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Exploring the role of inter-organizational fit in preference between buyer and supplier in a new product development context.

Submitted by: Mahmut Ince

1st Supervisor: Dr. Frederik Vos
2nd Supervisor: Prof. Dr. habil. Holger Schiele
Practical Supervisor: X
External Supervisor: Supervisor X

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Abstract

The purpose of this study is to discover what the role of inter-organizational fit is on preference between buyer and supplier in NPD. Attractiveness is known to lead to preference towards other entities (based on the social exchange theory). Attractiveness factors in normal buyer-supplier relationships are widely discovered. Whereas in New Product Development, these antecedents are less discovered. Specifically, inter-organizational fit is a concept which is left unexplored as an attractiveness factor in buyer-supplier relationships within new product development. This paper will, therefore, explore to what degree organizational compatibility and resource complementary behavior, both facets of inter-organizational fit, are sources of attraction. Both, the buyers, as well as the suppliers will be integrated into this study to obtain a dyadic view. Five existing buyer-supplier relationships at Company X (case company) are assessed on the degree of attractiveness, satisfaction, and preference through a survey. The survey is solely used as an exact measurement tool. The results of the surveys show a significant difference in preference between buyer and supplier in NPD, for all the five relationships. These relationships are further investigated through a qualitative approach by taking semi-structured interviews to gain in-depth insights on the concept of inter-organizational fit in the new product development context as an attractiveness factor. The results of this study show that inter-organizational fit plays a role as an attractiveness factor for both the buyer and supplier side. The findings also show the similarities and differences in the view of both views. The main differences between buyer and supplier in their view on inter-organizational fit are on the strategic dimension of organizational fit, where both sides have a different view on what ought to be strategically important, which could explain the significant difference in preference between the existing five buyer-supplier relationships at Company X which are investigated.

Contents

Index of abbreviations 4

Index of tables....4

Index of figures 4

Anonymized thesis....4

1. Introduction: The involvement of suppliers in New product Development....5

1.1 The drive towards joint buyer-supplier new product developments....5

1.2 The scope of the research: Qualitative research trying to explain preferential distance in NPD contexts....7

2. Literature Review / Theoretical Framework....8

2.1 Defining inter-organizational fit in buyer-supplier relationships within the NPD context; congruency theory and relational view. 8

2.2 The role of attractiveness in preference for the other party; social exchange theory....10

2.3 Bounded rationality in perception....13

2.4 The nature of buyer-supplier relationships in the context of NPD; resource complementarity 15

2.5 Strategic Compatibility in buyer-supplier relationships within NPD. 16

2.6 Cultural compatibility....21

2.6.1 National culture 22

2.6.2 Organizational culture 24

2.7 Technical compatibility 28

Proposed framework 29

3.1 Inter-organizational fit as an attractiveness factor....29

3.2 Resource complementarity....29

3.3 organizational compatibility 31

3.4 Perceptions, Attraction and Preference 31

4.0 Methodology....33

4.1 Case study 33

4.2 Research design 33

4.3 Data collection 35

4.4 Data analysis 35

5. results....36

5.1 surveys; a significant difference in preference between buyer and supplier 36

5.2 results of the interviews 37

5.2.1 IO-fit as an attractiveness factor....37

5.2.2 Different views of fit (Bounded rationality)....38

5.2.3 Intercompany findings (relationship level)....42

6. Discussion and implications 46
6.1 Discussion of the results 46
6.2 Practical Implications 47
6.3 Future research directions 48
6.4 Limitations of this study 50
References 52
Appendices 58
A: Interview Protocol 58
B: Introductory PowerPoint 61
C: Questionnaire for the buyers. 62
D: Questionnaire for the suppliers 67
E: Findings Actual Scores questionnaire 73

Index of abbreviations

NPD	New Product Development
IO-fit	Inter-Organizational Fit
CVF	Competing Values Framework
AVL	Approved Vendor List
DTC	Design To Cost

Index of tables

Table 1. This table provides explanations and definitions about inter-organizational fit and preference.
Table 2. Overview of extant research on national cultural dimensions
Table 3. This table explains the six cultural dimensions as identified by Hofstede.
Table 4. This table explains the six organizational culture dimensions as identified by Hofstede.
Table 5. This table explains the four organizational cultures as identified by Trompenaars.
Table 6. This table describes the steps which are taken in the coding process.
Table 7. This table shows the results of the measurement on preference, including the actual preference level and the difference between the expected and actual preference level for both the buyer and supplier.
Table 8 - This table shows a summarized output of the findings on IO-fit, respecting both views.
Table 9 - Intercompany findings

Index of figures

Figure 1 - Illustration of reference dependency
Figure 2- Stages of purchasing sophistication
Figure 3 - Customer portfolio analysis, seller's perspective
Figure 4 - The Dutch Windmill
Figure 5 - National culture -> corporate management culture (Khan & Law, 2018)
Figure 6 - The competing values framework (CVF)
Figure 7 - Organizational Culture (Trompenaars & Hampden-Turner, 1998)
Figure 8 - The role of IO-fit in preference between buyer and supplier

Anonymized thesis

Upon request of the supervisor from the buying case company, the real names and likenesses are anonymized as stated below.

Buying Organization	Company X
Supplying Organization	Sup_Co_1, etc.
Buyer	Buy_Rep_1, etc.
Seller	Sup_Rep_1, etc.
Buying organization supervisor	Supervisor X

1. Introduction: The involvement of suppliers in New product Development

1.1 The drive towards joint buyer-supplier new product developments

The so-called technological globalization has driven the global competition and requires companies to rapidly adapt to changes in their environment. Besides that, it has led to technological uncertainty. Consequently, firms are interfering more with their suppliers to share the risks (Chang, Chen, Lin, Tien, & Sheu, 2006, p. 1136; Wagner & Hoegl, 2006, p. 937). Besides the intention to willingly cooperate with suppliers to share risks, firms are getting involved in closer buyer-supplier ties because the potential of innovation is beyond the strict boundaries of the customer's company (Le Dain, Calvi, & Cheriti, 2008, p. 2). By fostering strategic interactions and contracting out non-core activities, firms rely increasingly on resources beyond their own (Sjoerdsma & van Weele, 2015, p. 192), which requires closer buyer-supplier relationships in NPD (Schiele & Vos, 2015, p. 139). These closer buyer-supplier relationships in NPD are becoming interconnected exchange relationships (Prenkert & Hallén, 2006, p. 384), having its roots in the social exchange theory (Cook & Emerson, 1978, p. 724). Based on the social exchange theory, the initial attraction to a company is based on beliefs and expectations (Blau, 1964, p. 193). In turn, attraction is claimed to lead to satisfaction, and this can result in a preference for the other party in a buyer-supplier relationship. (Schiele, Calvi, & Gibbert, 2012, p. 1180). The growing reversed marketing literature underlines the importance of becoming a preferred customer. A preferred customer receives preferential resource allocation (Steinle & Schiele, 2008, p. 11). Similarly, buyers have a preference to a certain supplier, relative to other suppliers. This paper will focus on discovering the underlying factors of organizational preference between buyer-supplier relationships in NPD, by discovering the role of inter-organizational fit. The existing literature is rich in empirical research that has tested the underlying facets of both buyer and supplier preference, from only one perspective. This paper will focus on buyer-supplier relationships in NPD by exploring the perspectives of both parties. Evidence from existing literature shows that different perceptions exist between buyers and suppliers regarding supply chain attributes such as relational norms (Chen, Su, & Ro, 2016, p. 245). Therefore, research about different perceptions could be beneficial. At first, by expanding existing research on preference for the other party in an NPD environment as well as dyadic research on buyer-supplier relationships, by researching the perceptions on IO-fit. Further, by providing qualitative information, which in the future can serve as a basement for

empirical research. Amongst buyer and supplier, views on many matters can be different (Chen et al., 2016, p. 247). This is likely to influence the effectiveness and outcomes of a relationship. Therefore, it is important to understand the different perceptions that actors are holding about their relationship. This paper focuses on the differing perceptions of IO-fit and to what extent it plays a role in preference for the other party. Previous papers are mostly focusing on one side of the buyer-supplier relationship. Amongst many others, Oosterhuis, Molleman and van der Vaart (2013) call for more research with a dyadic view, in which actors hold a different perception about the relationship (Oosterhuis, Molleman, & van der Vaart, 2013, p.159). The outcome of their study shows that the actors' supply chain attributes such as demand, communication, technology uncertainty, dependence and supplier performance are significantly different (Oosterhuis et al., 2013, p. 166). Similarly, Chen, Su and Ro (2016) state that solely focusing on the buyers' perspective can be "problematic because suppliers do not always share the same views as their buyer counterparts on a number of important matters"(Chen et al., 2016, p. 312). Moreover, they show that perceptions about relational mechanisms derived from social exchange theory (SET) are indeed different between buyer and supplier. As this paper aims at discovering IO-fit and its role in attraction, it also could prove to be beneficial for buyer-supplier relationship because "when both actors in a relationship perceive their status toward each other similar, it is likely that both are more satisfied and there might be an increase in relationship performance. Additionally, issues could be easier to resolve as both actors tend to see themselves on a similar level in the relationship" (Laurenz, 2016, p. 3). This statement underlines similarity and is therefore in line with one facet of IO-fit: compatibility among organizations. Organizations' compatibility refers to the degree of congruency among organizations' value systems, missions and goals, and encompasses the use of consistent supply chain systems, information systems, operational procedures and communication technologies (Holcomb & Hitt, 2007, p. 474). Thus, understanding different perceptions on organizational compatibility is a valuable addition to the emerging reversed marketing literature. Furthermore, this paper argues that a preference distance in a buyer-supplier relationship indicates the existence of perceptional differences. The research question is as follows: "*What is the role of inter-organizational fit in preference between buyer and supplier in a new product development context"*.

To answer this research question, the following sub-questions will be investigated:
"How is IO-fit conceptualised in the literature?"

"How is preference conceptualised in the supply management literature"

1.2 The scope of the research: Qualitative research trying to explain preferential distance in NPD contexts

The goal of this research is to improve the relationship quality between buyer and supplier by applying a dyadic view on IO-fit. This paper will add value to the literature because it will measure and combine the actual levels of preference in an existing buyer-supplier relationship in NPD. Subsequently, the role of IO-fit will be discovered by applying a dyadic method combing both perspectives from buyer and supplier through interviews. IO-fit can simplify business information sharing (Ngai, Chau, & Chan, 2011, p. 244) and can create synergy between the partnering organizations (Sarkar, Echambadi, Cavusgil, & Aulakh, 2001, p. 359). IO-fit can, therefore, have an impact on the initial attraction of a company, which is based on expectations and beliefs. Besides that, the extant literature has mainly focused on attractiveness antecedents in buyer-supplier relationships from normal operations. At first, this paper will add value to the existing literature by conceptualizing IO-fit and by presenting potential antecedents of it as an antecedent of attractiveness in buyer-supplier relationships within NPD. Next, this paper contributes to the buyer-supplier relationship literature in NPD. On top of that, it will add to the literature of dyadic research about buyer-supplier relationships by considering different perspectives and perceptions of NPD partners. Lastly, this paper contributes to the preferred customer status literature by drawing a complete picture of IO-fit as a potential antecedent of being a preferred customer. This paper will be structured as follows; the next chapter will review the theories and literature that are relevant to understand perceptions and IO-fit. In chapter three, a framework will be proposed that explains the role of IO-fit in preference between buyer and supplier in the context of NPD. In chapter four, the applied methodology will be presented. Chapter five will provide the results of the surveys and accordingly, the results of the explorative in-depth interviews. The final chapter will discuss the results, implications of this study and future research directions.

2. Literature Review / Theoretical Framework

To answer the research question "*What is the role of inter-organizational fit in preference between buyer and supplier in a new product development context"*. First, the conceptualisation of inter-organizational fit will be presented. After that, the role of attractiveness in preference will be reviewed. Then, this paper will present bounded rationality as the core reasoning for different perceptions. Next, the existing literature about the nature of buyer-supplier relationships in the context of NPD will be presented, which is in line with the resource complementarity facet of IO-fit. Finally, the compatibility dimensions which are a facet of IO-fit will be described using the existing literature.

2.1 Defining inter-organizational fit in buyer-supplier relationships within the NPD context; congruency theory and relational view.

To find out what preference is between a buyer-supplier relationship within an NPD context, this paper first looks at the general definition of a match. This paper holds the view that initial attraction to a company is based on beliefs and expectations (Blau, 1964, p. 193), and that "matching" attributes of an organization can initiate the attraction of organizations. Literally translating "Match" in the Oxford dictionary results in a conceptualization of match in the following dimensions: equality, similarity and suitability. Whereby all these definitions are fitting under the umbrella term "compatibility". Specifically, IO-fit is related to the compatibility between organizations and their resource complementarity (Moshtari, 2016). In turn, compatibility among organizations refers to the level of congruence among organizations' goals, missions or value systems. (Holcomb & Hitt, 2007, p. 474). Resource complementarity is defined by the value of the provided resources by the parties for each other, which allow partners to achieve synergy and unique values (Harrison, Hitt, Hoskisson, & Ireland, 2001, p. 680). The existing literature has shown the positive effects of IO-fit on increasing the performance of the relationship by reducing conflicts, monitoring costs, increasing synergy, exploring new opportunities, reducing the need for formal contracts, and increasing relationships stability among partners (Das & Teng, 1998, p. 505; Harrigan, 1988, p. 149; Lavie, Haunschild, & Khanna, 2012, p. 22; Parkhe, 1991, p. 580; Sarkar et al., 2001, p. 360). Thus, a match between organizational characteristics of a buyer and supplier depends on the degree of IO-fit, which in turn depends on the degree of organizational compatibility and resource complementarity. Resulting from the literature review later in

this paper, it becomes clear that one of the dimensions of organizational fit "resource complementarity" is in line with one of the sources of relational rent from the relational view, as defined by dyer and Singh "complementary resources and capabilities". Therefore, when both parties in an organization share the same objective to gain competitive advantage by sharing complementary resources, the degree of attractiveness (see next paragraph) towards the other party will increase. As the extant literature shows, IO-fit can not only be explained by resource complementarity. The other important factor of organizational fit is organizational compatibility; organizational congruence. The congruency theory contributes to the understanding of partnering organizations in NPD. Nadler and Tushman defined congruency as "the degree to which the needs, demands, goals, objectives, and/or structure of one component are consistent with the demands, goals, objectives, and/or structure of another component" (Nadler & Tushman, 1980, p. 45). Thus, misalignments in business processes can be the result of different organizational cultures, strategic goals and technological systems of the partnering organization (Rajaguru & Matanda, 2013, p. 622). Inter-organizational compatibility can only be achieved when partnering organizations have, technical compatibility, cultural compatibility and strategic compatibility (Claycomb, Iyer, & Germain, 2005, p. 228; Li & Williams, 1999, p. 105; Rajaguru & Matanda, 2013, p. 622; Schraeder & Self, 2003, p. 512). According to Sarkar et al., technical compatibility results from similarity in information systems (network commonality, software, point-of-sale (POS) terminals, business-oriented technology, and operational and technical business processes) with the partnering organization (Sarkar et al., 2001, p. 363). Cultural compatibility is expressed in values, traditions, subjective norms, and shared business philosophies (Buono, Bowditch, & Lewis III, 1985, p. 480). Strategic compatibility emerges from similarity in the partnering organizations' goals, strategic orientation and facilitating coordination of partnering activities (Farrelly & Quester, 2005, p. 57; Shamdasani & Sheth, 1995, p. 11). Thus, when organizational compatibility is achieved through technical, cultural and strategic compatibility, the degree of mutual attractiveness will increase (see next chapter). Subsequently, the degree of mutual attractiveness depends on the resource complementary motive to which organizations enter a relationship.

