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We have limited knowledge on the potential pattern similarities/differences of trust's role that may exist in information use obtained through intra- and extra-organizational relationships. This study addresses this question by investigating how trust leads to information use. Data from 338 intra-organizational and a sub-ample of 158 inter-organizational dyadic information exchange-relationships showed that trust is an important driver of the utilization of market information in both cases. Trust has no direct relationship to information use, instead has a strong indirect effect through a mediator, perceived quality of information. The effects of trust on the use of information obtained through inter- and extra-organizational dyadic relationships proved to be similar.

Keywords: *trust, managerial use of market information, relationships, dyads, sales-marketing interface, market research*
*** Tamara.Keszey@uni-corvinus.hu**

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1. Introduction

The organizational ability to use market information is a key to success. It improves a firm's organizational performance, market orientation and contributes to long-term competitive advantages (Jaworski and Kohli 1993, Kumar et al. 2011). Marketing managers – due to their boundary spanner position – rely on information obtained through intra-organizational (hereinafter IO) as well as extra-organizational (hereinafter EO) relationships (McAllister 1995). Competitive advantage of the firm is generated not only from corporate resources housed within the firm but also external resources beyond their boundaries, using information from both internal and external sources becomes crucial (Li 2005).

Previous literature has acknowledged and theoretically suggested that potential differences may exist in information use patterns between EO and IO relationships and the role of trust in this process may be different (Moorman et al. 1992). However it has not yet been well examined empirically. Scholars were mainly focusing on how marketing managers rely on one specific type of information deriving either from IO or from EO source. As managers are surrounded by a complex information environment; limiting research to one single, specific type of information narrows our insights into the pattern-differences/similarities across different information sources.

Against these backdrops the present paper aims to advance knowledge on how trust affects the process of managerial use of market information and whether the role of trust is different when information is obtained through inter- and intra-organizational dyadic relationships.

2. Context and Conceptual Framework

For studying marketing managers' use of market information obtained through inter-organizational and intra-organizational relationships marketing manager-market researcher and marketing manager-sales manager dyadic relationships were considered. As this paper investigates the use of market information, we are focusing on the information recipients' perspective. Market research services were chosen for EO relationship because market research services are important in environment scanning as the global market research turnover reached US $ 39.084 million in 2012, representing a year-to-year increase of 5.2% (www.esomar.org). For studying IO information exchange relationships we choose salespeople-marketing manager dyads, as salespeople spend a significant amount of time with customers and, therefore, are in a unique position to serve as a primary source of information regarding marketplace problems and customer requirements (Arnett and Wittmann 2013).

The role of inter-personal trust in the use of market information is still an issue to be addressed. Studies on managerial use of EO market information showed that trust has no direct effect on managerial use of information, but failed to empirically investigate indirect effects and the possible role of mediator variables (Moorman et al. 1993, Moorman et al. 1992). Scholars of marketing managers' use of market information deriving from IO sources advocate for the central role of relationship quality between information user and sender. Researchers however mainly focused on the degree of integration across departmental interfaces (Troilo et al. 2009, Biemans et al. 2010). Surprisingly little attention has been devoted to the role of trust in literature of IO market information use by marketing managers (for exception see (Massey and Dawes 2007). Former studies were not explicitly investigating the differential effects of trust on the use of market information obtained through EO and IO relationships. Moorman (1992: 318) for example suggests – but do not test empirically - that „trusts' effects may be more tenuous in inter-organizational relationships than in intra-organizational relationships."

Our conceptual framework has 3 constructs, trust, perceived information quality and information use. Scholars advocate that trust and perceived information quality should not be regarded as direct antecedents of information use, rather as a mediator between information use and other antecedents (Maltz and Kohli 1996, Low and Mohr 2001). As we aimed to create a parsimonious model we captured these focal constructs that are not information-source specific.

