



# Examining the influence of uncertainty on marketing mix strategy elements in emerging business to business export-markets



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## ABSTRACT

The degree of adaptation or standardization of the marketing program is critical in international business ventures. However, findings within this important research field and, consequently, implications for practice remain contradictory and confusing. The purpose of this paper is to examine determinants of an international marketing-mix strategy within a specific business-to-business context that includes the effects of uncertainty. Is the degree to which the marketing program is adapted or standardized dependent on the managerial perception of uncertainty? Does a firm's international entrepreneurial ability or the use of networks positively influence the degree of positive assessment of the environment? Data were collected from German companies working in different international business-to-business markets. The results indicate that international entrepreneurship has a greater impact on uncertainty reduction than the use of networks. After having reduced uncertainty, a firm tends to adapt their communication and pricing strategy, whereas the adaptation of the product and distribution strategy in general is not significant.

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## 1. Introduction

Industrial market players feel a particularly high pressure to go abroad in order to secure and enlarge a company's sales volume. Since international activity is vital to their performance, business-to-business companies are facing the challenge of designing and implementing market-specific export strategies that take into account the uncertain environment within the fast changing target markets (Katsikeas, 2006). The fundamental proposition of international marketing is that the mere existence of a firm's global marketing strategy will have a positive effect on its global market performance (Cavusgil & Zou, 1994; Leonidou, Katsikeas, & Saimee, 2002; O'Cass & Julian, 2003; Shoham, 1999; Theodosiou & Leonidou, 2003; Zou & Cavusgil, 2002). But what is considered to be a good global marketing strategy? International market success is always linked to an efficient and effective implementation of a well planned marketing-mix strategy (Sousa, Martínez-López, & Coelho, 2008) for a specific market. So, it is necessary to rethink established domestic strategies when entering a new market (McDougall & Oviatt, 1996) because of different international

market settings. When entering a new market, firms have to design and implement an appropriate marketing mix approach. They have to weigh up between a cost and complexity saving strategy of international standardization and a customer and market-tailored adaptation strategy of the marketing-mix. For industrial marketing in particular, there is a growing need for guidance when navigating through a fast changing international business environment (Madhavaram, Badrinarayanan, & Granot, 2011). Sheth and Sharma (2006) identified a lack of theory-based empirical studies examining the international and cross-cultural effects on business-to-business marketing.

The importance of research on the marketing mix strategy is undoubted. However, the debate on the marketing mix strategy is unfortunately characterized by non-significant, contradictory and confusing, and highly aggregated findings (Theodosiou & Leonidou, 2003; Zou & Cavusgil, 2002) and, in many cases, is concentrated on b2c-settings (Sheth & Sharma, 2006). The transfer of these findings to industrial goods seems problematic due to the complexity of the goods and the different customer problems encountered (Backhaus, Lügger, & Koch, 2011). In addition, it is necessary to shed light on the heterogeneity of the various business types in international industrial markets because designing a "one-fits-all" marketing strategy seems to be problematic and ineffective (Backhaus & Muehlfeld, 2005). Many authors claim that industrial products are more likely to be standardized (Jain, 1989; Samiee & Roth, 1992; Schilke, Reinmann, & Thomas, 2009); however, a marketing mix

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does not result in a single product strategy. Up until now, most research has focused on a single analysis of the influence of one marketing mix element on a company's performance. But there is a need to examine the interplay of all four mix elements at the same time (Kustin, 2004). Schmid and Kotulla (2011) showed that hitherto researchers have not been able to clearly derive performance-enhancing strategies to answer the question of marketing standardization or adaptation in a given context. They call for more industry-segment and country-specific studies (Schmid & Kotulla, 2011).

Next to industry-specific reflection on the marketing mix strategy, another critical variable in the whole decision context is the construct of uncertainty. Moving to different foreign markets always increases the environmental complexity (Ghemawat, 2001). If a company wants to expand into new markets that seem different from the home market, uncertainty about strategy arises (Erramilli & Rao, 1993). Uncertainty plays a central role in a firm's internationalization strategy due, above all, to the shift to the unfamiliar and fast changing environment of emerging markets (Hoskisson, Eden, Lau, & Wright, 2000). Schmid and Kotulla (2011) criticized the fact that potentially false perceptions managers have about the environment and its influence on strategy have, up until now, not been included enough in international studies. Hence, the objective of this study is to include perceptual uncertainties in the international marketing strategy research.

Uncertainty in decision making has to be reduced (Schmid & Kotulla, 2011) to an individually appropriate level. Well established concepts within the contingency literature are based on the constructs of international entrepreneurship and the networking capabilities of a company. Firms providing entrepreneurial orientation are expected to be better able to deal with uncertain environments because these companies possess the abilities needed to react to unknown and fast changing environmental circumstances (Kraus, Rigtering, Hughes, & Hosman, 2012). Furthermore, Jones, Coviello, and Tang (2011) state that network capabilities in combination with entrepreneurial opportunity-seeking behavior are crucial for a rapid and successful internationalization process. Therefore, we want to link these important skills to the firm's ability to reduce uncertainty about the appropriate marketing mix strategy for a foreign market.

Our research will contribute to a deeper understanding of contingency factors influencing international marketing-mix strategies in a b2b-context. Determinants of strategic decisions concerning the question of standardization versus adaptation within the business-to-business context will be examined. We make an important theoretical contribution to the idiosyncrasies of business-to-business markets and concentrate on the project business, which has an essential influence on the marketing mix strategy. Moreover, we extend the research on the four marketing mix elements. Furthermore, our study is one of the first empirical studies to link the construct of uncertainty to the strategic options of the marketing mix. In addition, we believe that business-to-business firms have to stress more and more their international networking and international entrepreneurial capabilities to cope with the possible uncertainties of foreign markets. We postulate that these positively influence the decisions made in association with the marketing-mix strategy.

The structure of our paper is as follows: First, we discuss previous research findings on the topic and develop a theoretical framework, from which we design a set of hypotheses. These focus on the marketing mix strategy of a business-to-business firm that takes into account possible uncertainty about the strategy and influencing factors such as international entrepreneurship and network capabilities. Second, we test our hypotheses using structural equation modeling. Finally, we present and argue our findings, followed by a discussion on the wider implications of our

results and a conclusion that includes implications for future research.

