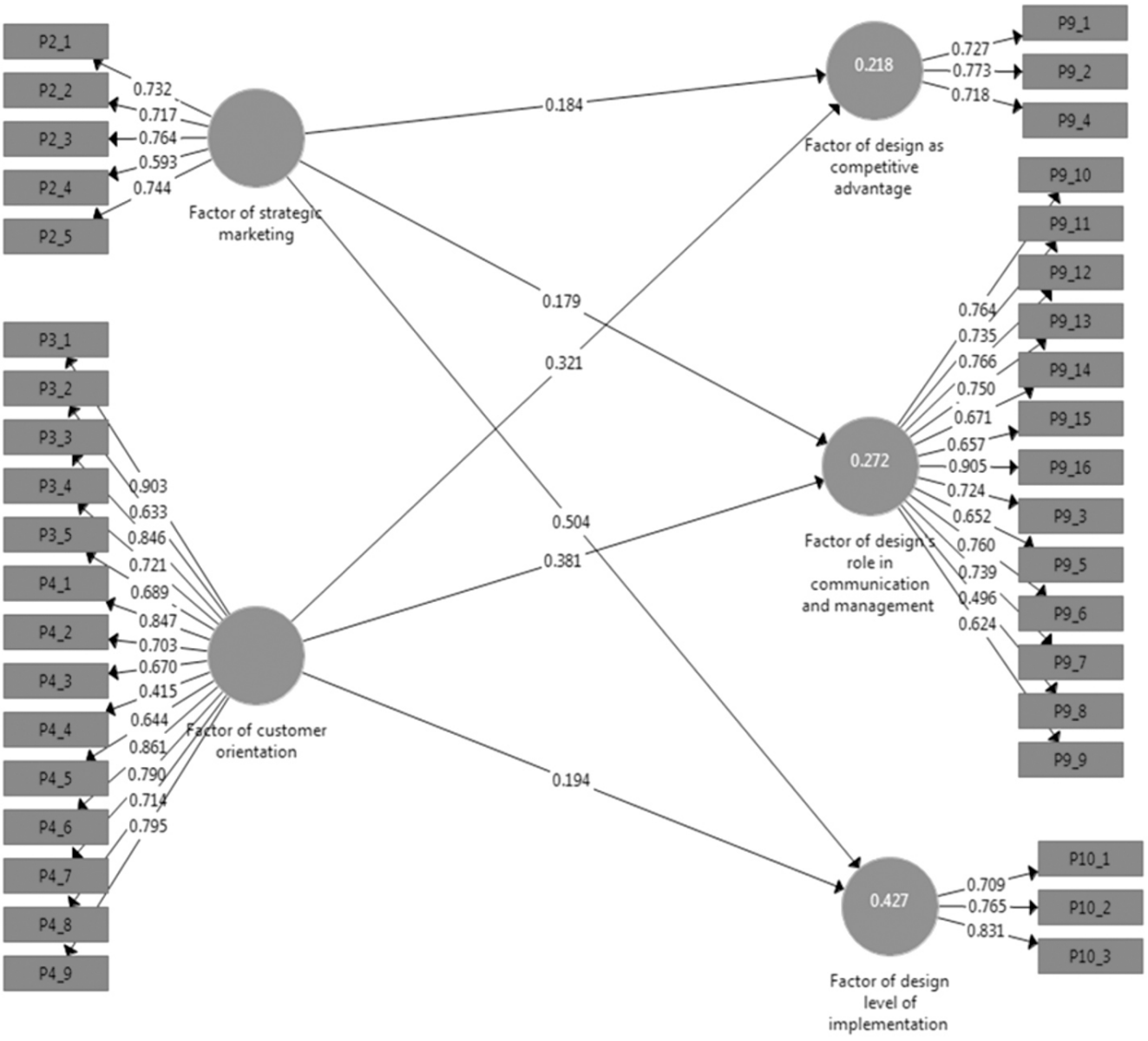
most influential of the three indicators (weight 0.785). The next most influential indicator is P9_1 (Design creates competitive advantage), and the third is indicator P9_4 (Design allows a company to sell at a higher price).

The factor of the role of design in communication and management of the company has 13 indicators. The most influential is P9_16 (Design improves our long-term goals / return-on-investment) (weight 0.905). The second most influential indicator is P9_12 (Design improves our internal and external communication) (0.767), and the third most influential indicator is P9_10 (Design creates new niche markets) (0.764). Next is P9_6 (Design is a know-how that transforms the processes) (0.759). The factor of design level of implementation has three indicators. The most influential is P10_3 (We use design as a strategic resource for new business models (for strategic investments in customer experience design, long-term return on investment)) (0.834).