2.2 The role of attractiveness in preference for the other party; social exchange theory

In the previous chapter, the role of IO-fit in preference is explained; preference between organizations arises when organizations are compatible and when their resources are complementary. Complementarity consists of three dimensions; technical, cultural and strategic. Nevertheless, to answer the research question: "*What is the role of inter-organizational fit in preference between buyer and supplier in a new product development context"* the role of attractiveness must be clarified. In NPD, many stakeholders are involved. This study will only focus on buyers and suppliers in NPD. Preference and Attractiveness are interlinked to each other in the literature. In general, preference results from attractiveness. The social exchange theory is commonly used as a conceptual basis in attractiveness studies (Hüttinger, Schiele, & Veldman, 2012, p. 1194; Mortensen, 2012, p. 1207). This paper will use the social exchange theory to explain the preference for the other party. The social exchange theory is popular because, at the core of applying this theory, relationship continuation issues are present (Schiele et al., 2012, p. 1179). Particularly, relationship initiation, termination and continuation (Kelley & Thibaut, 1978, p. 333). The social exchange theory can be explained by relational interdependence that develops over time, through the interaction of the resource exchange partners; hence, this theory is applicable in business-to-business context (Cropanzano & Mitchell, 2005, p. 882; Dwyer, Schurr, & Oh, 1987, p. 12; Hallen, Johanson, & Seyed-Mohamed, 1991, p. 33; Lambe, Wittmann, & Spekman, 2001, p. 30). The social exchange theory is applied by Schiele et al., to develop a cycle of preferred customership (Schiele et al., 2012, p. 1180). Within their research, they extensively reviewed social exchange literature and come to a summary that "In the early stages of a business relationship, the buyer must be sufficiently attractive to the supplier to begin an exchange relationship. Once this business relationship is active, the supplier will evaluate its satisfaction with the relationship, i.e., the supplier's satisfaction with the customer. It is important for buyers to understand their supplier's satisfaction levels, in particular as the supplier has a choice to discontinue the relationship or de-emphasize its efforts" (Schiele et al., 2012, p. 1182). So, attractiveness leads to preference from a social exchange theory perspective, in a reverse marketing context. In this paper, this view is also adopted and adjusted to a regular marketing setting. Table 1 shows the concepts explained in this chapter regarding attraction. The reversed. See table 1 at the next page.

Table 1. This table provides explanations and definitions about inter-organizational fit and preference.

Construct	Claim	Adaptation	Level in Social exchange theory
Attractiveness	"A customer is perceived as attractive by a supplier if the supplier in question has a positive expectation towards the relationship with this customer. The conditions for this perception of the supplier include an awareness of the existence of the customer and knowledge of the customer's needs". P.1180	"A supplier is perceived as attractive by a customer if the customer in question has a positive expectation towards the relationship with this supplier. The conditions for this perception of the customer include an awareness of the existence of the supplier and knowledge of the suppliers' needs".	**Expectation level** (Blau, 1964; Homans, 1958; Thibaut & Kelly, 1959) (Schiele et al., 2012)
Satisfaction	"Supplier satisfaction is a condition that is achieved if the quality of outcomes from a buyer-supplier relationship meets or exceeds the supplier's expectations". P. 1181	"Customer satisfaction is a condition that is achieved if the quality of outcomes from a buyer-supplier relationship meets or exceeds the customer's expectations".	**Comparison level** (Homans, 1958; Lambe et al., 2001; Thibaut & Kelly, 1959; Wilson, 1995) (Schiele et al., 2012)
Preference	"A supplier awards a buyer with preferred customer status if this customer is perceived as attractive and if the supplier is currently more satisfied with this customer than with alternative customers. As a consequence of this satisfaction, a supplier reacts by providing privileged resource allocation to this preferred customer". P. 1181	"A customer awards a supplier with preferred supplier status if this supplier is perceived as attractive and if the customer is currently more satisfied with this supplier than with alternative suppliers. Because of this satisfaction, a customer reacts by providing privileged resource allocation to this preferred customer"	**Comparison level of alternatives** (Anderson & Narus, 1984; Lambe et al., 2001; Thibaut & Kelly, 1959) (Schiele et al., 2012)
Resource complementary behavior	exchanges of recourses are considered as a source of competitive advantage by the relational view and the paradigm of collaborative advantages by which the collaboration is not only limited to the facilitation of knowledge exchange, but also the exchange of resources that create capabilities that none of the		**Expectation level** (Dyer & Singh, 1998, p. 660) (Dyer, 2000, p. 23) (Dyer & Nobeoka, 2000, p. 25)

	organizations could have developed internally.		
Compatibility	In turn, compatibility among organizations refers to the level of congruence among organizations' goals, missions or value systems.		**Expectation level** (Holcomb & Hitt, 2007, p. 474).
Inter-organizational compatibility	can only be achieved when partnering organizations have, technical compatibility, cultural compatibility and strategic compatibility.		**Expectation level** (Claycomb et al., 2005, p. 228; Li & Williams, p. 105, 1999; Rajaguru & Matanda, 2013, p. 622; Schraeder & Self, 2003, p. 512)
Technical compatibility	Technical compatibility results from similarity in information systems (network commonality, software, point-of-sale (POS) terminals, business-oriented technology, and operational and technical business processes) with the partnering organization.		**Pre – inter-organizational compatibility level** (Sarkar et al., 2001, p. 359)
Cultural compatibility	Cultural compatibility is expressed in values, traditions, subjective norms, and shared business philosophies.		**Pre – inter-organizational compatibility level** (Buono et al., 1985, p, 480)
Strategic compatibility	Strategic compatibility emerges from similarity in the partnering organizations' goals, strategic orientation and facilitating coordination of partnering activities.		**Pre – inter-organizational compatibility level** (Farrelly & Quester, 2005, p. 57; Shamdasani & Sheth, 1995, p. 11)

Thus, preference towards the other party starts first with perceived attractiveness and then with satisfaction resulting from the comparison. Finally, the party decides whether the focal organization is preferred or not. Based on the literature review so far, this paper argues that IO-fit plays a role in preference between organizations. To become a preferred partner, it is crucial to be perceived as attractive. Thus, perception plays an important role in

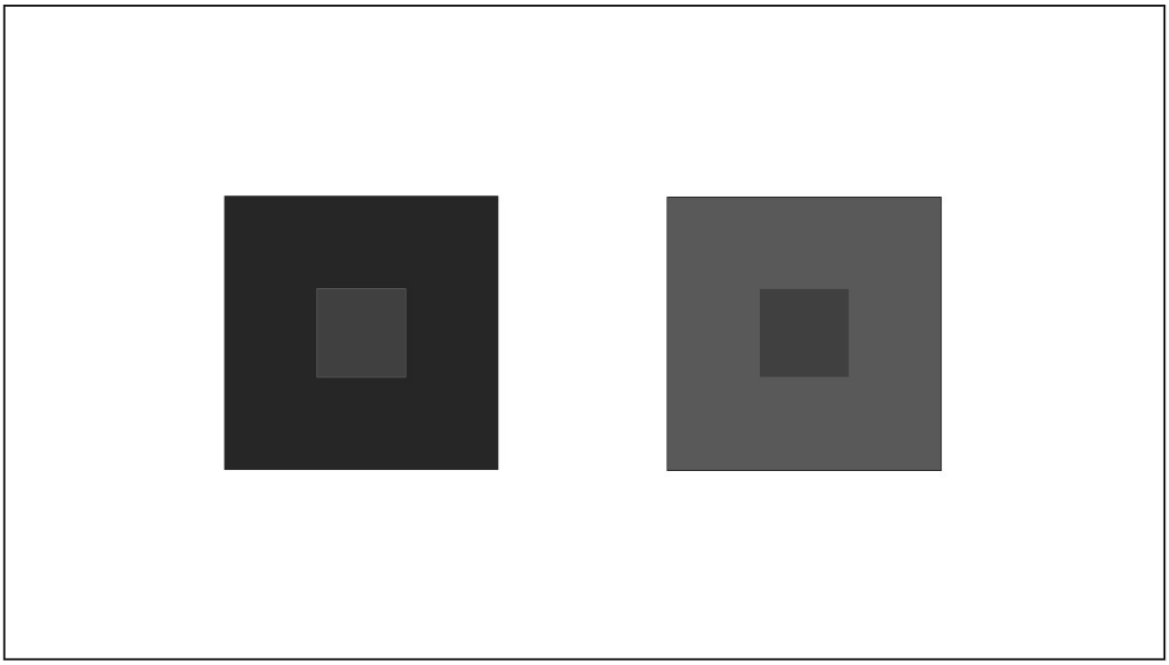
becoming the preferred partner. The next chapter will review the literature on bounded rationality to explain how different perceptions are formed.

2.3 Bounded rationality in perception

When arguing for different perceptions of IO-fit by buyer and supplier, useful literature stems from the theory of bounded rationality. This theory argues that the rationality of humans in charge of making a rational decision is bound on "the cognitive limitations of the decision-maker – limitations of both knowledge and computational capacity" (Simon, 1990, p. 15). A general assumption of bounded rationality is that actors who must make a rational decision have incomplete information about the alternatives to their decision (Simon, 1972, p. 163). A buyer or supplier with a different amount of information about the counterpart might perceive organizational characteristics of this counterpart differently than the actual organizational characteristics. A rational decision includes the imagination of what happens in the future if a certain action is performed now, by guessing about future consequences of current actions (Laurenz, 2016, p. 20). Thereby, the behavior and reactions of the other actor are tried to be predicted (March, 1978, p. 589). According to Schiele, Pulles, Vos and Laurenz (2016), rationality can be expressed as limited rationality or contextual rationality (Laurenz, 2016, p. 21). Limited rationality is characterized by the simplicity of the decisions taken by the actors. In this approach, actors simplify their decisions because anticipating and considering all the alternatives and information in the decision-making progress is difficult for the actors (March, 1978, p. 591). Contextual rationality focuses purely on the context of the decision, whereby the opportunity costs emerging from the situation influence the behavior, and thus the rational choice. As a result, depending on the context of the buyer and supplier and the amount of information they have evaluated for their upcoming decision, the likelihood of both parties having different perceptions is plausible. Accordingly, it can be argued that both limited and contextual rationality can result in different perceptions of organizational characteristics and eventually of preference for the other party. According to Kahnemann (1979), perception could "be treated as a function in two arguments"(D. T. Kahneman, Amos., 1979, p.277). These arguments are the asset position which is the reference point and the change from that point (D. T. Kahneman, Amos., 1979). Additionally, Kahnemann (2003) called this phenomena "reference dependency" and illustrated that perceptions are "are reflected in connection to the context of previous and simultaneous perceptions" (D. Kahneman, 2003, p.277). The illustration of reference dependence, as adapted by Kahnemann (2003) is shown in figure 1. Figure 1 shows two

large squares with two smaller inner squares. The large squares are grey but differ in shades of darkness. Whereas the smaller inner squares have the same color. However, the smaller squares seem to differ in their shades. This visual effect results from referencing the inner square to the outer ones.

Figure 1 - Illustration of reference dependency (D. Kahneman, 2003)



Even though this illustration notes to visual perception, actors who make a rational decision, also build their perception in reference to other experiences.

This chapter will be concluded by summarizing the impact of bounded rationality on preference. Preference results from attraction, whereas perception defines the degree of attraction. In turn, perception is influenced by previous experiences (reference dependency), limited rationality (simplicity of the decision) and contextual rationality (context of decision). Hence, buyer and supplier could perceive organizational characteristics that define inter-organizational compatibility or resource complementarity on different terms. Since inter-organizational compatibility depends on strategic, cultural and technical compatibility, differences in interpreting one of the underlying characteristics of these compatibility characteristics in a buyer-supplier relationship could influence the degree of preference for the other party. The same goes for resource complementarity as perceived by an organization. When perceptions about the resources possessed by the other party are different, the degree of preference is likely to be different too. The following section will,

therefore, explain that resource complementarity forms the nature of buyer-supplier relationships.

2.4 The nature of buyer-supplier relationships in the context of NPD; resource complementarity

In the context of NPD, buyers and suppliers collaborate with each other to share resources or work closely to design and implement their operations. A major reason to collaborate is to develop business opportunities jointly when each partner has the unique resource to combine in order to realize the opportunity (Gulati, 1995, p. 621; Levine & White, 1961, p. 588; Pfeffer & Nowak, 1976, p. 406; Rowley, Greve, Rao, Baum, & Shipilov, 2005, p. 6) In theory, exchanges of recourses are considered as a source of competitive advantage by the relational view (Dyer & Singh, 1998, p. 660) and the paradigm of collaborative advantages (Dyer, 2000, p. 23) by which the collaboration is not only limited to the facilitation of knowledge exchange, but also the exchange of resources that create capabilities that none of the organizations could have developed internally (Dyer & Nobeoka, 2000, p. 25). The existing literature about alliances and networks for innovations supports that combining resources is relevant in creating capabilities (Ahuja, 2000, p,2 ; Sampson, 2007, p. 364). Basically, the collaborative advantage paradigm considers up- and downstream connections in the supply chain as a value creation opportunity (Dyer, 2000, p. 4). Compared to the resource-based approach and relationship-specific approach, the relational view extends potential performance benefits by integrating firm-external factors. Whereby these factors are crucial in creating relational rents to gain competitive advantage (Porter, 2008, p. 12). The application of the relational view in the purchasing context translates to acquiring firm-addressable valuable resources through the purchasing professional of a buying firm (Heene & Sanchez, 1997, p. 66; Van Beers & Zand, 2014, p. 293). Four sources of relational rents are defined as; (1) effective governance, (2) complementary resources and capabilities, (3) (interfirm) knowledge-sharing routines, and (4) relation specific assets. To sum the outcome of the literature regarding the nature of buyer-supplier relationships in NPD; an organization that is engaged in buyer-supplier relationships generates competitive advantage by considering these sources. The relational view is of great relevance for firms in innovation-driven high-tech industries because those firms find it increasingly difficult to achieve competitive advantage by using their internal resources. In practice, some firms have changed their business models and are heavily relying on their purchasing function to gain relational rent by accessing suppliers their external resources (Hunt & Davis, 2012, p. 16;

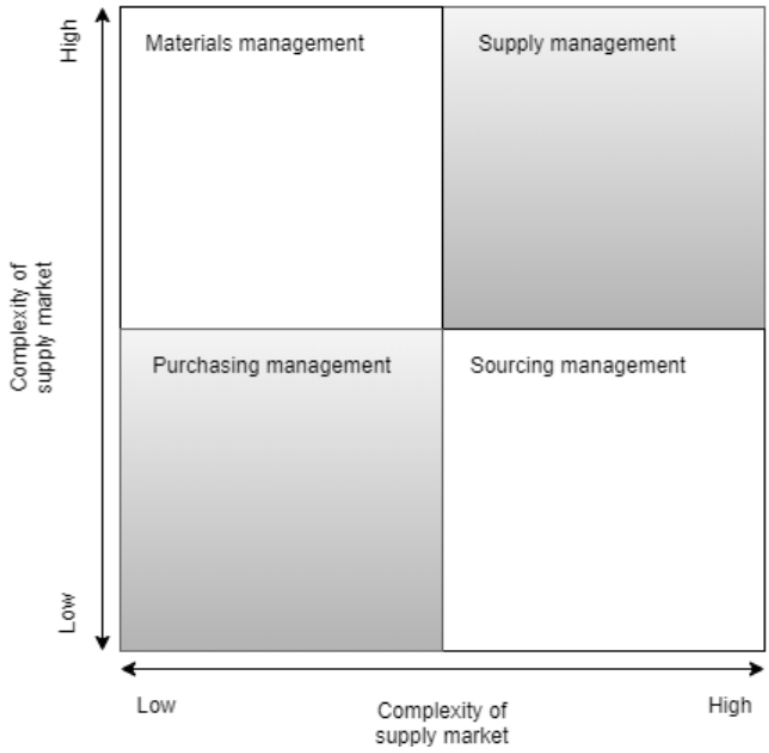
Markman, Gianiodis, & Buchholtz, 2009, p. 435; Pulles, Veldman, Schiele, & Sierksma, 2014, p. 19).