## 2. Literature review and theoretical foundation

### 2.1. Marketing mix in export markets

In light of the international surroundings, a fundamental issue facing international business is the question of how to coordinate the different generic marketing mix elements (i.e., product, place, price, and promotion) across national boundaries (Douglas, 2000). Literature on international marketing strategy provides a magnitude of arguments for both the standardization and the adaptation of the marketing mix elements. The standardization of the marketing mix elements across countries is favored by many authors due, above all, to the realization of economies of scale (Levitt, 1983). Furthermore, standardization is one answer to the increasing homogenization of world markets, where differentiation in marketing becomes less and less important (Sheth, 2001). Supporters of the adaptation approach highlight instead the need to react to cultural differences, another competition set, and foreign market regulations (Diamantopoulos, Schlegelmilch, & DuPreez, 1995; Douglas & Wind, 1987). Studies within the contingency research stream argue that the ultimate strategy depends on various situational factors and is a degree rather than an absolute position (Cavusgil & Zou, 1994; Cavusgil, Zou, & Naidu, 1993; Jain, 1989; Zeithaml, Varadarajan, & Zeithaml, 1988). Building on this, Katsikeas (2006) emphasizes the importance of the so-called fit between the strategy chosen by a company and the situation in which the strategy is pursued.

But what is the appropriate marketing mix strategy for business-to-business companies acting in emerging export markets? International studies seem to lack a systematic approach toward settings other than environmental fit that determine a firm's marketing mix strategy (Schilke et al., 2009). Schmid and Kotulla (2011) call for more integrated research combining a normative developed theory and the concept of fit. They propose a framework of four situational fit variables, integrating the two moderation effects of perceptual errors of managers and the quality of execution of a pursued strategy. In line with this recent research, this paper proposes a detailed analysis of the generic elements of the marketing mix strategy in the specific context of emerging business-to-business export markets.

### 2.2. Project business markets

There has already been a great increase in business-to-business studies; however, the growth and diversification of the discipline needs to be examined more deeply and considerable research still needs to be undertaken (Backhaus et al., 2011). The spectrum of industrial products and services sold is very wide-ranging. Backhaus and Muehlfeld (2005) presented a comprehensive systematization of the heterogeneous products and services within the business-to-business context, following the transaction cost theory and using asset specificity as the basic criterion for categorization. They distinguish the product business, the project business, and the relational business. This paper focuses on the project business, the most complex and the most representative type within business-to-business marketing. In Germany, project marketing deserves particular attention due to the existence of powerful industrial companies specializing in the selling of heavy equipment and the strong tradition of the mechanical engineering and construction industries (Cova & Salle, 2007; Günter, 1986). The project business is characterized by an idiosyncratic investment of both seller and buyer. Premature termination, for example during the phase of construction of a customized product results in a

significant loss for at least one project partner (Backhaus & Muehlfeld, 2005). Project business definitions, derived from project marketing literature, emphasize the dimensions uniqueness, complexity, and discontinuity of industrial projects (Cova & Salle, 2005, 2007). Industrial projects are unique as they result from individual customer problems and the need for customized solutions, they are complex as they require numerous different activities – even from different firms selling parts for the projects – in one single project, and they are non continuous as projects are singular and independent transactions (Lecoeuvre-Soudain, Deshayes, & Tikkanen, 2009; Mandjak & Vereze, 1998). Nevertheless, the need for customization of products and services for the customer does not automatically lead to a general adaptation approach by a company (Söhnchen & Albers, 2010). Sellers try to realize a semi-standardization approach on a platform basis.

The inherent characteristics of projects in business-to-business selling situations cause strong uncertainty for both buyer and seller. Due to the idiosyncratic investment, buyers face considerable uncertainty about the outcome of a project business, which is impossible to fully eliminate just by gathering information in advance. Detailed specifications and references are critical within this type of business. Within an extensively elaborated contract, it is important, above all, for the seller to define any environmental contingencies and resulting consequences, and to secure control mechanisms with regard to payment structure and time horizon. In order to signal credibility and competence, the implementation of various means regarding product, price, and communication are crucial (Backhaus & Muehlfeld, 2005).

### 2.3. Emerging markets

The idiosyncratic characteristics in project business markets shown above illustrate the great importance of the integration of the uncertainty variable in the whole decision context. But on top of this, the specific context of international and even emerging markets has to be considered. Business-to-business companies face specific international interaction processes (Backhaus, 2004). Multi-cultural buyer and seller teams meet in order to discuss detailed business needs. Furthermore, managing industrial goods across borders is a very complex venture due to local distribution peculiarities (e.g., higher transportation costs), political and legal issues (e.g., price and tax controls, trade barriers), and the technological state of development in the foreign market (Lages, Abrantes, & Lages, 2008). These risk factors enjoy even greater power when entering so called emerging markets. Emerging markets are characterized by dynamic extraordinary growth (Hoskisson et al., 2000) with rapid changes in the structure of needs and a differentiated product offering. They have a great market potential, as approximately 75% of the world's population lives in emerging countries (Cavusgil, Ghauri, & Agarwal, 2002). Nowhere is the designing of an effective marketing strategy more necessary than in emerging economies, where great potential and great uncertainties about future developments exist in close proximity to each other. Research on business-to-business marketing problems has to be intensified in order to keep pace with the fast changing global environment and to give the necessary attention to the specific characteristics of these markets (Hult, 2000; Matthyssens, Kirca, & Pace, 2008).