The second step of analysis is the inner, structural model with path coefficients. These explain how strong the effect of one latent variable is on another latent variable. The weight of different path coefficients enables us to rank their relative statistical importance.

The factor of strategic marketing has a strong influence on the factor of design levels (path coefficient weight 0.504). However, strategic marketing has a moderate effect on the factor of design as competitive advantage (0.184), and similar effect (0.179) is also found between strategic marketing and the role of design in a company's communication and management.

Figure 1. The PLS SEM model with factors of MO and DO



The factor of customer orientation has a strong effect on design's role in the company (path coefficient 0.381) and has a relatively strong effect on the factor of design as competitive advantage (path coefficient 0.321). However, it has a moderate effect on the level of design implementation (0.194). The market orientation factors explain 22% of the variance of the design competitiveness factor, 27% of the role of design in management factor, and 43% of the variance of design as a level of implementation factor.

The factor of strategic marketing in the company has a strong impact on the level of design implementation factor (0.504), while the factor of customer orientation has a strong relationship with the factor of the role of design in communication and management of the company. Observing the data, we come to the conclusion that looking at design's role in communication and management, variable P9_16 (Design improves our long-term goals / return-on-investment) is the one with the strongest influence (0.905).

Table 3 above shows values of path coefficients for market orientation, which are all statistically significant. The factor of customer orientation has the strongest impact on the role of design in the company (0.382), the impact on design as competitive advantage is not as strong (0.328) and the impact on design implementation has the lowest value (0.201). The factor of strategic marketing has the strongest influence on the factor of design implementation, while it does not have much influence on the other two factors of design orientation.

As we can see in Table 4, the measurement of the variance inflation factor (VIF) shows that no collinearity measure exceeds the limit of 5.0, which makes the analysis acceptable (i.e., as mentioned before, there is no strong correlation between latent variables and factors). All the VIF values for measuring market and design orientation are acceptable (< 5.0), so there is no collinearity even when considering the variables in the model.

The SRMR measure of fit of data in the equation model is 0.065, which is an acceptable value (the limit value is 0.1), and thus it can be considered that the model describes well the data and relationships between the variables and factors.

At the end of the final stage, HTMT values were also calculated for the determination of discriminant validity in order to check whether constructs are sufficiently different to be acceptable as separate factors (Table 5). The values of the HTMT ratio should not exceed 0.9, which is also the case with this analysis.

According to the results of the analysis, the hypothesis H1, regarding the positive relationship of market and design orientation, has been confirmed. However, there are different influences (i.e., the influence intensity of different factors of market orientation on factors of design orientation varies).

Table 3. Path coefficient for market orientation

	Factor of design level	Factor of design as competitive advantage	Factor of the role of design
Factor of customer orientation	0.201	0.328	0.382
Factor of strategic marketing	0.499	0.177	0.178

Table 4. Measures of coexistence - Variance inflation factor (VIF)

	Factor of design level	Factor of design as competitive advantage	Factor of the role of design
Factor of customer orientation (MarCustF)	1.422	1.254	1.341
Factor of strategic marketing (StraMarF)	1.684	1.194	1.241

Table 5. Discriminant validity – HTMT

Discriminant validity – HTMT	Factor of design level	Factor of customer orientation	Factor of strategic marketing	Factor of design as competitive advantage
Factor of customer orientation (MarCustF)	0.536			
Factor of strategic marketing (StraMarF)	0.641	0.670		
Factor of design as competitive advantage (DesCompF)	0.729	0.440	0.413	
Factor of the role of design (DesRolF)	0.664	0.499	0.440	0.732

Conclusion

The research contributes to theory in several ways. Firstly, our research was undertaken in Croatia, a former socialist country recently integrated into the EU, which is experiencing a transitional economy. The majority of former studies about market orientation have focused on the practice of companies in Western, developed countries, and only a few have focused on the relationship between market orientation and design orientation. Secondly, the research highlights the role of design as one of the core elements of market orientation, its focus on customers and, indirectly, its influence on success in the market. The results demonstrate that the concept of design orientation is positively related to the concept of market orientation. Furthermore, results also support sub-hypotheses that two dimensions of market orientation, customer orientation and strategic marketing, are both positively related to all dimensions of design orientation.