2.5 Strategic Compatibility in buyer-supplier relationships within NPD.

The extant literature is fruitful about the types of relationships. Two major types of relationships do exist: transactional and relational. The transaction school of thought stems from the "neo-classical" school, the "microeconomic" school and the "marketing mix". Within a transaction school of thought; "the task of a marketer is to optimize the equation with profit on one side, and the various marketing levers (4Ps) on the other" (Styles & Ambler, 2003, p. 634). Moreover, the focus of marketing is on sales; the single activity of a transaction (Webster Jr, 1992, p. 8). In contrary to the transactional approach, within the relational approach, the importance of managing buyer-seller relationships as strategic assets are recognized (Webster Jr, 1992, p9). Drawing further from the types of relationships, perception plays a crucial role. Thus, integrating perceived value in the two types of approaches gives the following two definitions. Within the transactional approach *"Value arises from a cost-benefit trade-off relative to a supplier's offer, as perceived by the decision-makers in the customer organization in the context of exchange"*, whereas in the relational approach *"Value arises from advantages generated during the relationship by aggregating all of the exchanges between two firms. The conceptualization of value consists either a trade-off of different benefits and costs or various facets of value"* (Mencarelli & Riviere, 2015, p. 206). Besides that, different perspectives upon the creation of value exist; the buyer's- and the suppliers' perspective. The two relationship types explained in the former chapter are limited to the extent of value based on costs and money and are describing general marketing relationships. There are extensive reviews in the literature about the value of buyer-supplier relationships in NPD. The first person changing this basic way of thinking about buyer-supplier relationships build on costs and money is Peter Kraljic. In his article published in 1983 in the Harvard business review he argued that purchasing must become supply management by ensuring "long-term availability of critical materials and components at competitive cost, a host of manufacturers will have to come to grips with the risks and complexities of global sourcing. Others that already source on a global basis must learn to cope with uncertainties and supply or price disruptions on an unprecedented scale" (Kraljic, 1983, p. 110) By stating that, Peter Kraljic looked further than the basic so-called "importance of purchasing" and identified the complexity of supply markets. Moreover, a firm's supply strategy depends on the importance of purchasing, which he defined as "cost

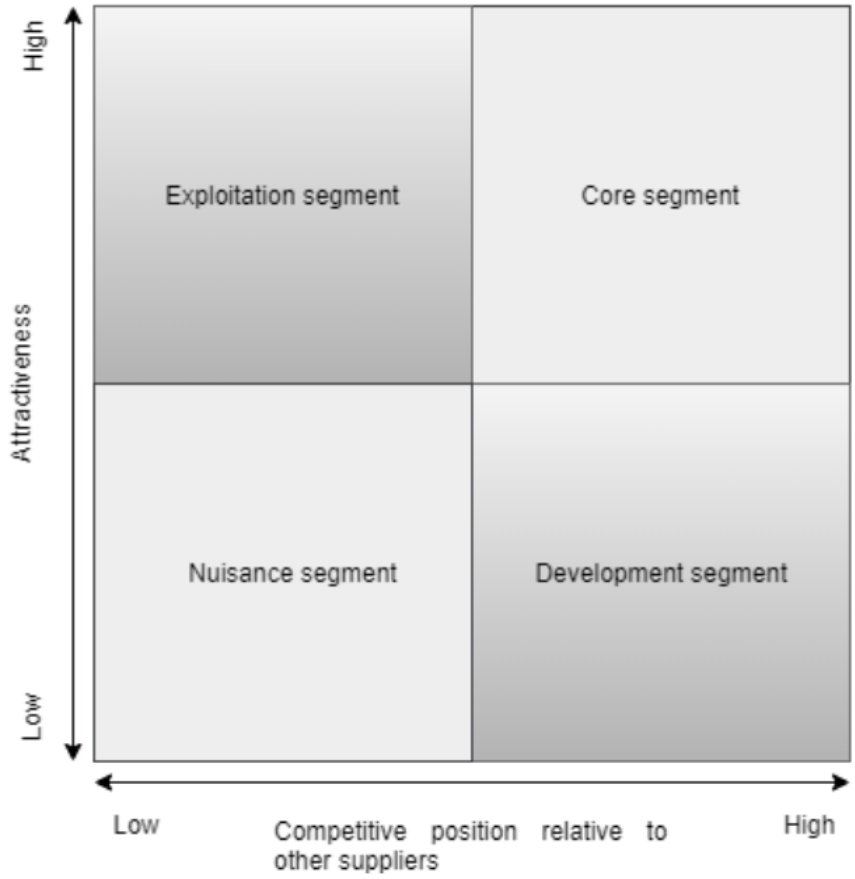
of materials/total costs, value-added profile, and so on" and the complexity of supply markets , which he defined as "supply, monopoly or oligopoly conditions, pace of technological advance, entry barriers, logistics costs and complexity, and so on". Based on both concepts, Kraljic developed a purchasing portfolio called "stages of purchasing sophistication". The stages of purchasing sophistication portfolio result in four quadrants; (1) purchasing management, (2) materials management, (3) sourcing management, and (4) Supply management. Power and dependence play a significant role in Kraljic his approach; ''minimize supply vulnerability and make the most of potential buying power'' (Kraljic, 1983, p. 112). Kraljic proposed a four-stage approach to develop supply strategies for single products or product groups (Kraljic, 1983). A company in the first stage must classify all its purchased products with regards to the profit impact and supply risk. Next, the company assesses its own bargaining power against its suppliers. Then, the products that were classified as strategic in the first step are positioned in the portfolio matrix. Finally, for these strategic products, the company develops purchasing strategies and plans, which are based on the company its own strength and that of its supply market. Although Kraljic has introduced the purchasing portfolio, his focus was on the fourth quadrant supply management. He merely focused on the other three quadrants. His four-stage approach results in three general purchasing strategies; "exploit (in case of buyer dominance), balance (in case of a balanced relationship), and diversify (in case of supplier dominance)" (Caniels & Gelderman, 2005, p. 143). Thus, buying firms can use the purchasing portfolio to develop a purchasing strategy by first classifying the required materials and then placing them in a quadrant according to the degree of supply risk and profit impact. By doing so, a buying firm its purchasing function develops a so-called "purchasing strategy".

Figure 2- Stages of purchasing sophistication (Kraljic, 1983)



Even though perceptions of the strategic fit between buyer and supplier depend on the perspective (Purchase, Butler, & Alexander, 2011, p. 1), the view of suppliers has been mostly neglected by most portfolio models, as they are mostly derived from Kraljic (1983) his model (Hallikas, Puumalainen, Vesterinen, & Virolainen, 2005, p.72). On top of that, the definition of strategic compatibility highlights the similarity of strategy between partnering organizations. In this paper, we consider partnering organizations as a buying and supplying organization consisting of two parties. Therefore, the purchasing strategy of the buying firm only explains half of the earlier described strategic fit between two organizations. So, it is crucial to review the possible strategies of a selling firm to fully understand and assess the strategic fit. Like the buyers' purchasing portfolio, a selling firm can use a customer portfolio analysis to identify a selling strategy. Such a portfolio is presented by Carter in his book "successful purchasing in a week", with the objective to achieve a better buyer-supplier relationship (Carter, 1998). His model helps suppliers in handling with buyers by determining the strategy that fits the sellers' objectives best. Figure 3 contains four quadrants based on the attractiveness of the supplier and the competitive position of the suppliers in the buyer's portfolio, relative to other suppliers.

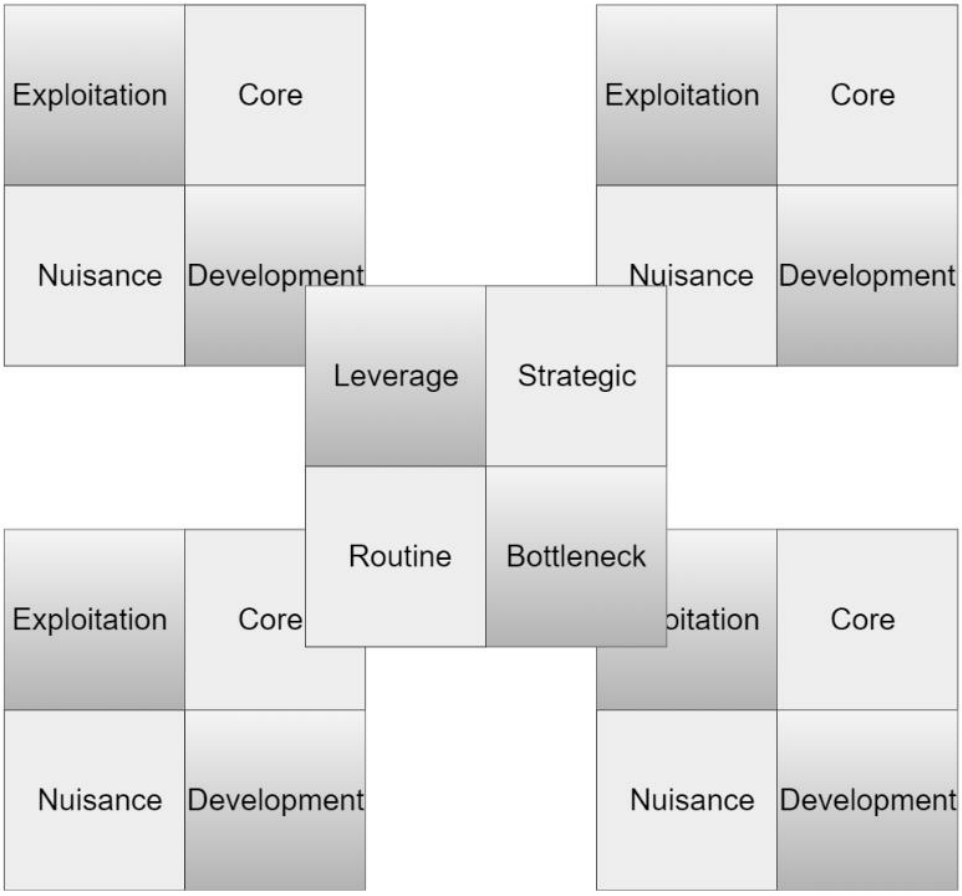
Figure 3 - Customer portfolio analysis, seller's perspective (Carter, 1998)



Buyer-supplier relationships placed in the development segment consider suppliers as attractive partners. In this segment, suppliers think that their competitive position compared to other suppliers is low. Thus, suppliers need these buyers to expand the business with their firm. Suppliers need to pamper these customers and seek opportunities for new ideas and products by providing additional resource (van Weele, 2009, p. 200/202). Buyers placed at the core segment are highly attractive. Besides that, the competitive position of the supplier is high, relative to other suppliers in the buyer his portfolio. According to van Weele, these are the most profitable customers (van Weele, 2009, p. 200/202). Therefore, buyers in the core segment have to be kept at all costs by providing extra service and quality (van Weele, 2009, p. 200/202). The third segment is called the nuisance segment. Buyers placed in this segment are not interesting because they are somehow not attractive, and the supplier is not competitive compared to other suppliers in the buyer his portfolio. Therefore, suppliers should end the relationship when the relationship does not return profit in monetary terms (van Weele, 2009, p. 200/202). The last segment is called the exploitation segment. This segment is characterized by a supplier having power in the market because of its competitive position relative to other suppliers. However, the buying organization in the exploitation

segment is not considered as an attractive partner. Therefore, the suppliers should exploit the buyer by charging a premium price to seek short-term advantage (van Weele, 2009, p. 200/202). As we have argued earlier in this paper, the strategic fit is explained by both the perspective of both parties. Our argumentation is in line with (Purchase et al., 2011). This implies that both perspectives must be combined to assess the strategic fit. Van Weele developed the so-called "Dutch windmill model" (van Weele, 2009, p. 200). The Dutch windmill model helps buyers in formulating a strategy after assessing the position from both views; the buyer and supplier their views. (van Weele, 2009, p. 200/202). Figure 4 below represents the Dutch windmill.

Figure 4 - The Dutch Windmill



Basically, four buyer portfolio perspectives are combined with four supplier portfolio perspectives resulting in a windmill with sixteen possible segments. When both views are combined, it becomes clear that a supplier that is being considered as a strategic partner matches with a buyer that is being labelled as a core buyer. Thus, the literature review shows that strategic compatibility exists when both the buyer and supplier attach the same strategic value to each other considering the Dutch windmill. In section 2.4 we

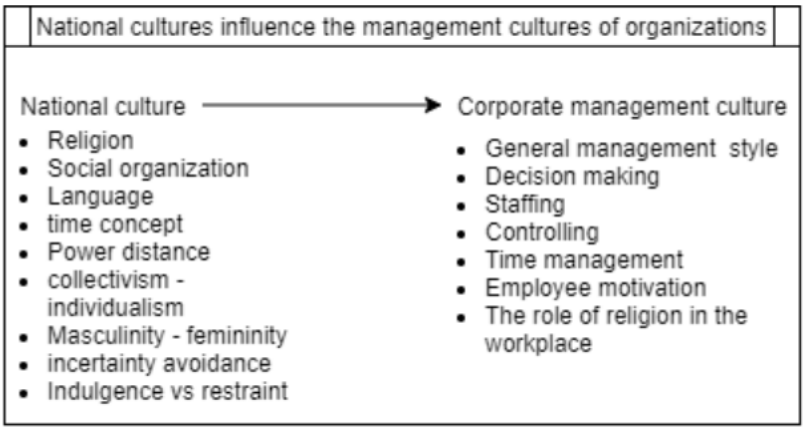
have highlighted the nature of existence regarding buyer-supplier relationships in NPD. By Applying the relational view, it becomes clear that organizations enter a buyer-supplier relationship in NPD with the motive of gaining competitive advantage using external resources. This means that the buying organization relies on the capabilities of an external party since the gate to competitive advantage through innovation is beyond the capabilities of the buying organization (Le Dain et al., 2008, p. 2). As a result, the buying organization must make a strategy regarding the degree of involvement of the supplier. To conclude this chapter, according to the existing literature, both the buyer and supplier must share the same strategic value towards each other in a relationship in order to realize strategic compatibility. However, we argue that their perception can be limited by bounded rationality as supported by the earlier argued bounded rationality theory in this paper. So, it can be the case that organizations think that they value the other party as strategic, but, do not act this way.

2.6 Cultural compatibility

In this chapter, the existing literature on cultural compatibility will be presented. As presented in chapter 2.3; cultural compatibility is amongst strategic and technical compatibility one of the facets of organizational compatibility. Cultural compatibility is expressed in shared values, traditions, subjective norms, and shared business philosophies (Buono et al., 1985, p. 480). So, when the cultures of both partnering organizations are compatible, it is likely that the buyer and supplier have a fit. Cultural incompatibility or misfit are the most cited reasons for partnership failures (Bijlsma-Sup_Rep_4ema, 2001, p. 193; Cartwright & Schoenberg, 2006, p. 10; Lodorfos & Boateng, 2006, p. 1407; Nguyen & Kleiner, 2003, p. 448). This can be explained by the enormous impact that organizational culture has on all nearly all organizational practices, leadership styles, directives, and administration processes (Chatterjee, Lubatkin, Schweiger, & Weber, 1992, p. 320). Literature argues that national and organizational cultures are different constructs with different attitudinal and behavioral correlates (Stahl & Voigt, 2008, p. 160). National culture is known to influence international business management practices and approaches (Alvesson, 2012, p. 1; Au, 1999, p. 799). Studies have shown that the corporate cultural system is affected by the national culture systems in many ways (Tayeb, 1995, p. 589).

Figure 5 illustrates how national cultures affect corporate management culture.

Figure 5 - National culture -> corporate management culture (Khan & Law, 2018)



To be specific; existing studies have shown that national culture influences managerial decision-making, leadership styles, and human resource management practices (Li & Williams, 1999, p. 104; Willmott, 2000, p. 96), communication, motivation, organizational design, people's expectations of work design, and reward systems (Nicholls, Lane, & Brechu, 1999, p. 15). This chapter will review both briefly because, as presented in paragraph 2.3, the rationality of the decision-maker is subject to reference dependency, limited rationality, and contextual rationality. Consequently, the characteristics of culture presented in this chapter will be perceived differently by buyer and supplier. Besides that, national cultures are dynamic and changing in a VUCA-world. Therefore, in chapter 5, the most recent national and organizational cultural characteristics resulting from this dyadic study will be presented.

2.6.1 National culture

The national cultural system is characterized by "language, religion, rules and regulations, political system, social organization, history, economy, technology, education, values, attitudes, customs, traditions, concept of time, music, art, and architecture" (Khan & Law, 2018, p. 38). Over the past fifty years, national culture is a topic which has been widely researched. The table below gives an overview of the extant research on national culture.

Table 2. Overview of extant research on national cultural dimensions

Authors/years	National cultural dimensions
(Kluckhohn & Strodtbeck, 1961)	Human nature orientation; man-nature orientation; time orientation; activity orientation; relational.
(Parsons, 1962)	Affectivity-affective neutrality; self-orientation collectivity-orientation; universalism particularism; ascription-achievement; specificity-diffuseness.

(Hofstede, 1980, 2011)	Power distance; individualism/collectivism; masculinity/femininity; uncertainty avoidance; long term/short term.
(Schwartz, 1992, 1999)	Conservatism vs. autonomy; hierarchy vs. egalitarianism; mastery vs. harmony.
(Hampden-Turner & Trompenaars, 1997)	Universalism vs. particularism; individualism vs. communitarianism; specific vs. diffuse; neutral vs. emotional; achievement vs. ascription; sequential time vs. synchronous time; internal direction vs. outer direction.
(House, Hanges, Javidan, Dorfman, & Gupta, 2004)	Power distance; uncertainty avoidance; assertiveness; institutional collectivism; in-group collectivism; future orientation; performance orientation humane orientation; gender egalitarianism.