### 2.4. The role of uncertainty

Emerging project market settings create a high degree of uncertainty for an exporting company. When designing an internationalization strategy, managers run the risk of making perceptual errors about the strategic environment, which can result in an inappropriate marketing mix strategy for a specific

market. In line with Schmid and Kotulla (2011), we include uncertainty as a critical decision variable. Uncertainty still plays a central role in a firm's internationalization strategies and is an established concept in the literature; however, it has been defined in various ways. Uncertainty, in general, refers to a situation in which one cannot make specific provisions, neither about the environment nor about consequences of a chosen strategy (Milliken, 1987; McMullen & Shepherd, 2006). Milliken (1987) distinguishes three types of uncertainty: uncertainty about the state of the environment; effect uncertainty, which is the ability to predict the impact of environmental events on the organization; and response uncertainty, which is the ability to choose the right response option or strategy. When entering a new market, a company is confronted with all three types of uncertainty at the same time. The political and economic state as well as the future trend of the market development is unclear. The competitive environment is hard to assess. But by contributing to doubt, uncertainty prevents action (McMullen & Shepherd, 2006; Shane & Venkataraman, 2000) and the question raised is whether uncertainty prevents possible actions concerning the adaptation of the marketing-mix elements.

By now, little empirical research has been conducted on the relationship between uncertainty and the marketing mix strategy. Several researchers proved that a high level of uncertainty reduces a company's market commitment and resource allocation (Agarwal & Ramaswami, 1992; Brouthers, 1995; Erramilli & Rao, 1990; Helm, 2004), but a decisive link between the marketing-mix strategy and uncertainty is yet to be found. Following the research stream initiated by Johanson and Vahlne (1977), Sousa and Bradley (2005) were among the first to examine the impact of psychic distance on the international marketing strategy. They found a gap in the linking of these two things. Standardization seems to be the more appropriate response when the foreign and the home market are similar, and, therefore, adaptation is a better approach when the psychic distance is high (Cavusgil & Zou, 1994; Cavusgil et al., 1993; Sousa & Bradley, 2005).

But in line with Stöttinger and Schlegelmilch (1998, 2000), we also raise the question of whether the construct of psychic distance is a construct past its due date and, therefore, not an adequate measurement of possible uncertainties related to the marketing mix strategy. In the global marketplace, the distinction between a culturally close or dissimilar country seems to disappear. In fact, there is a need for a construct representing individual uncertainty in terms of managerial decisions. Managerial decisions about a certain strategic step are often simply based on their individual perception and not on perfect objective information about a market environment (Madsen, 1989). Therefore, we examine a manager's capability to assess the given environment first and, as a consequence, to implement an appropriate marketing mix strategy. We argue that a manager's perception of a certain strategic environment immediately influences the decision on the degree of standardization or adaptation of the marketing mix elements. Hence, we examine the question of whether a negative assessment of the given environment can hinder a company in following a strategy known to be right only because of the perceived high uncertainty of the environment.

But how can a company reduce uncertainty associated with the marketing mix? The contingency paradigm provides different factors influencing the export performance of a company in a specific context (Cavusgil & Zou, 1994; Sousa et al., 2008). A company that adapts its international capabilities to a given market setting in the right way can gain important competitive advantages (Cavusgil & Zou, 1994; Lages et al., 2008). The given market setting considered within this paper is characterized by the uniqueness, complexity, and discontinuity of industrial project deals on international emerging markets. Within this particular

context, international entrepreneurial capabilities and global networks are of growing importance for gaining access to foreign market knowledge and for allowing a rapid internationalization (Albadvi & Hosseini, 2011; Matthyssens et al., 2008; Zhou, 2007). We believe that the more international, entrepreneurial, and network capabilities a company has, the better they can cope with uncertainties associated with the specific market environment and, as a consequence, the better they are able to design an appropriate marketing mix strategy for a designated market.

### 3. Hypothesis development

#### 3.1. Influence of international entrepreneurship and use of networks on uncertainty

International entrepreneurship is a well established concept in research; however, the definition of the term remains unclear (Wirtz, Mathieu, & Schilke, 2007). Following McDougall and Oviatt (2000), we associate the proactive and innovative action of a company with its international entrepreneurship, as a “combination of innovative, proactive, and risk-seeking behavior that crosses national borders and is intended to create value in organizations.” There seems to be a positive relationship between the active search for new opportunities or the innovative responses to changing environments, and a firm’s export performance (Nelson & Winter, 1982; Wirtz et al., 2007). On an individual level, Ruzzier, Antoncic, Hisrich, and Konecnik (2007) show that the entrepreneur’s international orientation and environmental risk perception influence the firm’s degree of internationalization. Company vision and culture that is open to international markets and new chances lead to an international pioneering position (Jones et al., 2011). Particularly in the knowledge-intensive business-to-business organizations, it is increasingly important to rely on a global mindset within the company (Jones et al., 2011). A proactive, innovative company that is open to new opportunities will be better in assessing foreign market surroundings and coping with uncertainties. We argue that international entrepreneurship can help to better assess the necessity of adaptation or standardization of a firm’s marketing mix. Thus, we hypothesize the following:

**H1.** The better a firm’s international entrepreneurship abilities, the greater the likelihood of the reduction of uncertainty and, therefore, the better the assessment of the marketing mix strategy.

Studies on networks and how they can facilitate a firm’s market entry have been in the focus of interest since Coviello and Munro (1995, 1997) first analyzed this topic. Networks can help greatly to understand foreign customer needs and therefore help to reduce uncertainty about a marketing strategy. Networks can substitute formal institutional support (Xin & Pearce, 1996; Zhou, Wu, & Luo, 2007) and provide a better access to market knowledge. SMEs, in particular, should rely on a broad network to obtain international growth (Zhou et al., 2007). Information from networks is often critical for helping firms decrease the risk and uncertainty of international ventures (Liesch et al., 2002; Zhou et al., 2007). Albadvi and Hosseini (2011) state that there are direct – customer holding – and indirect – uncertainty reduction – network effects. Thus a large network community, including business partners and suppliers and, of course, customers, directly enhances a company’s sales performance (Eid, Elbeltagi, & Zairi, 2006). Indirectly, this network can help to reduce uncertainty about a foreign market and thus uncertainty about implementing the appropriate marketing strategy for this market. In the special context of project business marketing, networking capability gains an even higher importance.