3. Hypotheses

In this study we define trust as the combination of professional capabilities and responsible, co-operative behaviour of the information source (Moorman et al. 1992). Former studies pointed out that relationship between marketing's dyads with sales managers and with market researchers are not always trustful. Marketing managers and market researchers differ in cultural norms, knowledge domain, thought world, professional culture and self identification (Moorman et al. 1993, Moorman et al. 1992). Studies on sales-marketing interface have also attributed lack of respect between these two departments due to goal differences, different perspectives toward the business environment, lack of interfunctional integration and physical separation (Rouzies et al. 2005, Beverland et al. 2006). The theory of two communities metaphor suggests that groups differing in culture, norms, goals, foci of orientation may get involved in conflicts that weaken the collaboration efficiency and trustworthiness of the partner (Caplan et al. 1975). Previous literature suggests that a trustor's propensity to trust will be influenced by the perceived trustworthiness of the trustee (Mayer et al. 1995). Since lack of trust has been identified as a potential source of problem in marketing managers' collaboration with EO and IO counterparts we argue that there is no significant difference in the effect of trust on the use of market information in inter- and intra-organizational differences.

Information quality has been conceptualized as the accuracy, clarity, timeliness and relevancy of data (Maltz and Kohli 1996). When information is obtained through interfaces with either EO or IO relationships *information asymmetry* arises between the user and the provider of the market information (Maltz and Kohli 1996). Marketing managers lack statistical knowledge limiting their skill to assess the accuracy of methods used for providing market research information as they also lack background information about data gathering and sampling methods (Moorman et al. 1993). Similarly, sales managers are in daily contact with individual clients, but marketing managers have an overview about the whole market, thus have limited insights about the credibility of information on single accounts' market needs (Beverland et al. 2006). Thus information asymmetry limits the marketing managers' objective judgment of the accuracy and comprehensibility of information from both the salesforce and market research. Use of information from sources where the issue of information asymmetry is prevalent may involve risks to an individual, such as a source providing incomplete or having a questionable track record (Holste and Fields 2010). A lack of trust in the provider of market information has been shown to cause concerns in the recipient about manipulation and hidden motivations, leading to poor evaluation of information quality (Fisher and Maltz 1997, Maltz and Kohli 1996) Therefore we posit that:

H1.: The more the marketing manager trusts the a.) EO provider b.) IO provider of market information the better she/he will perceive its' quality.

H1c.: The effect of trust on perceived information quality will not significantly differ in EO and IO relationships

Managerial use of market information is a multidimensional concept. The most important and extensively researched mode is the instrumental use, defined as direct utilization of information for solving a well-defined problem (Caplan et al. 1975). One cornerstone of decision-making literature is that managers rely on information to reduce managerial uncertainty (Galbraith 1977). Receiving too much information, however might be counterintuitive, and would lead to a decrease in decision accuracy. This phenomena has been labelled 'information overload' (O'Reilly 1980). The theory of information overload reports that the relationship between information load and decision accuracy is inverted U-shaped. Information load contributes to decision accuracy until a certain point, however when information overload occurs processing new information decreases decision quality (O'Reilly 1980). Scholars argue that modifying the quality of information can have great effects on the likelihood of information overload (Sparrow 1999). Improving the quality of information can improve the information-processing capacity of the individual, as he or she is able to use high-quality information more quickly and better than ill-structured, unclear information (Simpson and Prusak 1995). A willingness to use knowledge and information was shown to be based on an employee's understanding of the accuracy and validity of the information (Choo 1998). Therefore we posit that:

H2.: The better the marketing manager perceives information a.) deriving from inter-company source b.) deriving from intra-company source the more he/she will use it

We expect that trust will have an indirect effect on use the of market information, through information quality, thus have no direct effect on information use. When managers solve well-defined problems they primarily evaluate the set of information available to them; instead of relying their EO and IO relationships based on trustworthiness. Evaluating social relationships as potential source of information was found to be a reasonable procedure when solving complex, ill-structured problems (e.g.: finding new jobs) (Granovetter 1985). The evaluation of EO and IO information sources and to give them credits based on their trustworthiness requires more effort than reviewing available information. Task complexity affects information seeking efforts, therefore managers would not be willing to make extra efforts for solving well-defined problems (Byström and Jarvelin 1995). Therefore we posit that:

H3: Marketing managers' trust in a.) EO and b.) IO provider of marketing information has an indirect effect on information use, through information quality.