Amongst others, Geert Hofstede is known as one of the significant researchers who observed and tried to explain differences between cultures. His six cultural dimensions are widely applied and discussed in the literature. In his paper published in 1980, he identified systematic differences on four primary dimensions; power distance, individualism, uncertainty avoidance and masculinity (Hofstede, 1980, p.16). Hofstede explains these four dimensions as four anthropological problem areas that different national societies handle differently: ways of coping with inequality, ways of coping with uncertainty, the relationship of the individual with her or his primary group, and the emotional implications of having been born as a girl or as a boy (Hofstede, 2011). In his study of 1991, Hofstede added a fifth dimension called Long-term orientation (Hofstede, Hofstede, & Minkov, 1991, p. 252). Coined by Michael Minkov in 1991 and unexplained by Hofstede's five dimensions, Hofstede added the sixth dimension called indulgence versus restraint (Hofstede & Minkov, 2010). Table 2 Below provides the definitions of the 6 dimensions.

Table 3. This table explains the six cultural dimensions as identified by Hofstede.

Cultural Dimension	Explanation (Hofstede 2011)
Power Distance Index	"Power Distance has been defined as the extent to which the less powerful members of organizations and institutions (like the family) accept and expect that power is distributed unequally. This represents inequality (more versus less) but defined from below, not from above. It suggests that a society's level of inequality is endorsed by the followers as much as by the leaders. Power and inequality, of course, are extremely fundamental facts of any society. All societies are unequal, but some are more unequal than others." P. 9
Individualism vs. Collectivism	"Individualism on the one side versus its opposite, Collectivism, as a societal, not an individual characteristic, is the degree to which people in a society are integrated into groups. On the individualist side we find cultures in which the ties between individuals are loose: everyone is expected to look after him/herself and his/her immediate family. On the collectivist side we find cultures in which people from birth onwards are integrated into strong, cohesive in-groups, often extended families (with uncles, aunts and grandparents) that continue protecting them in exchange for unquestioning loyalty and oppose other ingroups." P. 11

Uncertainty avoidance	"Uncertainty Avoidance is not the same as risk avoidance; it deals with a society's tolerance for ambiguity. It indicates to what extent a culture programs its members to feel either uncomfortable or comfortable in unstructured situations. Unstructured situations are novel, unknown, surprising, and different from usual. Uncertainty avoiding cultures try to minimize the possibility of such situations by strict behavioral codes, laws and rules, disapproval of deviant opinions, and a belief in absolute Truth; 'there can only be one Truth and we have it'." P. 10
Masculinity vs Femininity	"Masculinity versus its opposite, Femininity, again as a societal, not as an individual characteristic, refers to the distribution of values between the genders which is another issue for any society, to which a range of solutions can be found. The IBM studies revealed that (a) women's values differ less among societies than men's values; (b) men's values from one country to another contain a dimension from very assertive and competitive and maximally different from women's values on the one side, to modest and caring and similar to women's values on the other. The assertive pole has been called 'masculine' and the modest, caring pole 'feminine'." P. 12
Long-term orientation vs. short-term orientation	This dimension associates past, current and future challenges. Countries scoring low on this index are short-term indicated focused, indicating that traditions are honoured and kept, and steadfastness is valued. Societies scoring high on this index are long-term oriented and see adaptation, circumstantial behaviour and problem-solving as necessity. P. 13
Indulgence vs. Restraint	"The sixth and new dimension, added in our 2010 book, uses Minkov's label Indulgence versus Restraint. It was also based on recent World Values Survey items and is more or less complementary to Long-versus Short-Term Orientation; in fact, it is weakly negatively correlated with it. It focuses on aspects not covered by the other five dimensions but known from literature on "happiness research". Indulgence stands for a society that allows relatively free gratification of basic and natural human desires related to enjoying life and having fun. Restraint stands for a society that controls gratification of needs and regulates it by means of strict social norms." P. 15

2.6.2 Organizational culture

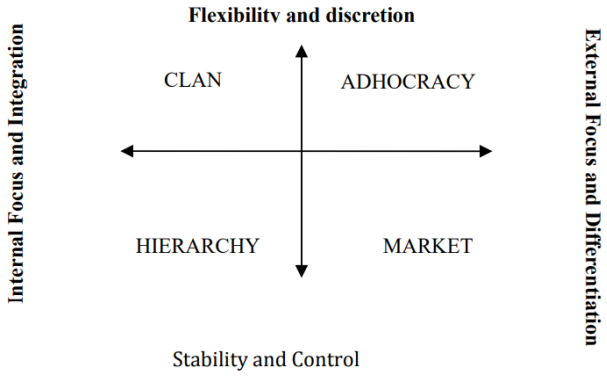
Organizational culture is affected by national culture. In turn, the contextual rationality of an individual within an organization, which is engaged in a buyer-supplier relationship gets affected. From this point of view, it is necessary to elaborate further on the organizational dimensions. However, organizational cultures are changing because they are dynamic and affected by national culture. This section will, therefore, describe the organizational culture as identified by Hofstede (1994) and Trompenaars (1998) briefly (Hofstede, 1994; Trompenaars & Hampden-Turner, 1998). Table 4 below provides the explanations of organizational culture by Hofstede.

Table 4. This table explains the six organizational culture dimensions as identified by Hofstede.

Cultural Dimension	Explanation (Hofstede 1994)
Process-oriented versus Results-oriented Cultures	The former is dominated by technical and bureaucratic routines, the latter by a common concern for outcomes. This dimension was associated with the culture's degree of homogeneity: in results-oriented units, everybody perceived their practices in about the same way; in process-oriented units, there were vast differences in perception among different levels and parts of the unit. The degree of homogeneity of a culture is a measure of its "strength": the study confirmed that strong cultures are more results-oriented than weak ones, and vice versa (Peters and Waterman, 1982).
Job-oriented versus Employee-oriented Cultures	The former assumes responsibility for the employees' job performance only, and nothing more; employee-oriented cultures assume broad responsibility for their members' well-being. At the level of individual managers, the distinction between job orientation and employee orientation has been popularized by Blake and Mouton's Managerial Grid (1964). The IRIC study shows that job versus employee orientation is part of a culture and not (only) a choice for an individual manager. A unit's position on this dimension seems to be largely the result of historical factors, like the philosophy of its founder(s) and the presence or absence in its recent history of economic crises with collective layoffs.
Professional versus Parochial Cultures	"In the former, the usually highly educated members identify primarily with their profession; in the latter, the members derive their identity from the organization for which they work. Sociology has long known this dimension as local versus cosmopolitan, the contrast between an internal and an external frame of reference, first suggested by Tonnies (1887)."
Open System versus Closed System Cultures	"This dimension refers to the common style of internal and external communication, and to the ease with which outsiders and newcomers are admitted. This dimension is the only one of the six for which there is a systematic difference between Danish and Dutch units. It seems that organizational openness is a societal characteristic of Denmark, much more so than of The Netherlands. This shows that organizational cultures also reflect national culture differences."
Tightly versus Loosely Controlled Cultures	"This dimension deals with the degree of formality and punctuality within the International organization; it is partly a function of the unit's technology: banks and Business pharmaceutical companies can be expected to show tight control, research laboratories and advertising agencies loose control; but even with the same technology, units still differ on this dimension."
Indulgence vs. Restraint	"The last dimension describes the prevailing way (flexible or rigid) of dealing with the environment, in particular with customers. Units selling services are likely to be found towards the pragmatic (flexible) side, units involved in the application of legal rules towards the normative (rigid) side. This dimension measures the degree of "customer orientation", which is a highly popular topic in the management literature."

Quinn & Cameron (1983) have introduced the Competing Values Framework (CVF) (see figure 6). The CVF suggests two dimensions. First, differentiation of effectiveness criteria which stress on flexibility, discretion, and dynamism from stability, order and control. Second, differentiation of internal orientation, integration and unity from external orientation, differentiation, and rivalry.

Figure 6 - The competing values framework (CVF)



Based on the CVF, Trompenaars designed a matrix which consists of four types of organizational cultures, which are resulting from the degree to which an organization is person or task-oriented, and hierarchal or egalitarian (Trompenaars & Hampden-Turner, 1998). Besides Trompenaars, many studies have identified cultures based on the CVF such as clan, adhocracy, hierarchy, and market culture (Cameron, Freeman, & Mishra, 1991, p. 58; Quinn & Cameron, 1983, p. 34; Quinn & Rohrbaugh, 1983, p. 364). So, the extant literature about organizational cultures is built on the CVF. Most of the organizational typologies have underlying characteristics of clan, adhocracy, hierarchy or market. Therefore, in this literature review, it is important to include this model. Figure 7 shows the matrix of Trompenaars and table 5 shows his descriptions.

Figure 7 - Organizational Culture (Trompenaars & Hampden-Turner, 1998)

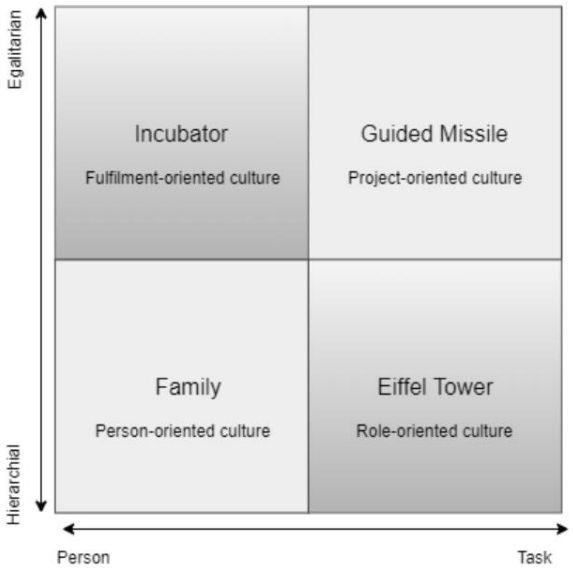


Table 5. This table explains the four organizational cultures as identified by Trompenaars.

Cultural Dimension	Explanation Trompenaars (1998)
Family Culture	"I use the metaphor of family for the culture which is at the same time personal, with close face-to-face relationships, but also hierarchical, in the sense that the "father" of a family has experience and authority greatly exceeding those of his "children", especially where these are young. The result is a power-oriented corporate culture in which the leader is regarded as a caring father who knows better than his subordinates what should be done and what is good for them.of its "strength": the study confirmed that strong cultures are more results-oriented than weak ones, and vice versa (Peters and Waterman, 1982)."
Eiffel Tower Culture	"In the western world, a bureaucratic division of labour with various roles and functions is prescribed in advance. These allocations are coordinated at the top by a hierarchy. If each role is acted out as envisaged by the system then tasks will be completed as planned. One supervisor can oversee the completion of several tasks; one manager can oversee the job of several supervisors; and so on up the hierarchy."
The Incubator Culture	"The incubator culture is based on the existential idea that organisations are secondary to the fulfilment of individuals. Just as "existence precedes essence" was the motto of existential philosophers, so "existence precedes organisation" is the notion of incubator cultures. If organizations are to be tolerated at all, they should be there to serve as incubators for self-expression and self-fulfilment."
The Guided Missile Culture	"The guided-missile culture differs from both the family and the Eiffel Tower by being egalitarian, but differs also from the family and resembles the Eiffel Tower in being impersonal and task-oriented. Indeed the guided-missile culture is rather like the Eiffel Tower in flight. But while the rationale of the Eiffel Tower culture is means, the guided-missile has a rationale of ends. Everything must be done to persevere in your strategic intent and reach your target."

2.7 Technical compatibility

Technical compatibility results from similarity in information systems with the partnering organization (Sarkar et al., 2001, p. 360). Drawing further on the work of Bodensteiner (1970), Daft and Lengel (1986) argued that communication techniques can be placed along a continuum of information richness (Bodensteiner, 1970, p. 189; Daft & Lengel, 1986, p. 555), whereby information richness is defined as the potential of a medium to overwhelm different frames of reference, change understanding within a time interval or clarify ambiguous issues (Daft & Lengel, 1986, p. 565; Wynstra & Ten Pierick, 2000, p. 54). The richness of a medium is classified by the degree to which it demonstrates four of the following characteristics; (1) the capacity to provide (immediate) feedback; (2) the type(s) and number of cues and channels utilized; (3) the degree of personalization; and (4) the variety of languages used. Based on these criteria, a numeric document (e.g. quantitative computer output) is the poorest, a little richer are unaddressed written documents (e.g. bulletins and flyers), significantly richer are addressed written documents (e.g. letters and memos). communication by telephone is even richer, whereas face to face communication is the richest. In the context of NPD, depending on the level of supplier involvement, Wynstra & Pierick made suggestions for the kind of collaboration, direction of communication, communication medium, amount of communication, functional disciplines, content of communication and communication structure (Wynstra & Ten Pierick, 2000, p. 54). Existing literature has mainly focused on IT-systems whilst mentioning technological fit. The research on technological fit has gained deepening in information techniques and its cohesion with environmental factors such as humans and the organization. Researchers even came up with controversial terms such as human-technology-organization-fit (HOT-fit), introduced in 2008 by schoBuy_Rep_1 (Yusof, Kuljis, Papazafeiropoulou, & Stergioulas, 2008, p. 389). Existing literature thus far is overlooking machinery, equipment, and tools which ought to be part of technological fit literature, as technology is literally translated to as “scientific knowledge used in practical ways in industry, for example in designing new machines” in the oxford dictionary. The existing literature has interchangeably used technology and IT-systems, resulting in research outputs overlooking the practical ways. Therefore, this paper will also present practical ways of technological fit, answering more types of fit, particularly in the context of NPD.

Proposed framework

3.1 Inter-organizational fit as an attractiveness factor

The aim of this paper is to discover the role of IO-fit in preference between a buyer and supplier in the context of NPD. In chapter two, existing theories and literature are presented to explore this role. By doing so, we understand that the IO-fit concept is built around resource complementarity and organizational compatibility, as perceived by organizations. Furthermore, it is widely accepted in the existing literature that attractiveness initiates preference. To discover the complete picture of the role of IO-fit and its characteristics, we have applied a dyadic view by reviewing both views in the literature from the buyer and supplier side on organizational compatibility and resource complementarity. To answer the research question "*What is the role of inter-organizational fit in preference between buyer and supplier in a new product development context",* we propose a framework in which IO-fit takes an independent role as an attractiveness factor. Before discussing the framework, it is necessary to emphasize the attractiveness role of IO-fit. As is claimed in the literature; attractiveness originates from positive expectations towards the exchange partner. In the case of buyer-supplier relationships; "A customer is perceived as attractive by a supplier if the supplier in question has a positive expectation towards the relationship with this customer. The conditions for this perception of the supplier include an awareness of the existence of the customer and knowledge of the customer's needs" P.1180 (Blau, 1964; Homans, 1958; Thibaut & Kelly, 1959) (Schiele et al., 2012). In this paper, we have adopted this view for the supplier; "A supplier is perceived as attractive by a customer if the customer in question has a positive expectation towards the relationship with this supplier. The conditions for this perception of the customer include an awareness of the existence of the supplier and knowledge of the suppliers' needs". Both statements emphasize the positive expectations of the exchange partner, which are necessary to be perceived as attractive. Within the IO-fit literature, two underlying sources are discussed which are organizational compatibility and resource complementarity. In this paper, we analyze both underlying sources of attraction. The next two paragraphs will argue the attractiveness role of each.