The strategic value of networks has to be linked to the uncertainty reduction capability of a company, and thus to the strategic question of the degree of standardization or adaptation. We suggest that a company with a large network that is made up of customers as well as business partners in the foreign market will be better able to assess the market environment and cultural particularities of a foreign market. As a consequence, networks are able to help assess the right marketing mix strategy. We propose the following:

**H2.** The better a firm’s use of networks, the greater the likelihood of the reduction of uncertainty and, therefore, the better the assessment of the marketing mix strategy.

#### 3.2. The influence of uncertainty on marketing mix strategy adaptation for project businesses

In the following section, we investigate an appropriate strategy for the four elements of the marketing mix, taking into account the idiosyncrasies of emerging project business markets. For these specific surroundings, we examine the link between the perceptual assessment of the environment and the effective marketing mix strategy.

Cavusgil et al. (1993) define *product adaptation* as the degree to which the physical product differs across national boundaries. This is without doubt the most ambiguous question regarding adaptation or standardization within the four generic marketing-mix elements. Jain (1989) and Samiee and Roth (1992) suggest that business-to-business companies should standardize their product offerings across markets as there are no significant differences in business needs. However, the proclamation of this convergence of needs remains questionable and has to be critically reviewed. As such, it must be examined whether it is true that the times of lesser versions of advanced products in less-developed markets are over (Levitt, 1983). This needs to be looked at within the context of industrial markets as well. While designing strategic marketing-mix options, business-to-business firms have to respond to the increasingly varied cultural backgrounds of their customers all around the world (Sheth & Sharma, 2006). Thus the question remains whether the main technical product features offered by a company should be standardized or adapted to the idiosyncratic needs of a business partner in a foreign country.

In order to derive an appropriate strategy, we take into consideration the situational fit variables developed by Schmid and Kotulla (2011). Their argumentation is concentrated on the product-profit-function, thus on the fact that product-profit is dependent on the price per unit, the quantity of products sold, and the total costs per unit. Product standardization can enhance profit if there is a high degree of homogeneity of world demand. In this case, mass production and thus economies of scale have a decreasing effect on the total costs per unit. However, within the project business, this argumentation faces certain limits. There is no high cost saving potential in cross-market economies of scale due to the absence of a sufficiently large group of customers with similar product needs. In many cases, technical specifications determine the product specifications and, therefore, the project outcome (Schilke et al., 2009). Furthermore, project outcomes are normally characterized by them being customized constantly to the customer’s needs during the phase of completion (Backhaus & Muehlfeld, 2005). Consequently, this argumentation does not lead to a recommendation to standardize the outcome of a product business as it is simply not possible. But the question is whether a company has to ensure the same technical standard of a project outcome across national borders. Even in emerging economies, the latest technological standards are, in the meantime, being demanded. However, it is reasonable to ask whether a company

really should standardize their project outcome standard for every market. A “negative-adaptation” may sometimes be sufficient or an even better solution. For instance, companies operating in emerging markets are often faced with insufficient infrastructure or no equally high-quality local components that ensure the same level of product quality as their home market. The risk of imitation cannot be ignored either. In this case, a “negative-adaptation” seems to be an adequate approach. In general, adaptation is only associated with a positive target-group specific upgrading of product features. We defined adaptation as any modification of the product standard due to certain market conditions.

In reality, however, the influence of uncertainty about the environment and the effects of a certain marketing mix strategy have to be considered. A manager has to assess the strategic surroundings of a market and choose an appropriate product strategy. We assume that if a manager is able to reduce the perception of uncertainty about the strategic circumstances, he will adapt the product standard for a certain market. Therefore, we propose the following hypothesis:

**H3a.** The better the assessment of the environment and, therefore, the lower the marketing mix strategy uncertainty, the greater the likelihood of product adaptation by a firm.

The question of *pricing* is closely related to the product strategy of a company. Samiee and Roth (1992) found that adapting the pricing strategy to a foreign market can enhance a firm’s performance. If the characteristics of a new market admit a higher price level, it would be unwise to not adapt them just because of a standardized product strategy (Sousa & Lengler, 2009). This positive effect of price discrimination and of price premium exploitation, which is larger than the possible effect of economies of scale, can play a decisive role, especially in the context of international project business operations. Thus, price adaptation is to be favored by a company; however, the special bidding process within a tendering phase of a project business has to be considered. A company will only be able to exploit premium prices if it is able to assess the strategic environment in the right way. Next to the willingness to pay by the business customer, the competitors’ offers play a critical role during the tendering phase. But within the project business, a tendering company has only one attempt at making its offer at the same time as the competitor’s offer. Prices for entirely new product processes have to be made without any reference. There is no possibility for price adjustments later on. As a consequence, the pricing strategy is extremely dependent upon a company’s assessment of the environment and the ability to reduce uncertainties. Thus, the existence of a good network seems to be crucial for a company setting prices within a project deal. Information about the competitors and customers price level can help when negotiating and submitting an appropriate tender for a targeted project deal. We suggest that a company would be able to set the right pricing strategy and, therefore, adapt pricing if they are able to reduce perceived uncertainty about the influencing environmental factors. Hence, our hypothesis is:

**H3b.** The better the assessment of the environment and, therefore, the lower the marketing mix strategy uncertainty, the greater the likelihood of price adaptation.

International standardization of *distribution* refers to a company’s uniform channel structures across markets (Zou & Cavusgil, 2002). With regard to the question of whether a company implements a uniform distribution system or uses channels that have been adapted to the foreign market conditions, no explicit solution has been postulated in the literature (Theodosiou & Leonidou, 2003). In a situation of high product homogeneity and a

large firm size, the standardization of distribution seems to be preferable (Hultman, Robson, & Katsikeas, 2009; Schmid & Kotulla, 2011). Once more, the homogeneity of demand appears to be of crucial importance. But once again, the direct benefits of standardization are limited due to the absence of a critical mass in the customer groups targeted around the world. However, in the case of a project business, where demand is always uncertain, the usual means of interaction within a project deal is direct personal selling. The sales force of a company has to go through a certain process that includes the acquisition, negotiating, and selling stages (Söhnchen & Albers, 2010). In the course of this interaction process the unique and complex project business needs have to be dealt with. A uniform and standardized personal selling strategy across a market seems to be necessary. The support of local actors such as importers or local firms with regard to distribution is of little importance. Therefore, we propose that even if a company is able to reduce the perception of uncertainty, the adaptation of the sales system is not appropriate for emerging project business markets. The sign of the hypothesis is assumed to be negative. We conclude that the standardization of sales strategies across markets is the appropriate strategy. We propose the following:

**H3c.** In the case of a project business, there is a higher likelihood of a firm using a uniform and standardized personal sales system.