H3c.: The effect of trust on information use will not significantly differ in EO and IO relationships

4. Method

We used mail questionnaires to gather data. Every single marketing executive of companies belonging to the top 10 percent in terms of sales revenues in one country of the EU were involved in the survey (Database of the National Statistical Office was used as a sampling frame). 972 letters were sent out, resulting in 338 returned questionnaires (response rate of 34%). We used this sample to test the model on the use of information from intra-company source. To test information use from inter-company use we selected respondents that were using market research services within the last one year. The selection resulted 158 companies.

The respondents were marketing managers, on average one level below top management in hierarchy, with decision-making authority. The most common reason for refusal was a lack of time (as we were informed when contacting the non-responding companies via phone), leading us to conclude that non-response does not cause systematic errors in the sample.

To measure the constructs we used five-point Liker-scales taken from former studies. Trust in the market researcher was measured with 6 items from Moorman, Zaltman et. al (1992), trust in sales counterparts was measured with 6 items from Maltz and Kohli (1996). Market research quality measures were taken from Deshpandé and Zaltman (1982) and measured with 5 items, quality of information from sales was measured with 5 scale items adopted from Maltz and Kohli (1996). Use of market research was measured with 4 items by scales taken from Deshpandé and Zaltman (1982) and use of sales information was measured with 4 items adopted from Maltz and Kohli (1996).

To assess the validity and properties of the multi-item scales we conducted confirmatory factor analysis (CFA). CFA indicates good fit for market research ($\chi2$/df=1.31, p<.01, CFI=0.97, IFI=0.97, TLI=0.96, RMSEA=0.04) and for information from sales as well ($\chi2$/df=2.10, p<.001, CFI=0.95, IFI=0.95, TLI=0.94, RMSEA=0.05). All factor loadings are statistically significant and above .60 (Anderson and Gerbing 1988). All constructs show acceptable values of composite reliability (>.76). The average variance extracted (AVE) values are greater than .50 (Bagozzi and Yi 1988), and the square of the inter-correlation between two constructs is less than the AVE estimates of the two constructs for all pairs of constructs signalling discriminant validity (Fornell and Larker 1981).

5. Analyses and Results

For testing the model SEM has been used to simultaneously measure the hypothesized relationships between constructs (with AMOS 20.0). The model yielded good fit for market research ($\chi2$(73)=110.69, χ 2/df=2.59, p<.001; RMSEA=0.057; SRMR=0.056; NNFI=0.948; CFI=0.959) and acceptable fit for sales information ($\chi2$(72)=187.14, χ 2/df= 1.516, p<.001; RMSEA=0.069; SRMR=0.048; NNFI=0.938; CFI=0.951).

For the use of information from EO source H1a is supported because has a positive significant effect on managerial perception of information quality (b=.62, p<.001). H2a is also supported, suggesting perceived information quality has a positive significant effect on information use (b=.45, p<.001). H3a is supported, because trust has no direct effect on information use, but has a significant indirect effect through perceived information quality (b=.20, p<.01). For the use of information from IO source H1b is supported because has a positive significant effect on managerial perception of information quality (b=.64, p<.001). H2b is also supported, suggesting perceived information quality has a positive significant effect on information use (b=.51, p<.001). H3b is supported, because trust has no direct effect on information use, but has a significant indirect effect through perceived information quality (b=.21, p<.01). H1c is supported as the effect of trust on perceived information quality does not differ in EO and IO relationships (b=.619, p<.001; b=.639; p<.001). H3c is also supported as the indirect effect of trust on information use does not differ in EO and IO relationships (b=.203, p<.01; b=.21; p<.01).