3.2 Resource complementarity

Resource complementarity is defined by the value of the provided resources by the parties for each other, which allow partners to achieve synergy and unique values (Harrison et al., 2001, p. 680). The definition of resource complementarity is in line with the existence of buyer-supplier relationships in the context of NPD. In that context, buyers and suppliers

collaborate to create a unique value by combining unique resources possessed by each collaborating partner. Moreover, buyers and suppliers in NPD are jointly creating a new product by combining their resources and complementing each other. The nature of buyer-supplier relationships in NPD is therefore to a large extent explained by the resource complementary behaviour of collaborating organizations. Amongst others, we argue that joint collaborations in NPD are mainly built on expected benefits from the other party. Supplier involvement in NPD brings many benefits to the customer company such as increased volume, design and technology capabilities (Auramo & Ala-Risku, 2005; Chang et al., 2006), and new competencies, fast penetration to new markets and resource conservation (Wagner & Hoegl, 2006, p. 937). Therefore, customers can be attracted to suppliers based on the expected benefits. Idem ditto for the suppliers; existing literature is fruitful about the benefits of customer involvement in the NPD process (Biemans, 1991, p. 164 ; Fang, Palmatier, & Evans, 2008, p. 322; Gruner & Homburg, 2000, p. 1; Noordhoff, Kyriakopoulos, Moorman, Pauwels, & Dellaert, 2011, p. 35; Von Hippel, 1986, p. 795). Thus, buyers and suppliers can get attracted to each other based on the expected benefits from the relationships. Nevertheless, in this paper, we have discussed the relevance of bounded rationality in decision making. Bounded rationality is divided into contextual and limited rationality, whereby limited rationality is characterized by the simplicity of the decisions taken by the actors. In this approach, actors simplify their decisions because anticipating and considering all the alternatives and information in the decision-making progress is difficult for the actors (March, 1978) p. 591. Contextual rationality focuses purely on the content of the decision, whereby the opportunity costs emerging from the situation influence the behavior, and thus the rational choice. Besides limited and contextual rationality, reference dependency is known to influence rationality. Kahneman illustrated reference dependency and argued that perception is influenced by previous experiences (D. Kahneman, 2003, p. 279). To sum up, depending on the context of the buyer and supplier, the amount of information they have evaluated for their upcoming decision and the reference they are depending on, the likelihood of both parties having different perceptions is plausible. Hence, the social exchange process in which attractiveness initiates preference can result in preference outcomes which are biased by bounded rationality because the expected benefits from the relationship as described above might be perceived unintendedly different than expected. Thus, the degree of resource complementarity as an attractiveness factor depends on the rationale of the authorized body in charge of decision making, which is subject to bounded rationality.

P1: The degree to which complementarity amongst resources play a significant attractiveness role depends on perceptions, which is bounded to the rationality of the decision-maker.

3.3 organizational compatibility

Nevertheless, amongst resource complementary behaviour, organizational compatibility can play a role in preference. The extant literature shows that organizations need to be congruent among their goals, missions or value systems to be compatible (Holcomb & Hitt, 2007, p. 474). Particularly, organizations need to be compatible with their strategies, culture and information systems (Buono et al., 1985, p. 480; Farrelly & Quester, 2005, p, 57; Sarkar et al., 2001, p. 359; Shamdasani & Sheth, 1995, p. 11) In theory, organizations possessing such degree of compatibility can easily achieve successful business-to-business partnerships and inter-organizational integration (Rich, 2003, p. 448). However, bounded rationality is a serious phenomenon, and, in this paper, we argue that bounded rationality can influence the perceived degree of organizational characteristics that define compatibility. For example; customer x applies a strategic purchasing strategy, whereas supplier x applies a core market strategy. According to organizational compatibility, both the buyer and supplier can get attracted to each other based on the identified similarity in the strategy dimension. In the previous example, the application of organizational strategies, which seem to be similar, depends on the rationale of the authorized body in charge of decision making, which is subject to bounded rationality. Thus, it might be that an individual in charge of making decisions can perceive the strategy, culture or technology of a firm differently than the actual state.

Proposition 2: The degree of inter-organizational compatibility amongst buyers and suppliers depends on their perceptions, which is bounded to the rationality of the decision-maker.

3.4 Perceptions, Attraction and Preference

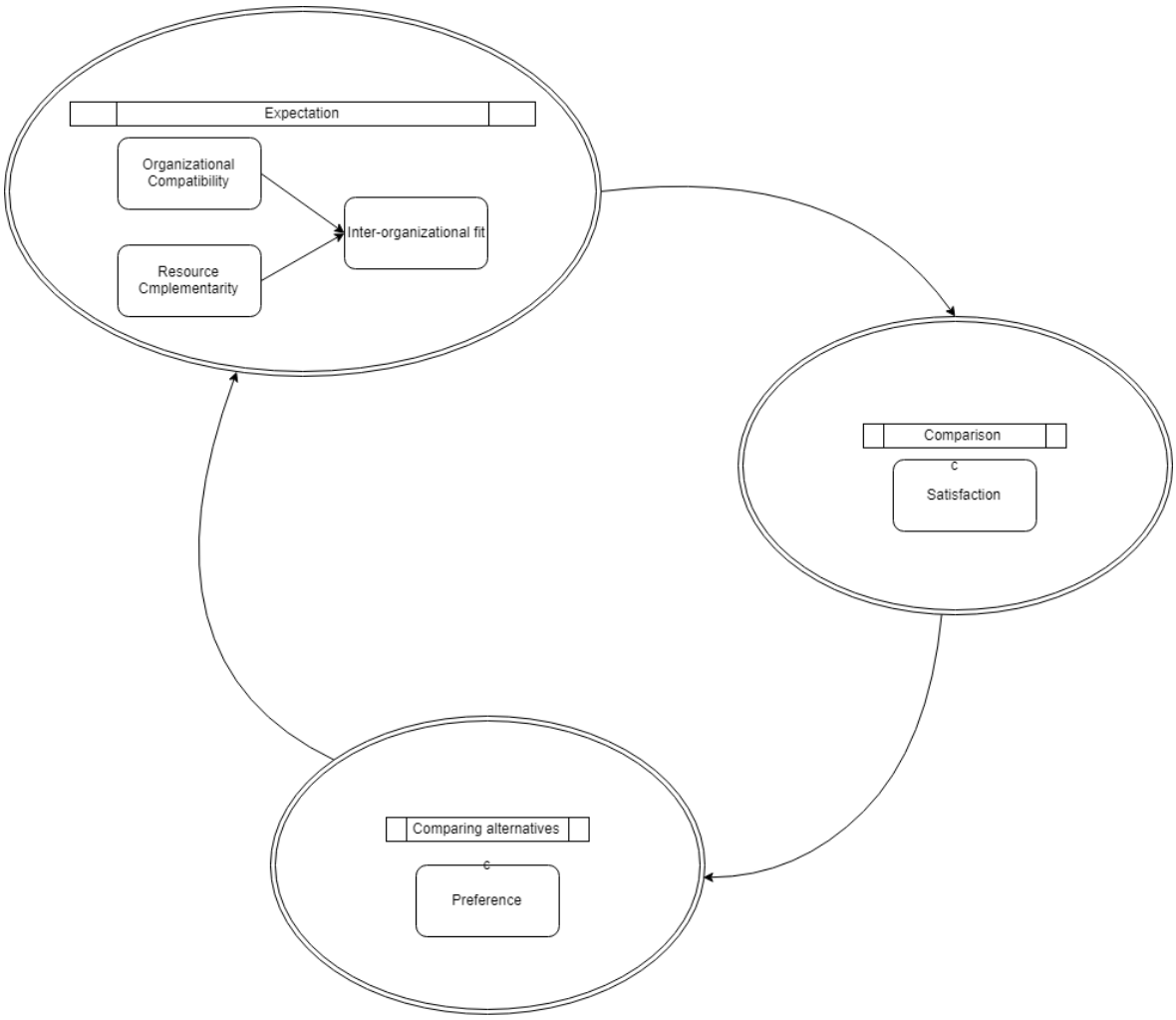
The importance of addressing different perceptions regarding IO-fit is of importance since different perceptions result in different outcomes, which are biased and do not necessarily represent the truth. In the exploratory journey to discover the role of IO-fit in preference between buyer-supplier relationships, we argue that its underlying dimensions resource complementarity and organizational compatibility are attractiveness factors which shape the expectation of a buyer or supplier. So far, the literature review in chapter two shows that attractiveness depends on expectation. In this context, a relationship will only be initiated and developed if actors from both the buyer and supplier side perceive the attractiveness of

this relationship (Hovmøller Mortensen, Vagn Freytag, & Stentoft Arlbjørn, 2008, p. 800; Wilkinson, Young, & Freytag, 2005, p. 670). Besides that, we have argued that expectations depend on perception, which is subject to bounded rationality of the decision-maker. This implies that different perceptions about IO-fit do exist amongst buyers and suppliers, which can influence the preference for the other party. In other words, any deviation due to different perceptions caused by bounded rationality can result in different preference outcomes. Thus, it is important to understand the different perceptions on inter-organizational compatibility and resource complementarity, as the complementarity and compatibility define the "fit".

Proposition 3: Inter-organizational fit is an attractiveness factor that depends on the actors' expectations about organizational compatibility and resource complementarity, which is subject to bounded rationality.

Figure 8 below illustrates the cycle of preference, which is adopted from (Schiele et al., 2012) and adjusted to the context of this study.

Figure 8 - The role of IO-fit in preference between buyer and supplier



4.0 Methodology

This chapter will explain the methodology in three parts; the case company, the methodology to assess preference, and the methodology to explore what compatibility and resource complementary behavior means for buyers and suppliers.

4.1 Case study

This research is conducted at Company X; an American company with business centers and manufacturing sites in 12 countries. Company X, market leader in "Sensors and Controls", has several niche markets that it provides with components. However, most of their revenue is generated from the automotive and aerospace industry. The company claims to have shipped around 1.1 billion units in 2017, dispersed over 17000 unique products. This study took place at Company X' business center in Europe. The cooperation of Company X in this study is valuable, giving access to insights of purchasing processes and the role of organizational fit in the context of NPD. Company X' buying team in Europe is responsible for sourcing activities regarding the internally identified four phases of NPD. To ensure an adequate supply of components, as requested by the project managers and engineers, the buyers are doing business with hundreds of suppliers, located all over the world. Consequently, in cooperation with the regional sourcing leader (external supervisor) of Company X Europe, this paper presents new insights and contributions from five suppliers with headquarters in Asia and Europe and five buyers located in the Netherlands and Bulgaria. The importance of applying a dyadic view is presented in the introduction and supported by the bounded rationality theory. As part of this study, buyers and suppliers were convinced and gave permission to compare sensitive business information such as preference towards each other in a relationship to ensure a dyadic input. More about the participating buyers and suppliers can be found in appendix A: Interview protocol.

4.2 Research design

In this study, qualitative research is applied to find out the role of IO-fit, gain more insights to draw further on its conceptualization, and how IO-fit it influences preference between buyer and supplier in an NPD context. Qualitative research is a method that is used to build theories, in contrary to quantitative research aiming at testing them (Urquhart, 2012, p. 293). Quantitative methods often use random sampling, whereas samples in qualitative methods are often carefully selected to ensure the right input of information. Ways of doing qualitative research are by observing, focusing on groups or taking interviews (Denzin &

Lincoln, 2011, p. 12). This research will use a quantitative research technique in a qualitative research context to assess and compare the actual level of preference of participants by distributing 10 surveys. Subsequently, the actual preference levels of buyer and supplier towards each other will be assessed. This questionnaire will measure the degree of preference towards the other party in the relationship. To cope with socially desirable answers, the questionnaire is designed to also measure the degree of supplier satisfaction and preferential treatment, since the former is empirically proven to be the determinant of preference, and the latter results from attractiveness. This approach will give more information about the validity of the preference results, because, supplier satisfaction, preferred customership and preferential treatment are linked to each other (Schiele et al., 2012). Since the questions focus on the perception of one party (suppliers) of the relationship, the questions will be converted to serve to the other party (buyers). The questionnaire is a multi-item scale. At the basis of this method lies the revised model of (Vos, Schiele, & Hüttinger, 2016, p. 4615), which is built further on the research of (Hüttinger, Schiele, & Schröer, 2014, p. 711). Therefore, the used constructs will be identical to (Vos et al., 2016, p. 4615). For more information about the interviews, see appendix A: Interview protocol. Subsequently, these five relationships are further investigated by interviewing the buyer and supplier in-depth to discover what the role of IO-fit is, in relation to a preferential distance between buyer and supplier. Based on the literature review, resource complementary behavior and organizational compatibility are potential factors influencing attractiveness towards the other party. According to Yin (2003) a case study can be considered as an important methodology that allows a deepening of knowledge about a phenomenon. A case study makes it possible to shed light on knowledge that could not be perceived by quantitative analysis. Case studies are appropriate when "[...] a "how" or "why" question is asked in a contemporary set of events over which the researcher has little or no control"(Yin, 2003, p. 360, 2014, p. 3). Knowledge about preference in normal buyer-supplier relationships in continuous operations is already well-documented. However, in this study, the focus is on the deeper meaning of organizational compatibility and resource complementary behavior of buyers and suppliers in an NPD context, and presenting a dyadic view of IO-fit.

4.3 Data collection

There are two interview methods; structured and unstructured interviews (Flick, 2015). Structured interviews are characterized by its easiness to code, this method is more like a qualitative questionnaire. Whereas unstructured interviews are like having a conversation whereby the interviewee can decide the direction of the conversation. This, in turn, leads to open interviews where interviewees can talk about what they think that matters to the research. And that is exactly what the aim of this study is, gaining insights into the role of IO-fit, its characteristics as perceived by both sides, and how it initiates attraction towards the other party. This paper will combine both methods to reap the benefits of both techniques. This results in semi-Structured interviews, whereby the interviewees should be able to express their vision, motives, and opinions using their own terms. According to King, a set of pre-defined questions is elaborated in semi-structured interviews, but there is freedom for other interests arising during the interview (King, 2004, p. 12).

4.4 Data analysis

The interview transcripts are analyzed in several steps, see table 6. Labels are assigned to text units in the first step, which is coding (Given, 2008, p. 620). The purposes of coding are organizing, reducing, processing and analyzing data. The goal of the analysis is to identify underlying concepts, for which a qualitative clustering method is used, were similar patterns or characteristics are grouped and conceptualized by identifying relevant words and phrases(Campbell, Quincy, Osserman, & Pedersen, 2013, p. 300; Mallat, 2007, p. 430). IO-fit, resource complementary behavior, perceptional differences, organizational-, technical-, strategic- and cultural compatibility served as a basis for these codes. The next step is grouping the codes into themes to identify underlying patterns. This is often referred to as axial coding (Given, 2008). Axial coding makes it possible to compare patterns across different interviews. The last step consists of analyzing and reporting the data to find valuable answers to the research question.

Table 6. This table describes the steps which are taken in the coding process.

Step 1. Reading the transcript	In the first step, every sentence from the transcript is read carefully line by line.
Step 2. Labelling codes	Relevant words, phrases, sentences or sections are labelled, based on actions, activities, concepts, differences, opinions or processes regarding inter-organizational fit, resource complementary behavior,

	perceptional differences, organizational-, technical-, strategic- and cultural compatibility.
Step 3. Creating categories	Codes are clustered/grouped/categorized based on similarities.
Step 4. Labelling categories	The categories are labelled.
Step 5. Analyze categories	Checked for hierarchy and summarize results

5. results

A total of ten surveys are distributed to measure the perspectives and perceptions on preference for five buyers and five suppliers of Company X in NPD. Consequently, five relationships with their actual preference level are identified. These relationships are qualitatively approached with semi-structured interviews to gain new meaningful dyadic insights on the concept of IO-fit and its role in preference. The relationships and names of buyers and suppliers are anonymized, as requested by the participating individuals. The relationships, buyers, and suppliers are numbered. Thereby, the results of the surveys and interviews will be presented.

5.1 surveys; a significant difference in preference between buyer and supplier

The results of the surveys show a significant difference in preference for all the five relationships. This section will only present the measured information, instead of empirical evidence or qualitative information on both propositions. The goal of the interviews was to assess the level of preference. The results are presented in Table 7. The results are in line with the expected preferential differences since the distances are large enough to be significant; distance > 1.

Table 7. This table shows the results of the measurement on preference, including the actual preference level and the difference between the expected and actual preference level for both the buyer and supplier.

Relationship	Preference distance (Preference of supplier – preference of buyer)	Perceptual preference distance buyer (Expectation of buyer – actual score assigned by supplier)	Perceptual preference distance supplier (Expectation of supplier – actual score assigned by buyer)
Buyer1xSupplier1	1.2	-0.40	1.25
Buyer2xSupplier2	1.4	-2.20	2.00
Buyer3xSupplier3	1.2	-1.25	2.00
Buyer4xSupplier4	1.2	-0.25	1.25
Buyer5xSupplier5	2.0	-1.40	0.25

The preference distance in the second column of Table 7 results from lower scores given by the buyers, to the suppliers. For example, buyer1 gave supplier1 a score that is 1.2 points

lower on the liker scale (1-5). The results show that the preference of the buyers for the suppliers is lower than the other way around, in all the five relationships. The distributed survey also measured the perceptions of both buyers and suppliers. The results of the perceptions minus the actual scores (Appendix O) can be found in column three and four of table 7. A *negative score* in column 3 represents that the buyers were expecting a lower preference rating from the supplier, given the actual preference rating. On the contrary, the suppliers had higher expectations regarding the scores that are assigned to them by the buyers of Company X. Overall, the results are meaningful in two ways. First, the results show that there is a preferential distance between buyer and supplier, in all the five relationships. This enables further research on the role of IO-fit and its role in preference, as the preferential distance could be explained by a different view of fit between buyer and supplier regarding one of the dimensions of organizational fit. Second, it shows the relevance of a dyadic approach to conceptualize IO-fit. Therefore, the next section will present the results of the interviews, which are held on both sides of a buyer-supplier relationship.