*Promotion* adaption, defined as the degree of differences in the promotional approach across countries (Cavusgil, Zou, & Naidu, 1993; Jain, 1989), is highly influenced by culture and different customer preferences. Therefore it seems rather rational that adaption of the promotional tools is a prerequisite for success in foreign markets (Cavusgil et al., 1993; Sousa & Bradley, 2005; Sousa & Lengler, 2009). Tai and Pae (2002), on the other hand, argue that firms producing and promoting durable goods should standardize their advertising across nations. Continuous advances in technology, communication, travel activities across national borders, and the customer’s own internationally active customers shape a borderless world in which marketing practices face an increasing convergence of customer needs (Douglas, 2000; Sheth, 2001). The question is whether and to what extent this homogenization of needs affects the marketing strategy, particularly the promotional tools, within the project business.

Within the project business, sellers have to provide detailed information and even specifications about the exchanged goods before contracts are signed. These contracts are characterized by extensive safeguard clauses against environmental as well as behavioral uncertainties. Therefore, it is more important here than in any other business type to signal creditability and competence in advance within the common communication instruments. The entire promotional tool set, particularly communication, becomes highly important (Backhaus & Muehlfeld, 2005). Cultural aspects have to be considered, especially with regard to business practices at conventional tradeshows as well as in references, technical documentation, and on the web site, which are highly culturally sensitive promotional tools. Therefore, we suggest that the adaptation of the fourth marketing mix element is crucial to success. However, uncertainty about the foreign market environment and the extreme costs of adaptation could hinder companies from designing marketing material for the specific needs of a foreign customer segment. We propose as a consequence:

**H3d.** The better the assessment of the environment and, therefore, the lower the marketing mix strategy uncertainty, the higher the likelihood of promotion adaptation.

Theoretically, the best strategy within the project business would therefore be to adapt the marketing mix elements product,

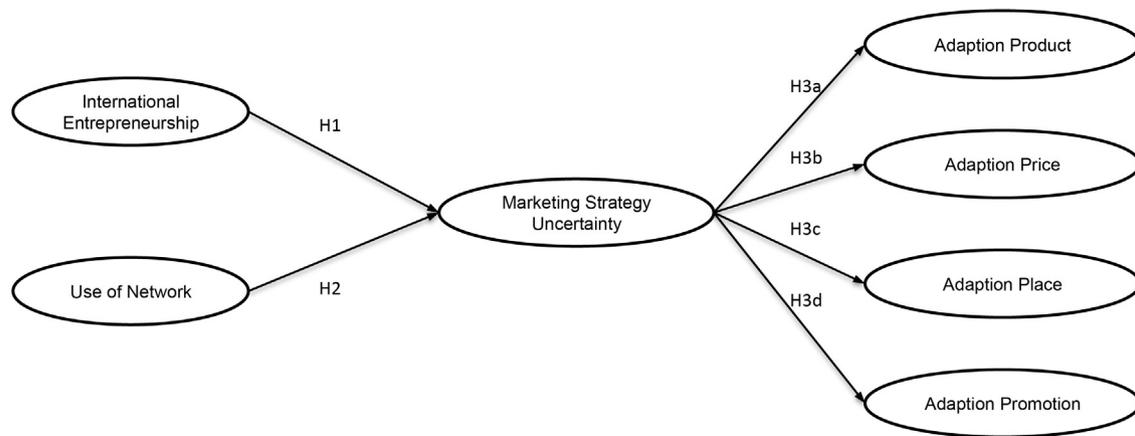


Fig. 1. Overview of explanatory model.

price, and promotion and to standardize the sales system. In fact, the degree of the actual adaptation or standardization of the marketing mix elements will depend on the managerial assessment of the environment, which will be tested empirically later in this paper.

Fig. 1 summarizes our hypotheses.

#### 4. Data set and operationalization

In order to test our research hypotheses, we conducted a survey of small and medium sized German manufacturing companies operating within the project business. We randomly selected relevant companies from a data base of the German Chamber of Commerce. In order to achieve our research objectives, we gathered the contact data of managers in top management positions who are involved in the marketing strategy decision process. The questionnaire for the survey was pretested with experts from the field, members of staff at different Chambers of Commerce, and selected b2b companies. We contacted 10 persons in order to evaluate the comprehensibility and feasibility of the questionnaire. The pretesting procedure did not point to any major problems in the wording or design of the study. For the main survey, 600 companies were contacted and asked to participate. We directly contacted the managers in top management positions, after having identified their contact data in advance with the help of the Chambers of Commerce of each country. In order to motivate the respondents, we promised an aggregated overview of the results. A total number of 198 usable questionnaires were returned, corresponding to a response rate of 33%. The foreign activity of these companies was concentrated mostly on emerging countries within Asia, South America, and the Middle East. The entire sample set is composed of different industrial sectors, including the machinery and equipment sector, the building sector, and the pharmaceutical and medical engineering sector. The majority of the companies in the sample operate with less than 500 employees (44% with less than 250 employees; 17% with between 250 and 500 employees, the remaining with 500–3000 employees), ensuring the typical structure of firms in this business.