The study extends the existing knowledge of effects among researched concepts when measuring the role of design orientation. Our results are consistent with most research findings reported in previous studies (i.e., Borja de Mozota, 2003b; British Design Council, 2006, 2015; Koostra, 2009; Moll et al., 2007; Venkatesh et al., 2012). Design orientation appears to indirectly impact the company performance and market success through customer orientation and by influencing the managerial approach.

The main hypothesis about the positive relationship between MO and DO has been supported. The construct of design orientation consists of three factors: design as competitive advantage, the role of design in communication and management, and the level of design implementation. The construct of market orientation consists of two factors: strategic marketing and customer orientation. According to the final results of our research, design orientation does not have a direct impact on business success, which can be understood and logically explained by many other relevant factors from the environment that influence the business results. However, the importance of design orientation and its indirect impact on market orientation and on business success proves that design, together with other important factors, leads towards customer satisfaction, good business performance and, ultimately, success, in the market as well as financially.

Implications and Limitations

There is a strong tendency in Croatian companies to maximize short-run profitability while neglecting long-term goals. Our findings demonstrate that companies with a higher level of market orientation and supported with design orientation also have the potential to achieve better results in the market which, consequently, results in better financial performance. The findings are especially important for Croatian SMEs, which make up the majority of the country's economy. In an effort to develop factors that can lead to competitive advantage, managers and CEOs should focus not only on individual design resources but also on their integration into different levels of the company. Results of the PLS-SEM analysis can help managers to better understand the importance of different variables of both constructs and their influence on each other and use this understanding for the benefit of their companies. The implementation of marketing activities, from basic marketing communication to marketing strategy, has a strong impact on the levels of design implementation in the company, while the factor of customer orientation is strongly related to the role design plays in the company, from basic design of products to design strategy. This is why managers should be well informed about design benefits.

The obtained research results should be interpreted while taking into account some limitations. First, concepts of market orientation and design orientation, as well as their relationships, are very complex and multidimensional, so it was not possible to investigate all the aspects of the constructs in this research (e.g., different industries, different organisational structures, the influence of the environment).

Second, another limitation of the study was the sample size, as a result of a low response rate as well as a relatively high drop-out rate of managers who participated in but did not fully complete the survey. There are several possible reasons for this. It may be that some of the managers were not familiar with the subject of design or with the data about investing in design, or the length of the questionnaire and/or respondents lack of free time and/or motivation may have had an effect on the outcome. These facts and possibilities should be taken into consideration in future research.

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APPENDIX

Table A1. MO and DO factors extraction (Rotated Component Matrix)a with Cronbach's alpha coefficients (N=112)

MARKET ORIENTATION FACTORS	**Component**				
	1	2	3	4	5
We do long-term marketing plans	.313	.185	.726	-.006	.087
We do short-term marketing plans	.336	.044	.499	.109	.388
We do marketing communication activities planning (ADs, promotion and PR)	.374	.074	.675	-.109	.416
We use media buying	.059	.141	.689	.177	.127
We do marketing research	.280	.148	.760	.209	-.054
Name of the MO factor / Number of **items** = **5**	**Strategic marketing (StraMarF)**				
Cronbach's Alpha	**.831**				
Our commitment to serving customers is closely monitored	.702	.227	.382	-.011	.072
Salespeople share information about our competitors	.573	.216	.141	-.059	.127
We achieve rapid responses to competitive actions	.629	.146	.343	.097	.148
Our functions are integrated to serve market needs	.688	.151	.266	-.039	.150
Close attention is given to after-sales services	.740	.085	.086	.164	.300
We measure customer satisfaction systematically	.719	.185	.365	.038	-.056
Our competitive strategy is based on understanding customer needs	.859	.088	.155	.039	.069
We observe how customers use our products	.825	.149	.021	.142	.075
We collaborate closely with key users to predict future customer needs before others	.838	.114	-.138	-.025	-.016
We collect information necessary for detecting the appearance of new market segments	.714	.140	.023	.092	.207
We have updated information on the image of our products/brands among current and potential customers	.684	.246	.354	.063	-.084
We measure levels of customer loyalty compared to last year and our competition	.631	.209	.319	.223	-.124
We explore key trends to gain insight into what users will need in future	.682	.166	.116	.274	.040
Our objectives and strategies are driven by increasing value for customers	.743	.145	.107	.279	.242
Name of the MO factor / Number of **items** = 14	**customer orientation (MarCustF)**				
Cronbach's Alpha	.946				
DESIGN ORIENTATION FACTORS					
Design creates competitive advantage	.127	.333	.066	.696	.169
Design contributes significantly to benefits perceived by consumers	.134	.331	.137	.661	.202
Design allows a company to sell at a higher price	.138	.336	.092	.756	.026
Name of the DO factor / Number of **items** = **3**	**design as competitive advantage (DesCompF)**				
Cronbach's Alpha	**.780**				
Design changes the spirit of the firm, which becomes more innovative	.142	.694	.189	.089	.159
Design improves coordination between marketing and R&D functions.	.153	.834	.062	.066	-.028
Design is a type of know-how that transforms processes	.135	.706	.130	.170	.184
Design gives access to a wide variety of markets	.303	.464	-.009	.168	.372
Design improves coordination between production and marketing	.216	.756	.036	-.079	-.127
Design develops project management of innovation	.141	.712	.185	-.026	.074
Design creates new niche markets	.107	.716	.061	.206	.219