5.2 results of the interviews

After having identified a preferential distance between buyer and supplier in all the five relationships, it is time to present our investigation on the role of IO-fit in attractiveness, the different views on IO-fit and an interesting finding about the development of an automotive culture. The results will be presented in three sections. First, the findings of our dyadic study at the expectation level will be presented, in which the role of IO-fit as an attractiveness factor will be presented answering questions such as if organizational fit is being assessed, to what degree and how. The second section will present both views on organizational fit, including the findings of new dimensions in IO-fit. The final section will separately focus on the rising so-called automotive culture.

5.2.1 IO-fit as an attractiveness factor

Based on the extensive literature review and the applied theories in chapter two, we proposed in chapter three that inter-organizational fit is an attractiveness factor that depends on the actors' expectations about organizational compatibility and resource complementarity, which is subject to bounded rationality. 10 parties are interviewed; 5 buyers and 5 suppliers. Several questions are asked to picture the attractiveness scope of IO-fit and its application at both sides. The questions asked during the interviews aimed at exploring IO-fit as an attractiveness factor, based on the social exchange theory, assuming that attractiveness originates from positive expectations towards the exchange partner. The specific questions

can be found in Appendix A. From the buyers' side, organizational fit is found to be an attractiveness factor, based on the usage of an Approved Vendor List (AVL). Company X works with an AVL and approves suppliers per product group. Whenever a buyer needs a product from a specific product group, the buyer has wide array of suppliers to pick from. These suppliers are then evaluated with the project management team in a supplier selection matrix, and consequently, a supplier gets awarded. The usage of an AVL functions as a pre-assessment, which covers aspects measuring a potential fit between Company X and the buying organization. Consequently, buyers have developed a certain expectation of the supplier. In fact, the expectation of the buyers regarding the suppliers is increased since the usage of an AVL. Putting aside the effect of the AVL, the buyers still consider the fit of the supplier, given their own perceptions, which sometimes is different than the perception of the strategic sourcing department responsible of the AVL. In other words, even though the AVL is used, the buyers make their own judgment on the degree of fit between Company X and a certain supplier. The buyers can exert power to work with a supplier over another one during the supplier selection matrix. Their power is relative to the input of other team members in the project, who also contribute to the final supplier selection. But in practice, the buyers' preference is respected during this final selection.

From the supplier's side of view, the results of the interviews show that the salespersons responsible for business development, do assess for organizational fit. Amongst all the five suppliers, findings show that prior to any project related inquiries from the customer, the customer is being assessed on their financial position and the market they operate in. Based on these dimensions, the supplier assesses if the customer fits to their side. Furthermore, organizational fit is even such an attractiveness factor for the customer that based on the financial or market position of the customer, the supplier decides to allocate resources to a certain customer above another in times of resource scarcity.

Eventually, the findings show that both the buyers and suppliers do assess for organizational fit, and built their expectations around the exchange partner, based on their perception, of which they think that it fits to their side. The next section will present the findings around the conceptualization of IO-fit, as perceived by both sides (buyer/supplier).

5.2.2 Different views of fit (Bounded rationality)

In this section, we will present the findings of different views on IO-fit. Resulting from the existing literature, we assume that IO-fit depends on compatibility and complementarity. In

this paper, we have applied the bounded rationality theory. By doing so, we assume that different views on IO-fit exist. These views resulting from buyer and supplier side are summarized in table 8.

Table 8 - This table shows a summarized output of the findings on IO-fit, respecting both views.

Buyers' view	Suppliers' view
Compatibility	
Technical fit *Design fit* Design for manufacturability (DFM) *Process capability fit* available tooling, understanding of our processes, understanding of our needs, project schedule, responsiveness to needs, offer and documentation. *Production level fit* Mass production, free capacity, and flexibility	***Technical fit*** *Design fit* same design idea; customer requirements drawing, material expectations, feasibility. *Process capability fit (project management fit)* Technical knowledge, their design fitting to our company or machines, clear forecasts, timeline and scopes, project milestones. *Production level fit* 24/7, 16/7, Tooling, what has priority during a/b/c/ samples, volumes, medium lot-sizes, parts.
Strategic fit *Market Position* Type of technology, resource scarcity, supply chain evaluation, make site location and the approved Vendor List (AVL). *Finance* Total Spend, material consumption, development costs, and other costs.	***Strategic fit*** *market position* Key customer, close relationship, fit in portfolio, co-design efforts, early integration and type of technology *Finance* Financial position, design to cost, mass demand, room for costs, value of the business and payment days.
Cultural fit Communication skills, commitment to planning ***Performance fit*** On-time delivery, payment days, incidents (Quality, Robustness), lead-time.	***Cultural fit*** *Communication* Flexibility, timely information sharing, completeness of information (which phase is the customer, Purpose, and application of product, project.), direct contact (single person) *Relationships* Adaptation, trust
Complementarity	
Resource Complementarity	*Resource Complementarity*

Human Capital (and needs, project schedule)	Customer expertise, customer closer to end market, human capital (minimum level of understanding), right machines and equipment

Technical Fit

The results show that both sides speak the same technical language; there are little to no differences in terms of understandings and expectations about technical fit in all the five relationships that are investigated. To speak of the similarities, both sides prefer to differentiate technical fit under design, process capability and production level fit. This distinction is remarkably the same between both sides, which probably is the result of the new product development environment in which the buyer-supplier relationship is investigated, where technological consensus at a very high-end detailed level is necessary to guarantee a product development outcome that fits the customer standards defined by giants in the automotive industry; Volkswagen, Daimler, BMW Group, FCA, Nissan, Honda, PSA, Geely, Hyundai, General Motors, Renault, Tata, Toyota and Ford. Interviewees from both sides mentioned multiple times that the technical processes in the entire supply chain of the automotive industry are streamlined as such that it must support, no matter what it costs, the continuation of mass production at production sites of the above-mentioned giants. Nevertheless, other big industries do exist, but it really seems to be that the automotive industry is governing the technical standards worldwide. Eventually, to be a part of the supply chain of the automotive industry, understanding the technical language is a must. Thus, a potential exchange partner will fit technologically if they can keep up with the industrial standards.

Strategic Fit

The findings on strategic dimension of fit show similarities and differences. The similarities are in terms of conceptualization. Both parties consider the market situation by putting effort in the assessment of the exact position of the exchange partner in a specific market, with hopes to be strategically aligned. Next to that, the financial situation of the other exchange partner is assessed. Basically, both parties recognize importance to be strategically aligned. However, differences exist in the type of effort and the view of what is strategically important. Starting with the buyers' side of view, the results show that the type of technology and resource scarcity are continuously monitored as the buyers claim that a relationship

amongst these variables exists, where resource scarcity depends on the type of technology. Besides that, the supply chain of the supplier is evaluated on the number of tiers it has; referring to the complexity caused by longer supply chains. Furthermore, strategic alignment is mostly defined by the AVL, meaning that all the strategic alignment efforts result in an x number of approved vendors fitting to Company X' supplier portfolio. In terms of financial effort, the buyers look at the total spend, including costs such as development costs and other costs. The interviewees mentioned that suppliers quoting a low price are not always strategically important as these suppliers are also often the ones that are not being able to meet their quoted performance, resulting in higher total spend in the end. The results from the buyers' side regarding strategic fit are notably different in terms of the market dimension. Within their customer portfolio, suppliers tend to attach more importance to the market and technology of the new product to be developed, then the existing or expected relationship based on an assessment. Of course, suppliers mentioned that having a solid relationship with mutual trust is highly valued. However, from a sellers' perspective, profitable future businesses can be developed in case the product to be developed is in a so-called "hot market". The suppliers further mentioned that in cases of resource scarcity, they rather allocate their resources to parties in hot markets with whom they do not have an existing relationship yet, rather than allocating the resources to a party being a business partner for years, approaching them with a product to be developed in a market with no growth prospective. Furthermore, the suppliers described the ideal customer on a strategic dimension as one allowing them to integrate at an early stage, being referred to as co-design. This way, suppliers will not only be conducting the design for manufacturability (DFM), as defined in the automotive industry but also the design to cost (DTC). The DTC will allow both parties to integrate cost with design elements, which is highly valued by suppliers.

Cultural Fit

Cultural fit on the buyers' side is not being considered explicitly. The same counts for the suppliers' side, it seems that cultural fit, in general, is not a point of focus on both sides. Both sides mentioned that neither organizational nor demographic culture become a bottleneck. But on the other hand, some aspects, such as commitment to planning, responsiveness to needs and flexibility in terms of being capable to organize resources efficiently and effectively, are noted as points of attention by the customer side. Likewise, flexibility in terms of working hours and overtime, timely information sharing, completeness of information (which phase is of development the customer is, the purpose and application

of the product & project.) and having a single contact person are factors being important for the supplier side. Eventually, the results show that both sides are unintentionally valuing aspects related to culture since they are benefitting from smooth communication and organizational culture. An interesting finding here is from the buyer side, where sometimes buyers think that the suppliers do have the right resources and capabilities but cannot organize themselves quick enough to be a Company X supplier. Within project management, time is essential, and buyers believe that supplying parties are in some cases working inefficient as a result of their specific organizational culture.

Resource complementarity

In line with existing literature, this paper argued that a buyer-supplier relationship in new product development are built on resource complementary motives from the buyers' side. Relatively, the suppliers' side is left unexplored in the buyer-supplier literature stream on new product development. The results of the interviews with buyers show that new products are developed to a large extent internally except for the supply of materials, which is sourced out. To that extent, the customer side merits only the physical resources of the supplier side. Whereas the supplying side has besides making profit, two more reasons to work with specific customers. The customers indicated that in some cases they do extra effort to work with a certain customer with the goal of getting access to specific knowledge about specific technologies. Company X, for example, is market leader in sensors and therefore it is likely that suppliers want to be a Company X customer to learn from them. Suppliers also like to work with customers who are closer to the end consumer, to get information about the trends.

5.2.3 Intercompany findings (relationship level)

In this section, the view of both sides on what they deem to be important in a buyer-supplier relationship, and what they expect from the relationship partner are presented. See table 9 for both views. For the analysis of intercompany findings, we will respect the outcome of the questionnaire regarding preference levels of both relationship partners towards each other, presented in section 5.1. The questionnaire shows that within all relationships, the degree of preference from suppliers to buyers is bigger than buyers to suppliers. On top of that, the buyers were pessimistic and expected a lower preference score to be assigned to them, then the actual scores assigned to them by the suppliers. Whereas the other way around, the suppliers expected a higher preference score to be assigned to them by the buyers. This information highlights a significant preferential distance between both organizations, which could result from different views of fit and expectations from

both exchange partners. Therefore, this section will provide an analysis per relationship on differences and similarities.

Table 9 - Intercompany findings

Buyers' view	Suppliers' view
Relationship 1	
Buy_Rep_1 (Company X) - Market position; Resource scarcity. - Type of technology. - Must understand our processes and needs. - Must have the Capabilities(tooling) to meet our needs (quality, mass production, on time delivery, lead-time). - Convenience in working with Asians; flexibility. - Time. - Communication Skills.	Sup_Rep_1 (Sup_Co_1) - Customer requirement check, if we are capable; early phase of development. - Financial check: ability to do payments; financial statements. - Technical sides: assembly requirements being matched. - We need detailed time-scope, material expectations, milestones, information, value of the business, feasibility. - Strategy: we look at future technology, because our customers build their current expectations on current technologies. This way we prepare for a future match. - Trends: everything should be smaller, more precise, robustness, automated. - They should have minimum level of understanding and knowledge.
Relationship 2	
Buy_Rep_2 (Company X) - Total spend, material consumption, other costs. - Costs, competence and performance. - Responsiveness to needs. - Commitment to planning. - approved vendor list, no disagreements, payment days.	*Sup_Rep_2 (Sup_Co_2)* - Contractual quality. - Alignment of design. - Supplier needs to know phase of customer project (communication). - Expectation: project milestones, timeline, room for costs (competitive prices). - Expectation; purpose and application of the product/project. - Communication; should not take long; important. - Costs; competitive prices. - let know what you need; customer should give complete picture.

	- Certificates as trust mechanism.
Relationship 3	
Buy_Rep_3 (Company X)	*Sup_Rep_3 (Sup_Co_3)*
- Flexibility: if they can re-arrange resources in order to meet customer requirements in terms of delivery. - It is important that the supplier understands how to combine resources to bring satisfaction to the customer. - Supplier should be eager to develop and learn. - Expectation: The expectation is that they must understand what kind of organization we have in place. What kind of the documents they need to provide, also they have to understand the technical language and they must have a the reliable design and quality team to understand new requirements and find solutions in case something turns out not to be working out.	- Co-design is very interesting; early integration; design to cost; finding a design fitting both sides. - Customer should understand well what he wants to do, - should have reliable expectation that the project is going to be success, feasibility check. - Perfect supplier sometimes depends on the market, if they approach us with something being hot on the market. - Best case scenario supplier; good contacts, established level of trust, early stage of development, good market, does not leave doors open for design, teaches us, target costs, where can we save prices in urgent case, acceptable cost level, feasibility(technical / costs). - Resource complementarity; customers expert in specific area; we learn from them.
Relationship 4	
Buy_Rep_4 (Company X)	*Sup_Rep_4 (Sup_Co_4)*
- Responsiveness of the supplier. - Also, the quality of reply (communication). - Available tooling at their site for our vacation . - technical capability to meet our specification is also very important - It is more important that we also evaluate the supply chain of the product by evaluating all the tiers of our supplier because if there are more parties involved, it will be more complex and of course the longer the supply chain the longer the lead-time will be. - We make strategies based on the market situation.	- Products and business should fit, design should be fitting to our machine or company, volumes; medium lot-sizes, direct contacts. Furthermore, the customer should be European. European = No distance problem, easier to get there, business culture matches, common standards, no time shifts. - Same strategy, key customer, close-relationship, portfolio. - Co-design efforts.

Relationship 5

Buy_Rep_5 (Company X)	*Sup_Rep_5 (Sup_Co_5)*
- In general, it would be good if they understand our organization and can meet our technical requirements. - It would be important that they have one person for contact. - Reliability, being able to adapt and understanding the needs of the customer. - I would rather go for a supplier which is locally based because this can ease the communication and decrease the lead-time.	- We would like to deal with one contact person for all inquiries to prevent miscommunication. - Clear forecast, timeline and scope. - Ideal customer, mass demand. - Requirements checked in the beginning of the project (technical fit). - Culture; personal culture; they should be flexible; working hours; reachability. - Production match (24/7, 16/7). - Payment days match. - We decide to allocate resources based on the whole market. - Resource complementarity; customer closer to end market; working with them to gain information; they know trends; better informed about businesses. - Timely information sharing.

Relationship 1

Both sides align on technical and strategic terms. A difference is noted on the buyers' side, where emphasis has been placed on communication skills, in terms of fluency in English. Whereas on the supplier side, communication is not mentioned to be an important factor influencing the relationship. Besides that, communication with the supplier was hard during the interview, confirming the fluency issues experienced by the buyer.

Relationship 2

Besides total spend, strategic alignment and technical alignment, the buying side attaches high value to suppliers who commit to their planning. Even stronger is the effect on the supplying side, where multiple times during the interview has been mentioned that clear communication is of crucial importance. The supplier mentioned that they need to be timely informed about the phase of the project and that the need for clear project milestones prior to the start of a project. Finally, the supplier needs to know the application of the product being in development.

Relationship 3

The buying side demands from suppliers to be eager to develop and learn, be flexible in term of delivery and possess knowledge about Company X as an organization. The buyer believes

that if the supplier has more knowledge of Company X, they will also know the type of documents which are required to work with Company X. The supplier described the best-case scenario buying organization as one with good communication skills, established level of trust, and approaching them at an early stage of development so that the product can be designed together with the buyer to save costs. Furthermore, the supplier always considers the potential success of the product to be developed by the customer(buyer).