In order to secure the reliability and validity of the measurement model, we used previously validated scales as much as possible within this study. All items were conceptualized as six-point bipolar scales with the range indicating strongly disagree (1) and strongly agree (6). In order to measure the degree of the adaptation or standardization of each of the four marketing mix elements, we used a single item scale, indicating the extent of adaptation according to Cavusgil and Zou (1994). Higher values mean greater adaptation. In order to measure the uncertainty

associated with the marketing strategy, we developed the construct “marketing strategy uncertainty.” In many studies, uncertainty refers to the external uncertain market environment. Most researchers refer to an objectively-measured environment, based on firm or industry data. The most common measures refer to the model of Aldrich (1979) and Dess and Beard (1984), indicating the dimensions of dynamism, complexity, and munificence. Other measurements for uncertainty originating from the uncertain environment are often based on an internally available proxy variable (e.g., industry sales figures) examined over a period of time (Carpenter & Fredrickson, 2001; Cannella, Park, & Lee, 2008). However, the objective measurement of uncertainty ignores the fact that the same environmental conditions may be perceived and evaluated differently by any individual (Snow, 1976). That is why some studies rely on the measurement of individually perceived environmental uncertainty (Elenkov, 1997; Ebrahimi, 2000). This has to be interconnected with strategic uncertainty. Many authors claim that decision-making uncertainty is an outcome of external environmental uncertainty (Dwyer & Welsh, 1985; Paswan, Dant, & Lumpkin, 1998). According to these statements and for the purpose of considering the individual level on which uncertainty arises (Evans, Treadgold, & Mavondo, 2000; Madsen, 1989), we used a perceptual measurement in order to understand the strategic options implemented by managers. We defined our construct of “marketing strategy uncertainty” as the ability of a company to assess the required degree of adaptation for a marketing mix element, i.e., the ability to reduce uncertainty about these decisions. This definition includes a firm’s ability to identify the given market forces and to derive the required strategic response to meet the company’s objectives. Thus we designed four items to measure marketing strategy uncertainty as follows: the ability of a company to assess the importance to adapt (1) the product, (2) the pricing strategy, (3) the sales structure, (4) the promotional strategy while entering the new market.

International entrepreneurship was measured according to the definition by McDougall and Oviatt (2000) as the innovative, proactive, and risk-seeking behavior of a company. Three items to measure international entrepreneurship were designed as follows: (1) The company’s products are perceived by the customers in the foreign market as exceptionally innovative, (2) The market entry of the company was proactive rather than a reaction to existing customers or competitors, and (3) The company was moving to the foreign market before the competition. The measurements of the construct “use of network” incorporate the essential statements of the social network theories, where interpersonal ties and social contacts, including personal relationship, are crucial for business effort (Harris & Wheeler, 2005; Zhou et al., 2007). According to

these theories, we designed our construct by measuring the following items. We intend to explore (1) the intensity of network use between the company and local business, (2) the degree of support through the network and, (3) the relevance of the network and thus the establishment of long lasting business relationship.

As all our constructs were measured by a single rater, we risk having common method biases (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). In order to control for any kind of bias, it is important to collect data for dependent and independent variables independently of each other (Richardson, Simmering, & Sturman, 2009). We could not consider that in our study but undertook various other measures in order to prevent biases. We first pretested our questionnaire. Furthermore, we divided the questionnaire into parts so that there was no contextual correlation between the predictor and predicted variables, but the predictor items were asked prior to the predicted variables. We assured anonymity to the respondents and encouraged their honest answers, stressing that there are no right or wrong answers. In addition, we followed the recommendation of Podsakoff and Organ (1986) by making use of statistical techniques for controlling common method bias, thus using the Harman's one-factor test and a confirmatory factor analysis (CFA). We conducted an un-rotated exploratory factor analysis with independent and dependent items at one time. Four factors were drawn out, and among them (cumulative value is 67.27%) the largest factor explains 39.15%, which still indicates no threat of common method variance. Second, we used the CFA approach to further test common method variance (Menon, Bharadwaj, & Howell, 1996; Sabherwal & Becerra-Fernandez, 2005). We linked all items of dependent and independent factors and subsumed that a single factor underlies all the variables, which was not confirmed. Therefore, the results of this CFA test show that the likelihood of method bias is rather low (Sabherwal & Becerra-Fernandez, 2005).

## 5. Results

### 5.1. Method

We applied path modeling, using SmartPLS to test the hypotheses. Partial least squares (PLS) is a structural equation model based on the variance technique. PLS is still at an early stage, but the empirical contributions of the PLS application are being recognized more and more by several authors (Jarvis, MacKenzie, Podsakoff, Mick, & Bearden, 2003; MacKenzie, Podsakoff, & Jarvis, 2005; Noonan & Wold, 1983). This method using regression analytical features aims to forecast the data observed instead of reproducing the co-variance matrix. The so-called outer model reflects the relationship of latent and manifest variables. The inner model measures the linear relations of the latent variables (Chin, 1998a). Given the research context within our study, which aims to achieve a rather predictive relational model, PLS seems suitable as method of analysis. Following the recommendations of Chin and

Newsted (1999), the variance technique is to be preferred if the investigated constructs are newly conceptualized and the measurement is not yet proven. In addition, the relatively small sample indicates the use of the variance technique.

There is no general index to evaluate the complete model, but several indices that estimate quality and data fit (Chin, 1998a; Fornell & Larcker, 1981). To ensure that constructs are valid and reliable, the outer measurement model has to be evaluated before the inner structural model. The following indices are used. In order to evaluate the outer measurement model, the convergent validity, the indicator reliability, and the construct reliability have to be revised. Convergent validity exists if the average variance extracted (AVE) exceeds the value of .5 (Fornell & Larcker, 1981). Factor loadings should be greater than .7 to meet indicator reliability (Henseler, Ringle, & Sinkovics, 2009). To ensure construct reliability, a value greater than .6 indicated as composite reliability is recommended (Bagozzi & Yi, 1988). In order to evaluate the inner model, the index of  $R^2$  is observed. According to Chin (1998b),  $R^2$  determines the model substantially if the value exceeds .67, moderately if the value is greater than .33, and weakly if the values exceed .19. Path coefficients have to show a minimum value of .1 (Lohmöller, 1989) and be significant by means of the bootstrapping procedure with  $t > 2.59$ ,  $p < .01$ ;  $t > 1.96$ ,  $p < .05$ ;  $t > 1.65$ ,  $p < .1$  (Nevitt & Hancock, 2001).