Table A1. MO and DO factors extraction (Rotated Component Matrix)a with Cronbach's alpha coefficients (N=112) (continued)

MARKET ORIENTATION FACTORS	Component				
	1	2	3	4	5
Design improves the circulation of information	.023	.730	.148	.167	.248
Design improves our internal and external communication	.244	.652	.067	.209	.152
Design improves our services and working processes	.089	.724	.005	.355	.096
Design involves our customers in a co-creation process	.260	.654	.048	.197	-.104
Design provides sustainable development and benefits to the community	.131	.697	.039	.189	.087
Design improves our long-term goals / return-on-investment	.187	.658	.227	.449	-.019
Name of the DO factor / Number of **items** = **13**	**role of design (DesRoleF)**				
Cronbach's Alpha	**.933**				
We use design for the development and delivery of products, services and communications (for aesthetic value and functionality)	.128	.169	.168	.483	.591
We use design as a connector or integrator of business functions (for internal and external communications, as customer value, brand loyalty and market share)	.281	.316	.241	.112	.692
We use design as strategic resource for new business models (for strategic investments in customer experience design, long-term return on investment)	.186	.463	.222	.297	.486
Name of the DO factor / Number of **items** = **3**	**level of design (DesLevF)**				
Cronbach's Alpha	**.811**				

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 6 iterations.*

Struktura naravnanosti na dizajn in njena povezanost s tržno naravnanostjo

Izvleček

Tržna naravnanost je koncept, ki je proučevan v številnih študijah, vendar ne v povezavi z naravnanostjo na dizajn, še posebej pa je to področje neraziskano v državah v tranziciji. Namen te raziskave in prispevka je predstaviti osnovne dimenzije oziroma strukturo naravnanosti na dizajn in prikazati njeno povezanost s tržno naravnanostjo. Raziskava je bila izvedena v več stopnjah s kombinacijo kvalitativnih in kvantitativnih metod. Izvedli smo serijo poglobljenih intervjujev ter nato nadaljevali z zbiranjem kvantitativnih podatkov prek spleta, pri čemer so bili glavni informanti vodilni menedžerji v hrvaških podjetjih iz različnih panog. Za testiranje raziskovalnega modela in povezav v modelu smo uporabili metodo delnih najmanjših kvadratov (PLS) in modeliranje strukturnih enačb (SEM). Rezultati potrjujejo osnovno hipotezo, da obstaja pozitivna povezanost med naravnanostjo na dizajn in tržno naravnanostjo. Nadalje rezultati potrjujejo tudi podhipotezi, da je naravnanost na odjemalce pozitivno povezana z vsemi dimenzijami naravnanosti na dizajn, kot tudi da je strateški marketing pozitivno povezan z vsemi dimenzijami naravnanosti na dizajn. Proučevana koncepta sta zelo kompleksna in večdimenzionalna, zato vseh vidikov oziroma dimenzij ni mogoče zajeti v eni raziskavi. Omejitev raziskave je tudi velikost vzorca kot posledica nizke odzivne stopnje anketiranih. Raziskava prispeva k razumevanju vloge dizajna v marketingu in poudarja neposredno povezanost s tržno naravnanostjo.

Ključne besede: naravnanost na dizajn, tržna naravnanost, gospodarstvo v tranziciji, odnosi, menedžerji