Relationship 4

Within this relationship, additionally to what Company X buyers from other relationships mentioned, the buyer mentioned the importance of analyzing the supply chain of the supplier claiming that "the more tiers their supply chain consists of, the higher the complexity will be". During the interview the supplier highly emphasized on the importance of the region where the customers are settled. The supplier wants European customers as they have the same standards, there is no time difference in time-zones and the communication is easier. Furthermore, the supplier values close relationships having the same strategy.

Relationship 5

The expectations of the buyer towards the relationship with the supplier are identical to the expectations of Company X buyers as formulated above. The supplier highly emphasized that they value timely information sharing throughout the project engagement and expect from the buyers that they should share their requirements on the product in an early stage of development.

The expectations of the buyer towards the relationship with the supplier are identical to the expectations of Company X buyers as formulated above. The supplier highly emphasized that they value timely information sharing throughout the project engagement and expect from the buyers that they should share their requirements on the product in an early stage of development.

6. Discussion and implications

6.1 Discussion of the results

The aim of this study was to explore the role of inter-organizational fit as an attractiveness factor from both buyer and supplier perspectives, given the fact that the existing literature has tested the underlying facets of both buyer and supplier preference, from only one

perspective. Relying on the bounded rationality and evidence from existing theory showing that different perceptions exist between buyers and suppliers regarding supply chain attributes such as relational norms (Chen et al., 2016, p. 313), this paper also aimed at presenting both views existing in the buyer-supplier relationship. Our first step in exploring the role and presenting a dyadic view was measuring the degree of preference between buyer and supplier in an existing relationship. The findings of the preference measurement show a preferential distance between buyer and supplier, which is remarkable because the existing relationships being investigated in this paper consist of suppliers from the approved vendor list of the customer case company. Having interviewed both sides of the relationship, we found that organizational fit serves as an attractiveness factor for both sides of the relationship. The buying side makes use of an AVL, which triggers the expectations of the buyers towards the suppliers. Whereas the supplying side is heavily relying on a match between organizations based on the financial offer and market situation. A very interesting finding, from the suppliers' side, is that the market or technology a potential customer is operating in determines whether there is a match or not. Whereas the customer side determines a match based on factors such as quality, capabilities and performance of the supplier. Another finding is that there is almost no difference in the technological language between buyers and suppliers assessed in this paper. Within the existing literature, technological compatibility was found to be referred to as the compatibility between organizations their IT-systems. Whereas technological compatibility between a buyer and supplier in NPD, is clearly divided into design fit, process capability fit and production level fit, as results from the interviews. These divisions of fit were lacking in the existing literature regarding technological compatibility. Furthermore, the motive to integrate suppliers in NPD from the customer side is limited to their willingness to access natural resources. Whereas the supplying side co-operates with customers to gain access to resources such as customer expertise in specific technologies or gain more information about ongoing trends, as some customers are closer to the end consumer than others. Finally, cultural aspects considered as decisive for a fit, seem to be different between both parties.

6.2 Practical Implications

The results of this study imply that differences in characteristics exist. Especially on strategic terms. Buyers and supplier could develop better relationships in the future by considering the strategic intention of the potential exchange partner. The results show that the suppliers tend to work with large customers, not only for profitable businesses but also to gain access

to specific knowledge and market trends. The customer side should be aware of this in their decision-making process. The customer side should focus on identifying these supplier initiatives. If these supplier initiatives are left unidentified, and the customer decides to award the supplier based on, amongst others, costs, a potential strategic mismatch could occur between buyer and supplier, resulting in a preferential distance between buyer and supplier, where buyers give a lower preference rating to the suppliers, than the suppliers rate the buyers. Based on the results of this paper, we also suggest buying companies to do extra effort on marketing the potential of the market they are operating in. Suppliers tend to allocate resources in times of scarcity to customers approaching them from a so-called "hot-market", above allocating these resources to customers who they have a long, trusted relationship with. Furthermore, the findings show that in each of the analyzed relationships the suppliers want to be involved in an early stage of product development, whereas the customer demands flexibility in terms of delivery and production. If the customer would invite the supplier at an earlier stage of development, the supplier could propose cost-efficient design solutions fitting to their existing machines, enabling them to be more flexible in the long-run, given the fact that the break-even point of running machines is lower for existing machinery than for newly developed tooling, which is expensive and needs to be earned back without room for flexible re-arrangement of production. In other words, both the buyer and supplier could benefit from a co-design strategy.

6.3 Future research directions

The attractiveness role of IO-fit is somewhat confirmed but not empirically tested. This paper has found some practical insights from the automotive industry and the role of the industry in governing technical standards. Insights gained from the interviews refer to some type of automotive culture, which could replace old-fashioned organizational culture and national culture, which are known in the literature to mediate organizational fit. The automotive culture seems to be an industrial culture where emphasis is being placed on the continuation of mass production, by industry-specific documentation, project management processes, rules, regulations, and certificates. Companies are assessing each other against industry standards, rather than the organizational culture. Therefore, future research could focus on the relationship between industries and their type of culture. As discussed in the section above, organizational fit serves as an attractiveness factor for both sides of the relationship. This finding is in line with our expectation, where existing literature shows that organizations are co-developing products to share risks and rape the benefits of getting

access to resources and capabilities beyond their own. Within this frame of sharing risks and raping benefits, the “fit” between partners is characterized from the buying side by the usage of an approved vendor list. On the other hand, the suppliers are attaching high value to the feasibility of the product in development in terms of success once its launched. Suppliers find this important as they will benefit from the sales success of their customer, translating back to higher orders and revenue. In perspective to the theory, this paper proposed a framework where IO-fit has an independent attractiveness role. In this role, based on existing literature we assume that attraction is followed by positive expectations toward the exchange partner. Our findings show that the usage of AVL on one hand and the market in which the customer operates in the other hand can be such factors shaping the expectations of the buyer and respectively the supplier. Consequently, with respect to the existing literature and theories on attraction, preference, satisfaction, and bounded rationality, it is likely that the use of an AVL can bias the perception of the buyer, as the buyer has only reference points of suppliers from the AVL and no work experience with suppliers outside that pool. This could explain why buyers rated the suppliers lower in terms of preference. However, to validate this assumption over the entire population of buyer-supplier relationships in NPD, strong empirical research needs to be conducted. The existing literature is scarce about research on the use of AVL. The existing literature does only show the benefits of the use of approved vendor lists. Further research can show if there is a direct relationship between the use of an AVL and biased expectations of the buyer, leading to lower preference levels of the supplier. The suppliers also indicated a factor, which placed in the light of existing theories and literature, does shape their expectations, prospective of the customer market. The suppliers indicated that they follow the trends and market developments of their customer. The case customer company buying products from the suppliers is Company X. Company X operates in the sensor market. The sensor market is expected to have a Compound Annual Growth Rate of 9.5% till 2025, which is explained by the increasing demand for sensors paired with the ongoing digitalization trend in the 21st century. This could explain why the suppliers have rated the buyers relatively high (4.3 average on Likert scale; see annex O) in terms of preference, given the fact that their preference is influenced by their positive expectations. Market attractiveness is not a recent concept in the literature and has been investigated extensively in the marketing literature and existing buyer-supplier relationships in NPD. SchoBuy_Rep_1 conceptualized that variables such as “Competition”, “Large mass market”, “Strong product-market position”, “Product acceptance in a growing competitive market”, “degree of competition in a growing market” and “existence of

potential demand only (no actual demand)" are marketplace variables taken into account and shaping the expectations of suppliers regarding the market of the buyer (Havilera, 2010, p. 129). The conceptualization is ready, further empirical research can be done to measure the strength of marketplace attractiveness relatively to other attractiveness factors such as trust, given the fact that our interviewees mentioned that they would rather allocate resources for a buyer approaching them from an interesting market, then to a buyer who they have a long-trusted relationship with, in times of scarcity. Further findings show a clear alignment on the technical level of fit, governed by the industrial standards where buyers and suppliers must adhere to. This is also in line with our expectation given that the congruency theory suggests that the needs, demands, goals, objectives, and/or structure of one component have to be consistent with the demands, goals, objectives, and/or structure of another component, to achieve fit. Our findings show a clear division in types of technological fit: design fit, production capability fit and capacity fit. These types of constructs could relate to another type of fit than technological fit, namely, business operations fit (Business Operations Management). This would imply that our findings failed to define technological fit, but it also implies that the existing literature is still weak on the definition of technological fit, especially in an NPD environment. Finally, the findings show contradiction to what the interviewees mention and really prioritize when it comes to culture. Both buyers and suppliers mention that cultural differences are not a problem whilst on the other hand stating the difficulties, they have with communicating with the exchange partner. The existing literature could benefit from this finding by approaching research participants differently, avoiding direct questions about culture and using indirect questions built around constructs defining culture, as participants take cultural questions personal and hide their true opinion because they work internally with for example Asian colleagues, and do not dare to speak that external Asian work partners are hard to understand.

6.4 Limitations of this study

This study has limitations in terms of generalizability. The findings presented in this paper result from investigating the relationship between third and second-tier suppliers from the automotive industry. The relationship between first and second tier is known to be ruled by supplier dependency, whereas the relationship between the second and third-tier suppliers in this industry is not characterized by supplier dependency. Thus, the findings of this study are very "tier" and "industry" specific. Another limitation is the amount of relationships investigated; a total of five. These relationships are fully investigated, with additional

information from three regional sourcing leaders from the case company. Even though the results are reliable, the low number of investigations make them less generalizable, even though there is a remarkably consensus between the independent interviews held at both sides.

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Appendices

A: Interview Protocol

This interview protocol describes the general outline of the semi-structured interviews that is designed for the purpose of gaining in-depth dyadic insights on the underlying facets of IO-fit and its role in preference.

General

- Interview duration: 45 minutes
- Location: online medium (Skype or Webex)
- Dates: N/A
- Type: Semi structured interviews with open-ended questions
- Goals: (1) Identifying underlying facets of organizational compatibility and resource complementary behavior. ()(Discovering a new facet of io-fit, other dan compatibility and complementarity) (2) Gaining dyadic in-depth insights by interviewing both the buyer and supplier in a relationship, as perceptions differ because of bounded rationality. (3) Exploring the relationship between IO-fit and attractiveness in increasing the preference of buyers and suppliers towards each other.

Procedure

- Interviews are scheduled with 10 interviewees (5 buyers and 5 suppliers).
- The interview is recorded with permission of the interviewees
- Notes are made during the interview
- The interviewees are introduced to the topic prior to the interview. The introduction phase did not take more than 5 minutes. The introduction is given by the interviewer to the interviewees by using a PowerPoint presentation, see appendix B: Introductory PowerPoint.
- The interviews and introductory PowerPoints will be held in Dutch or English, depending on the choice of interviewee.
- Prior to the introduction, interviewees are asked to think loud by exchanging their first impressions and ideas about the presented concepts. By doing so, the interview turned into a fruitful discussion.

- The questions will cover the following themes; (1) underlying facets of organizational compatibility and resource complementary behavior. (2) relationship between IO-fit and preference.

Questions

Note: "Exchange partner" in the questions below will be replaced by "buyer" or "supplier" based on the type of interviewee.

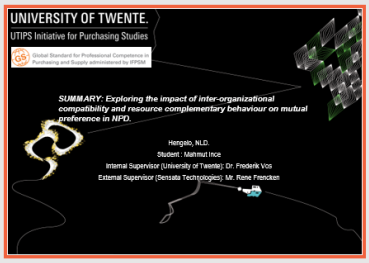
This table shows the questions, underlying theories and the intended outcome of the questions.

Objective for all questions: Gaining dyadic in-depth insights by interviewing both the buyer and supplier in a relationship, as perceptions on IO-fit are expected to be different due to bounded rationality.

Questions	***Related Theory***
Objective of the following questions: *Exploring if Interorganizational-fit is an attractiveness factor* - Do you assess organizational fit when sourcing for an exchange partner? If yes, to what degree and how? - Do you have certain expectations about the organizational fit with the exchange partner? - How important is organizational fit for you in a buyer-supplier relationship? - Could you give examples where you have preferred working with a specific organization over working with another because of a better fit? -	**Social Exchange Theory** Attractiveness originates from positive expectations towards the exchange partner. In the case of buyer-supplier relationships; "A customer is perceived as attractive by a supplier if the supplier in question has a positive expectation towards the relationship with this customer. The conditions for this perception of the supplier include an awareness of the existence of the customer and knowledge of the customer's needs" P.1180 (Blau, 1964; Homans, 1958; Thibaut & Kelly, 1959) (Schiele et al., 2012) Vice-Versa for the customer attraction on supplier.
Objective of the following questions: *Discovering a new facet of IO-fit, other dan compatibility and complementarity, in the context of NPD.* - How would you describe the perfect fit with an organization? - Which organizational characteristics do you look at when sourcing for a supplier/buyer?	No specific theory, as this will be the exploratory part of the research. Hopefully I can find another factor, which further research can explain with a theory.

- Which of these characteristics that the buyer/supplier has do you value most? And why?	
Objective of the following questions: *Discovering Underlying facets of organizational compatibility and resource complementary behavior.* - How do you see organizational compatibility? Could you describe the perfect organization to work with? - Could you name some technical requirements that the partnering organization should have? - How important is the culture of an organization you work with? Could you think of factors which could influence the organizational culture? - Do you consider strategic alignment as an important factor in working with a buyer/supplier? Are there strategic factors that disrupt the efficiency or effectivity in the relationship? Could you give examples of strategic factors? - How would you describe resource complementarity? Could you give examples? - Does the current buying/supplying organization provide complementary resources? If yes, how important are they for the continuity of the relationship?	**Congruency theory** The congruency theory contributes to the understanding of partnering organizations in NPD. Nadler and Tushman defined congruency as "the degree to which the needs, demands, goals, objectives, and/or structure of one component are consistent with the demands, goals, objectives, and/or structure of another component" p. 45 (Nadler & Tushman, 1980) **Relational View** One of the dimensions of organizational fit "resource complementarity" is in line with one of the sources of relational rent from the relational view, as defined by dyer and Singh "complementary resources and capabilities".

B: Introductory PowerPoint



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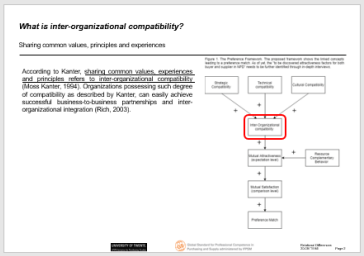

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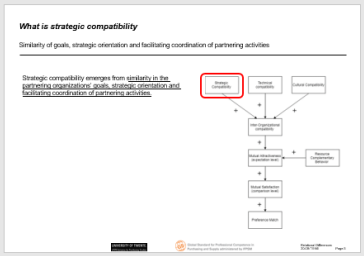

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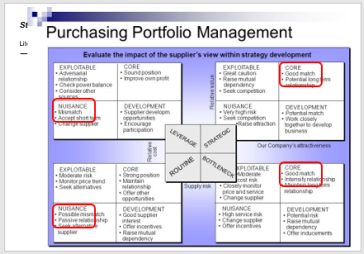

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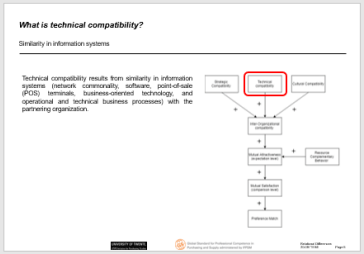

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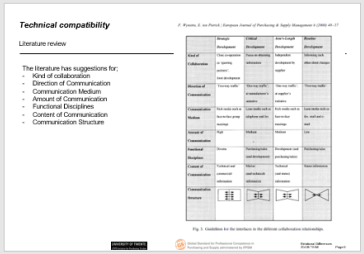

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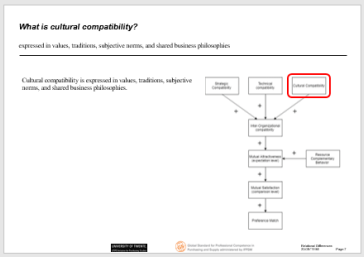

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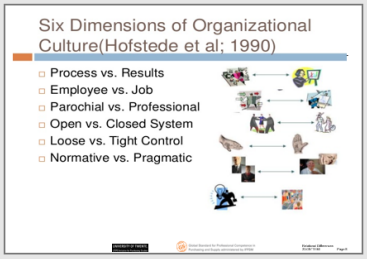

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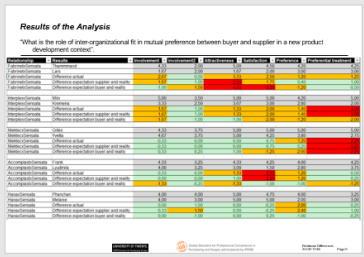

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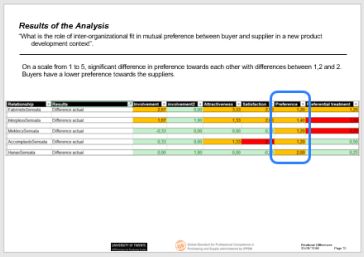

10

C: Questionnaire for the buyers.