### 5.2. Outer model estimation results

In order to ensure the validity of each construct, we had to exclude items with low and insignificant loadings. Two items did not exceed the recommended values. The loading of the item innovativeness for the construct of international entrepreneurship is still under the advised value of .7, but we follow Hulland (1999) and allow loadings greater than .4. All remaining items have significant factor loadings at the levels of  $p < .01$ , with bootstrap critical ratios (using 1000 subsamples) greater than 2.59 (Chin, 1998a). Since not every criterion of a set of chosen criteria has to be fulfilled, we believe we have a suitable operationalization (Bagozzi & Yi, 1988). The composite reliability of all constructs exceeds the requested value of .6 (Bagozzi & Yi, 1988). Every construct meets the minimum AVE value of .5 that Fornell and Larcker (1981) recommended. Thus convergent validity of the constructs is supported. The variance explained by the model in terms of  $R^2$  is .137 for marketing strategy uncertainty, which is slightly under the requested value of .19 (Chin, 1998a). However,  $R^2$  is greater than the recommended .1 by Falk and Miller (1992). Table 1 shows the results of the outer structural model:

### 5.3. Inner model estimation results

Table 2 shows the results of the inner model. For each corresponding path, sign and significance of  $t$ -values are tested. All the paths, except for product and place adaptation, exceed the

**Table 1**  
Results of the outer structural model.

Components and manifest variables	Loading	Critical ratio	AVE	Composite reliability
<i>International entrepreneur</i>				
Innovativeness	.5114	2.7513	.552	.6951
Proactiveness	.9179	14.3954		
<i>Use of network</i>			.6518	.7877
Intensity network	.881	6.943		
Support network	.7262	3.7612		
<i>Marketing strategy uncertainty</i>			.5656	.8384
Assessment place	.7122	11.2981		
Assessment promotion	.7565	14.0083		
Assessment price	.8230	24.3433		
Assessment product	.7109	11.0754		

**Table 2**  
Results of the inner structural model.

Predicted variables	Predictor variables	Hypothesis	Path	Critical ratio
Adaptation product	Marketing strategy uncertainty	H3a	.03	.3245
Adaptation price		H3b	.21	2.8056
Adaptation place		H3c	−.03	.4099
Adaptation promotion		H3d	.25	3.6804
Marketing strategy uncertainty	International entrepreneur	H1	.32	4.4747
	Use of network	H2	.15	2.1649

bootstrap critical ratios ( $t > 1.96$ ;  $p < .05$ ) and the path coefficient exceed the recommended value of .1 (Chin, 1998a). These data show that H1, H2, H3b, and H3d are supported.

H1, indicating the path between the construct of international entrepreneur and the construct of marketing strategy uncertainty, is significant at the level of  $p < .01$ , with a positive value of .32. H1 is therefore supported. H2, indicating the path between the construct use of network and the construct of marketing strategy uncertainty, is significant at the level of  $p < .05$ , with a positive value of .15. H2 is supported. The support of H1 and H2 shows that international entrepreneurship and the use of networks positively influence the reduction of marketing strategy uncertainty. However, the impact of the construct “use of network” is weaker than the impact of the construct “international entrepreneurship.”

At the level of  $p < .01$ , both hypotheses H3b and H3d are significant. The construct of marketing strategy uncertainty shows a positive correlation with the adaptation of price, indicating a value of .21. The correlation of the construct of marketing strategy uncertainty and the adaptation of promotion shows a stronger correlation at .25. This suggests that a company that is able to assess the necessary degree of adaptation of the marketing-mix elements adapts, in reality, the pricing and promotion strategy to a foreign market.

H3a is not supported as indicating a critical ratio value of .33 and an insufficient path value of .03. The theoretically derived assumption of product standard adaptation has to be rejected. H3c indicates a negative path value of .03 and a critical ratio value of .41. The path H3c is insignificant. However, the assumed sign is correct. The theoretically derived suggestion that a company when acting within the project business is not adapting the marketing mix elements of sales systems is supported. In consequence, the data enforce the recommendation of the adaptation of price and promotion (H3b and H3d), but the general adaptation of product and place (H3a and H3c) has to be rejected.

## 6. Discussion, implications and future research

### 6.1. Discussion of research findings

Our objective was to identify which elements of the marketing mix of business-to-business companies, particularly those acting on project business markets, have to be standardized or adapted to foreign market conditions. The degree of adaptation of the marketing mix elements was defined as being dependent of the construct “marketing strategy uncertainty.” Furthermore, we looked at the influence of international entrepreneurship and the use of networks within the whole decision context. We examined the possibility of reducing the perception of marketing strategy uncertainty with these two abilities. The findings show that there exists a need for a different view on every single element of the marketing mix strategy. The data indicate that there is a positive relationship between the ability of a company to assess the given market environment, and the adaptation of the pricing strategy and the promotional elements. In contrast, there is no evidence for the general adaptation of the elements product and

sales system. Furthermore, the results show a positive relationship between the international entrepreneurial and networking abilities of a company and the ability to reduce uncertainty about their marketing mix strategy.

Our findings confirm that it is not possible to derive general advice for a standardized or an adapted marketing mix approach. The results show that each of the four elements of the marketing mix has to be considered separately. We filled the research gap by examining the marketing strategy for all four elements of the marketing mix within one study. Theodosiou and Leonidou (2003) complained that research on the question of standardization versus adaptation of the marketing mix is contradictory. Therefore, we concentrated our investigations within the clearly defined constraints of the project business. Industrial markets, in particular, are too complex to derive clear and common implications. For example, we stated that the customization of the outcome of a project business is essential due to the idiosyncrasies of the project business. The marketing mix strategy related to the product strategy seemed theoretically clearly defined: adaptation. By contrast, results showed no significance for the strategy of product adaptation across markets. The assumption that a negative adaptation to lower product standards in foreign emerging markets is the appropriate strategy has to be rejected. In turn, the need for a certain project standard seems to imply the standardization of at least the components, procurement, and product details across market boundaries. However, these results may not be valid for and transferable to the product or relational business, as defined by Backhaus and Muehlfeld (2005).