Table 1.: Parameter estimates (standardized structural coefficients) and variance explained (R^2).

	Inter-organizational relationship (n=158)	Intra-organizational relationship (n=338)
Direct effects		
Trust →PIQ	.619*** (H1a: +)	.639*** (H1b:+)
PIQ→USE	.454*** (H2a:+)	.516*** (H2b:+)
Mediated effects[a]		
TRUST→PIQ→ USE		
Total effect	.131(.035/.268)*	.226(.060/.380)**
Direct effect	-.072(-.217/.021)ns	.016(-.115/.211)ns
Indirect effect	.203(.097/.426)** (H3a:+)	.210(.107/.381)** (H3b:+)
Variance Explained		
PIQ	.38	.41
USE	.21	.27

[a]90% Bias-corrected bootstrap confidence intervals, lower and upper confidence intervals in parentheses. Confidence intervals containing zero are interpreted as non significant (ns), confidence intervals not containing zero are significant.
PIQ – Perceived Information Quality; *** p<.001;**p<.01; *p<.05

6. Discussion and Implications

We created and tested a parsimonious model, consisting of three variables, a.) trust that effects b.) perceived quality of information, which in turn determines c.) information use. This simple model yielded acceptable model fit and high explanatory power in the context of both inter-company and extra-company relationships. We found that trust is an important driver of the utilization of market information from intra- and extra-organizational sources as well. However trust has no direct relationship with information use; instead has a strong indirect effect through a mediator, perceived quality of information.

Our results imply that the role of trust in the use of market information does not differ significantly in cases of marketing managers' dyads with inter-organizational and extra-organizational relationship partners. Former studies on knowledge transfer suggested that the role of trust in sharing knowledge may be higher in inter- than in extra-organizational relationships, because trust is more vulnerable in extra-organizational relationships, as monitoring and formal controls are difficult and costly to establish, trust may be the primary organizing principle to safeguard against opportunistic behaviour (Li 2005). Our findings on the use of market information do not confirm prior results on transferring information and knowledge. Market knowledge transfer does not necessarily lead to the use of such information; therefore relationships between antecedents of the two different phenomena may also differ. Furthermore, in this study we were focusing on the perspective of the marketing manager. Marketing managers represent the 'voice of the customer' within the company, and are often described as boundary spanners (McAllister 1995). Therefore marketing managers may be more used to collaborate with extra-company parties, such as customers, agencies, market researchers. This expertise may reduce risks associated to collaborations with such partners. Therefore marketing managers may not overestimate the role of trust in extra-company relations compared to intra-company relationships. Our results imply that marketing managers give higher credits to information deriving from sources they regard to be trustworthy. Relationships between marketing managers and their sales counterparts, however, are rarely harmonious (Beverland et al. 2006). We argue that the lack of trust may lead to loss of valuable information already available within the company. Sales managers are in daily contacts with the customers and have the potential to provide valuable information (Arnett and Wittmann 2013). However, marketing managers may fail to exploit this information 'golden mine', just because they do not trust their partners. Former studies on sales-marketing interface were mainly focusing on how to integrate and set up the configuration of these two functions (Biemans et al. 2010). Our results emphasize the role of interpersonal trust in using market information from sales. Similarly, parties of extra-organizational relationships should also dedicate efforts to maintain trust-based relationships. If – for some reasons – marketing managers' trust in market researchers is diminished or lost, he or she will evaluate the market research information to be of low quality and would be reluctant to rely on it when making decisions. Loss of trust may ultimately lead to negative perceptions of the usefulness of market research services.

Our study advocates that decision makers who are able to formulate trust-based relationships with extra-organizational and intra-organizational partners will be able to rely on a more diverse set of information pool perceived of high quality, which decreases loss of information and leads to superior market performance.

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