Start of Block: Introduction

Intro Introduction

This survey is designed to measure involvement, attractiveness, satisfaction, preference and preferential treatment regarding the relationship with CompanyX in New Product Development. The outcome of this survey will be compared to the outcome of the survey filled in by CompanyX. The goal of this survey is to identify similarities and differences to assess mutual preference between buyers and suppliers in New Product Development scientifically. Each measured domain(involvement, etc, etc,..) will be measured twice; once about the view of the buyer and once about the estimated perception of the supplier. We would like to ask you to give us your best estimation on both measurements. It is important that you answer the statements honestly. The duration of this survey is estimated to be approximately 10 minutes. We appreciate your time in advance.

End of Block: Introduction

Start of Block: General Information

What is your name?

_____

Page Break

End of Block: General Information

Start of Block: Involvement

Question 1 Involvement

First, give an estimation based on your perception. Second, make an estimation about the perception of CompanyX.

Strongly disagree (18) Somewhat disagree (19) Neither agree nor disagree (20) Somewhat agree (21) Strongly agree (22)

CompanyX is early involved in the new product/service development process of Company X. (1)

o o o o o

CompanyX is active in the new product development process of Company X. (2) o o o o o

Communication with our firm about quality considerations and design changes is very close. (3) o o o o o

CompanyX thinks that they are early involved in the new product/service development process. (4) o o o o o

CompanyX thinks that they are active in the new product development process. (5) o o o o o

CompanyX thinks that communication with our firm about quality considerations and design changes is very close. (6) o o o o o

Page Break

Question 2 Involvement

First, give an estimation based on your perception. Second, make an estimation about the perception of CompanyX.

Strongly disagree (28) Somewhat disagree (29) Neither agree nor disagree (30) Somewhat agree (31) Strongly agree (32)

CompanyX is involved in the idea generation phase of Company X in NPD. (1) o o o o o

CompanyX is involved in the concept development phase of Company X in NPD. (2) o o o o o

CompanyX is involved in the prototype building phase of Company X in NPD. (3) o o o o o

CompanyX is involved in the prototype testing phase of Company X in NPD. (4) o o o o o

CompanyX thinks that they are involved in the idea generation phase. (5) o o o o o

CompanyX thinks that they are involved in the concept development phase. (6) o o o o o

CompanyX thinks that they are involved in the prototype building phase. (7) o o o o o

CompanyX thinks that they are involved in the prototype testing phase. (8) o o o o o

End of Block: Involvement

Start of Block: Preference

Question 3 Attractiveness

First, give an estimation based on your perception. Second, make an estimation about the perception of CompanyX.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
We consider CompanyX to be an attractive partner for future collaborations. (1)	o	o	o	o	o
We expect positive outcomes from the relationship with CompanyX. (2)	o	o	o	o	o
Our firm has positive expectations about the value of the relationship with CompanyX. (3)	o	o	o	o	o
CompanyX considers our firm to be an attractive partner for future collaborations. (14)	o	o	o	o	o
CompanyX expects positive outcomes from the relationship with our firm. (15)	o	o	o	o	o
CompanyX has positive expectations about the value of the relationship with our firm. (16)	o	o	o	o	o

Page Break

Question 4

Customer Satisfaction

First, give an estimation based on your perception. Second, make an estimation about the perception of CompanyX.

	Strongly disagree (1)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Strongly agree (6)
Our firm is very satisfied with the overall relationship to CompanyX. (1)	o	o	o	o	o
Generally, our firm is very pleased to have CompanyX as our business partner. (2)	o	o	o	o	o
If we had to do it all over again, we would still choose to use CompanyX. (3)	o	o	o	o	o
Our firm does not regret the decision to do business with CompanyX. (18)	o	o	o	o	o

CompanyX is very satisfied with the overal relationship to our firm. (19) o o o o o

CompanyX is very pleased to have our firm as a business partner. (20) o o o o o

CompanyX had to do it all over again, they would still choose to use our firm. (21) o o o o o

CompanyX does not regret to do business with our firm. (22) o o o o o

Page Break

Question 5 Preference

First, give an estimation based on your perception. Second, make an estimation about the perception of CompanyX.

Strongly disagree (1) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Strongly agree (6)

Compared to other suppliers in our firm´s supply base, CompanyX is our preferred supplier. (1) o o o o o o

Compared to other suppliers in our firm´s supply base, we care more for CompanyX. (2) o o o o o o

Compared to other suppliers in our firm´s supply base, CompanyX receives preferential treatment. (3) o o o o o o

Compared to other suppliers in our firm´s supply base, we go out on a limb for CompanyX. (4) o o o o o o

Compared to other suppliers in our firm´s supply base, our firm's employees prefer collaborating with CompanyX more than collaborating with other suppliers. (5) o o o o o o

Compared to other customers in CompanyX its customer base, our firm is a preferred customer. (6) o o o o o o

Compared to other customers in CompanyX its customer base, they care more for our firm. (7) o o o o o o

Compared to other customers in CompanyX its customer base, our firm receives preferential treatment. (8) o o o o o o

Compared to other customers in CompanyX its customer base, they go out on a limb for our firm. (9) o o o o o o

Compared to other customers in CompanyX its customer base, their firm's employees prefer collaborating with our firm more than collaborating with other customers. (10) o o o o o

Page Break

Question 6 Preferential treatment

First, give an estimation based on your perception. Second, make an estimation about the perception of CompanyX.

Strongly disagree (1) Somewhat disagree (2) Neither agree nor disagree (3) Somewhat agree (4) Strongly agree (5)

Our firm allocates our best employees (e.g. most experienced, trained, intelligent) to the relationship with CompanyX. (1) o o o o o

Our firm allocates more financial resources (e.g. capital, cash) to the relationship with CompanyX. (2) o o o o o

Our firm grants CompanyX the best utilization of our physical resources (e.g. equipment capacity, scarce materials). (3) o o o o o

Our firm shares more of our capabilities (e.g. skills, know-how, expertise) with CompanyX. (4) o o o o o

CompanyX allocates their best employees (e.g. most experienced, trained, intelligent) to the relationship with our firm. (5) o o o o o

CompanyX allocates more financial resources (e.g. capital, cash) to the relationship with our firm. (6) o o o o o

CompanyX grants our firm the best utilization of their physical resources (e.g. equipment capacity, scarce materials). (7) o o o o o

CompanyX shares more of their capabilities (e.g. skills, know-how, expertise) with our firm. (8) o o o o o

End of Block: Preference

D: Questionnaire for the suppliers

Start of Block: Introduction

Intro Introduction

This survey is designed to measure involvement, attractiveness, satisfaction, preference and preferential treatment regarding the relationship with Company X in New Product Development. The outcome of this survey will be compared to the outcome of the survey filled in by buyers of Company X. The goal of this survey is to identify similarities and differences to assess mutual preference between buyers and suppliers in New Product Development scientifically. Each measured domain(involvement, etc, etc,..) will be measured twice; once about the view of the supplier and once about the estimated perception of the buyer. We would like to ask you to give us your best estimation on both measurements. It is important that you answer the statements honestly. The duration of this survey is estimated to be approximately 10 minutes. We appreciate your time in advance.

End of Block: Introduction

Start of Block: General Information

What is the name of this supplier?

_____

What is your name?

_____

Page Break

End of Block: General Information

Start of Block: Involvement

Question 1 Involvement

First, give an estimation based on your perception. Second, make an estimation about the perception of Company X.

	Strongly disagree (18)	Somewhat disagree (19)	Neither agree nor disagree (20)	Somewhat agree (21)	Strongly agree (22)
We are early involved in the new product/service development process of Company X. (1)	o	o	o	o	o
We are very active in the new product development process of Company X. (2)	o	o	o	o	o
Communication with our firm about quality considerations and design changes is very close. (3)	o	o	o	o	o
Company X thinks that we are early involved in the new product/service development process. (4)	o	o	o	o	o
Company X thinks that we are very active in the new product development process. (5)	o	o	o	o	o
Company X thinks that communication with our firm about quality considerations and design changes is very close. (6)	o	o	o	o	o

Page Break

Question 2 Involvement

First, give an estimation based on your perception. Second, make an estimation about the perception of Company X.

	Strongly disagree (28)	Somewhat disagree (29)	Neither agree nor disagree (30)	Somewhat agree (31)	Strongly agree (32)
Our firm is involved in the idea generation phase of Company X in NPD. (1)	o	o	o	o	o
Our firm is involved in the concept development phase of Company X in NPD. (2)	o	o	o	o	o
Our firm is involved in the prototype building phase of Company X in NPD. (3)	o	o	o	o	o
Our firm is involved in the prototype testing phase of Company X in NPD. (4)	o	o	o	o	o
Company X thinks that we are involved in the idea generation phase. (5)	o	o	o	o	o
Company X thinks that we are involved in the concept development phase. (6)	o	o	o	o	o

Company X thinks that we are involved in the prototype building phase. (7) o o o o o

Company X thinks that we are involved in the prototype testing phase. (8) o o o o o

End of Block: Involvement

Start of Block: Preference

Question 3 Attractiveness

First, give an estimation based on your perception. Second, make an estimation about the perception of Company X.

Strongly disagree (12) Somewhat disagree (13) Neither agree nor disagree (14) Somewhat agree (15) Strongly agree (16)

We consider Company X to be an attractive partner for future collaborations. (1) o o o o o

We expect positive outcomes from the relationship with Company X. (2) o o o o o

Our firm has positive expectations about the value of the relationship with Company X. (3) o o o o o

Company X considers our firm to be an attractive partner for future collaborations. (14) o o o o o

Company X expects positive outcomes from the relationship with our firm. (15) o o o o o

Company X has positive expectations about the value of the relationship with our firm. (16) o o o o o

Page Break

Question 4

Customer Satisfaction

First, give an estimation based on your perception. Second, make an estimation about the perception of Company X.

Strongly disagree (11) Somewhat disagree (12) Neither agree nor disagree (13) Somewhat agree (14) Strongly agree (15)

Our firm is very satisfied with the overall relationship to Company X. (1) o o o o o

Generally, our firm is very pleased to have Company X as our business partner. (2) o o o o o

If we had to do it all over again, we would still choose to use Company X. (3) o o o o o

Our firm does not regret the decision to do business with Company X. (18) o o o o o

Company X is very satisfied with the overal relationship to our firm. (19) o o o o o

Company X is very pleased to have our firm as a business partner. (20) o o o o o

If Company X had to do it all over again, they would still choose to use our firm. (21) o o o o o

Company X does not regret to do business with our firm. (22) o o o o o

Page Break

Question 5 Preference

First, give an estimation based on your perception. Second, make an estimation about the perception of Company X.

Strongly disagree (7) Somewhat disagree (8) Neither agree nor disagree (9) Somewhat agree (10) Strongly agree (11)

Compared to other customers in our firm´s customer base, Company X is our preferred customer. (1) o o o o o

Compared to other customers in our firm´s customer base, we care more for Company X. (2) o o o o o

Compared to other customers in our firm´s customer base, Company X receives preferential treatment. (3) o o o o o

Compared to other customers in our firm´s customer base, we go out on a limb for Company X. (4) o o o o o

Compared to other customers in our firm´s customer base, our firm's employees prefer collaborating with Company X more than collaborating with other customers. (5) o o o o o

Compared to other suppliers in Company X its supply base, our firm is a preferred supplier. (6) o o o o o

Compared to other suppliers in Company X its supply base, they care more for our firm. (7) o o o o o

Compared to other suppliers in Company X its supply base, our firm receives preferential treatment. (8) o o o o o

Compared to other suppliers in Company X its supply base, they go out on a limb for our firm. (9) o o o o o

Compared to other suppliers in Company X its supply base, their firm's employees prefer collaborating with our firm more than collaborating with other suppliers. (10) o o o o o

Page Break

Question 6 Preferential treatment

First, give an estimation based on your perception. Second, make an estimation about the perception of Company X.

Strongly disagree (1) Somewhat disagree (2) Neither agree nor disagree (3) Somewhat agree (4) Strongly agree (5)

Our firm allocates our best employees (e.g. most experienced, trained, intelligent) to the relationship with Company X. (1) o o o o o

Our firm allocates more financial resources (e.g. capital, cash) to the relationship with Company X. (2) o o o o o

Our firm grants Company X the best utilization of our physical resources (e.g. equipment capacity, scarce materials). (3) o o o o o

Our firm shares more of our capabilities (e.g. skills, know-how, expertise) with Company X. (4) o o o o o

Company X allocates their best employees (e.g. most experienced, trained, intelligent) to the relationship with our firm. (5) o o o o o

Company X allocates more financial resources (e.g. capital, cash) to the relationship with our firm. (6) o o o o o

Company X grants our firm the best utilization of their physical resources (e.g. equipment capacity, scarce materials). (7) o o o o o

Company X shares more of their capabilities (e.g. skills, know-how, expertise) with our firm. (8) o o o o o

End of Block: Preference

E: Findings Actual Scores questionnaire

The actual scores are derived from the responses to the questionnaires, using the likert scale as a measure.

Relationship	Results	Involvement	involvement2	Attractiveness	Satisfaction	Preference	Preferential treatmen
FabrinetxSensata	Thammmarut	4,33	2,00	5,00	4,50	4,20	4,25
FabrinetxSensata	Lars	1,67	2,00	1,67	2,00	3,00	3,00
FabrinetxSensata	Difference actual	2,67	0,00	3,33	2,50	1,20	1,25
FabrinetxSensata	Difference expectation supplier and reality	1,67	1,00	2,33	1,75	0,40	1,00
FabrinetxSensata	Difference expectation buyer and reality	-1,00	1,50	-3,33	-2,25	-1,20	-0,50
InterplexxSensata	Milo	5,00	3,50	5,00	5,00	4,20	5,00
InterplexxSensata	Kremena	3,33	2,50	3,67	3,00	2,80	2,00
InterplexxSensata	Difference actual	1,67	1,00	1,33	2,00	1,40	3,00
InterplexxSensata	Difference expectation supplier and reality	1,67	1,00	1,33	2,00	1,40	3,00
InterplexxSensata	Difference expectation buyer and reality	-1,67	-1,00	-1,00	-2,00	-1,20	-2,00
MektecxSensata	Gilles	4,33	3,75	5,00	5,00	5,00	5,00
MektecxSensata	Yvetta	4,67	3,75	5,00	4,25	3,80	2,75
MektecxSensata	Difference actual	-0,33	0,00	0,00	0,75	1,20	2,25
MektecxSensata	Difference expectation supplier and reality	-0,33	0,00	0,00	0,75	0,20	2,25
MektecxSensata	Difference expectation buyer and reality	0,33	0,25	-1,00	-1,25	-2,00	-2,25
AccomplastxSensata	Frank	4,33	3,25	4,33	4,25	4,00	4,25
AccomplastxSensata	Lyudmila	4,00	3,25	3,00	1,50	2,80	3,75
AccomplastxSensata	Difference actual	0,33	0,00	1,33	2,75	1,20	0,50
AccomplastxSensata	Difference expectation supplier and reality	0,00	0,00	1,00	2,25	1,20	0,25
AccomplastxSensata	Difference expectation buyer and reality	-1,33	-0,25	-1,33	-1,00	-1,00	-1,25
HanaxSensata	Phanchan	4,00	4,00	5,00	4,75	4,00	3,25
HanaxSensata	Melanie	4,00	3,00	5,00	5,00	2,00	3,00
HanaxSensata	Difference actual	0,00	1,00	0,00	-0,25	2,00	0,25
HanaxSensata	Difference expectation supplier and reality	0,33	1,50	0,00	-0,25	2,40	1,00
HanaxSensata	Difference expectation buyer and reality	0,00	-1,00	0,00	0,25	-1,00	-0,25