The statement that international differences are on the decline and that there is a drift toward transnational similarities (Sheth, 2001) has to be critically reviewed. This assumption might influence the marketing strategy concerning the product element. But nevertheless, an increasing homogenization of product needs does not imply a homogeneous promotional approach to foreign markets. Cultural differences still play a decisive role in the complex and negotiation-intensive b2b-markets and have to be considered within international marketing studies. Our results show that the adaptation of price and, above all, of the promotional tools is necessary. These two elements are highly influenced by culture and thus have to be adapted to foreign project business markets. The adaptation of these marketing mix elements can ensure the cultural awareness of a company.

Moreover, we argued for the importance of international entrepreneurship and network capabilities. Up until now, no study has considered these aspects to be important within the context of the international marketing mix strategy. We connected the abilities of international entrepreneurship and networking to the ability to reduce marketing strategy uncertainty. The significant influence of international entrepreneurship reinforces the importance of this research stream. The lesser importance of the networking capabilities revealed is in line with previous findings within the research of early internationalizing firms. For example, the existence of a network did not appear to be of significant importance to company founders, as assumed by Rasmussen, Madsen, and Evangelista (2001).

## 6.2. Managerial implications

Managers always have to be aware of the idiosyncrasies of their businesses and industry sectors. The marketing mix implications depend on these constraints, especially within complex industrial markets. We established the peculiarities of the project business, such as complex products sold through direct customer contact. Project business deals are often rather focused on the implementation of the project and strictly factual. But industrial market players have to attach the necessary importance to the cultural idiosyncrasies of every foreign market. Our findings demonstrate the importance of and the need to rethink the international challenges of every single market. Thus, it is crucial for firms acting within the technically knowledge-intensive project business to open their minds to the global market place and cultural peculiarities. In every project deal, people are directly involved and thus cultural traditions have to be considered. Uncertainties about business conditions arise. However, uncertainty must not prevent action. Under uncertainty, firms tend toward intensive information research, market scanning, and sometimes even a later market entry. There is also the risk that the standardization of the marketing mix is only a consequence of uncertainty and not a strategic decision. The standardization of the marketing mix elements could be a somewhat easier alternative to realize than the adaptation. If, however, no effort is paid to adapting any of the marketing mix elements and, therefore, no consideration is given to cultural differences, a low business performance may result. Therefore, it is necessary to reduce uncertainty associated with the marketing mix strategy.

In order to reduce uncertainty, results show that it is critical that the international entrepreneurial spirit within the company be fostered, in order to be able to cope with cultural uncertainties. However, our results revealed that the networking abilities of a company are of less importance. We assume that the character of a project business restricts the use of a business network when dealing with the question of marketing mix adaptation. A network is important for compensating insufficient market information and a potential lack of resources. But it seems that network partners are not the perfect counterpart to the strategic issue concerning the standardization versus adaptation of the marketing mix. Moreover, the project business is often characterized by an individual transaction with a single customer focus. Thus, long-lasting network relations are simply not useful. Internal company abilities such as international entrepreneurship seem to be more important than the potential to connect businesses to external networks. International entrepreneurial ability helps to identify global business opportunities and to identify strategically appropriate responses.

Furthermore, our findings confirm the importance of the adaptation of the marketing mix element promotion. Every interaction during the selling process and any information provided to signal business competences and credibility is crucial to international success. Managers, consequently, have to ensure the adaptation of any promotional tool to the foreign market idiosyncrasies. Furthermore, we identified that a uniform and standardized personal sales system is the most promising means of ensuring success within project business. The outcome of any project business is customized to every single customer, whereas the quality level of a project business has to be standardized as much as possible. A so-called negative-differentiation of the product standard is not practical. Firms operating in emerging economies have to secure an equally high product standard, as is the case in any other markets. In addition, a company has to exploit the possibilities of price adaptation. Many companies acting in industrial markets only focus on their internal cost structure and neglect possible price adaptation. Uncertain environments, especially unknown competition constellations, may not hinder a

company from adapting their price structure to the foreign market conditions.

## 6.3. Limitations and future research

However, we have to admit some constraints of our study. The measurement of the construct uncertainty is already a controversially discussed issue within the research field of international marketing. We defined this construct as the perceptual uncertainty associated with the degree of adaptation needed within the marketing mix decision process. This formulation already considers the level where uncertainty arises, thus the subjective one. However, the measurement of perception is an ex-post measurement. In general, it is practically impossible to measure perception immediately prior to a decision and, therefore, we risk confounding causality (Dow & Karunaratna, 2006). In our study, we assumed that managers consider and assess all relevant facts and derive an appropriate marketing strategy. However, Schmid and Kotulla (2011) ask for a simultaneous integration of the subjective as well as objective perception and the matching of these two elements.

Furthermore, we have to admit that the model does not reflect all of the factors that influence marketing strategy uncertainty and is, therefore, not sufficient for explaining the phenomenon of the ability to reduce uncertainty. However, the purpose of the study was not to maximize the percentage of variance explained of the construct 'marketing strategy uncertainty.' The low  $R^2$  of the model indicate the existence of additional determinants of marketing strategy uncertainty reduction. Thus, further research is necessary to identify other possible variables contributing to the explanation of variance of this construct.

Finally, the most important missing link is the measurement of the effect on performance. How does the adaptation of the marketing mix elements really influence the performance of a company in a foreign market? Future research has to concentrate on the marketing mix strategy as a performance enhancing one. It is still necessary to link the strategic choices within the marketing mix to a firm's performance, especially within industrial marketing research. Schmid and Kotulla (2011) called for more industry-segment and country-specific research. By concentrating on the project business, we automatically concentrated on particular industry segments. However, this call for more detailed research has to be pursued further. The focus of our paper was on the project business, which we considered to be the most representative and complex field within industrial markets. We found it important to examine the marketing mix approach, given the idiosyncrasies within the project business. However, in line with the systematization of Backhaus and Muehlfield (2005), detailed studies within every business type are further required. It is time to acknowledge the importance of business-to-business markets and to further enhance research on industrial markets.

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