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Cross-Border Business Service Buying:

Results of the Empirical Analysis of Influence and Success Factors

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Summary

The main purpose of this research is to acquire a better understanding of cross-border business service buying. Net value and satisfaction are used to describe the success of cross-border business service buying. Three groups of potential influences are included: characteristics of the service, characteristics of the environment and human resource factors. Based on a PLS path-model structural equation modeling is performed. Perceived cost advantages, perceived culture distances, buyer's attitudes towards international sourcing and buyer's international sourcing sophistication are identified as important drivers of net value and satisfaction.

Keywords

Service buying, international sourcing, culture distance, performance, satisfaction, partial least squares, structural equation modeling

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Content

1 Introduction

The term “business services” indicates a broad range of various services used by companies such as logistics, maintenance, security services, cleaning, consulting, software development and marketing services. Business service buying is developing as companies increase the outsourcing of internal services (Parkhe, 2007; Axelsson and Wynstra, 2002). Due to their intangible nature services can not be stored and are difficult to assess (Leenders et al., 2005). Moreover, services consist of a series of activities based on interaction between the customer and the provider (van Weele, 2005). Even though, the service business requires a high level of customer integration there is no need of limiting services to domestic sources. The focus of this research is on international business service relationships. In this case the supplier and the buying firm are located in two different countries.

International sourcing of business services renders the opportunity to benefit from low cost structures outside the home country (e.g. Lewin and Peeters, 2006; Pfohl and Large, 1997; Monczka and Giunipero, 1984; Pfohl and Large, 1993). Yet, the success of international service relationships is often questioned in terms of savings actually generated (Kshetri, 2007) as the relationship is much more complex in an international environment. The rapidly growing number of international service relationships is fueled by two main drivers: first, the general trend of increasingly buying international to benefit from factor cost advantages in other countries; and second, the trend of sourcing internal services out for cost or quality reasons. The latter seems no longer to be limited to low-value activities like cleaning but includes software development and even research services (Parkhe, 2007; Axelsson and Wynstra, 2002).

Despite the general trend and the economic relevance of cross-border business service buying, there is limited research on this topic (Parkhe, 2007). In particular, there is a void of theoretical and empirical research about the factors which influence the success of international business service relationships. Such drivers of performance are essential for both the international business services provider and the company who uses, or wishes to use, a service (potential buyer). This research strives to scrutinize the success factors of international business service relationships. In order to do so, it is a predicament to first identify suitable measures that indicate the performance or success of international business service relationships. The second objective is to derive economic, social or cultural factors that potentially enhance or diminish the general advantages of international business service buying. The third objective is to infer propositions about the relationships between influence factors and the performance measures and to finally test empirically the relationships hypothesized and to interpret the results.

In order to reach the first and the second research objective, previous contributions in economics, purchasing, marketing, and international management are evaluated. Based on the literature review, hypotheses for the coherences between the constructs are derived and centralized in a structural equation model. Based on a

survey conducted among German managers responsible for sourcing in spring 2008, the model is empirically tested. Reliability analysis and factor analysis are conducted in order to verify the appropriateness of the measurement model. The consecutive partial least squares analysis reveals the coherences among the influencing factors and their impact on the performance of international service relationships. Finally, results are interpreted and implications for further research are derived.

2 Performance measure for international business service relationships

In order to decide when international service buying is successful, it is necessary to define constructs that serve as performance measures. As the term “evaluation” would suggest we turn to the value concept for assessing a business service relationship. Net value is proposed as a key performance measure as it employs a suitable benefit-vs.-cost-perspective. Moreover, satisfaction is used as a second performance measure which is influenced by the net value a buyer attributes to a seller of business services.

2.1 Net value

Value is one of the core concepts in marketing research history as it is determining for the buying decision. Despite the fact that customer value is not questioned as being a prerequisite for building long-lasting relationships (Anderson and Narus, 1998), the construct is rarely conceptualized and measured within a structural equation model. The classical economic view took products or services as sources of value. Lancaster (1966) interpreted products as “bundles of characteristics” and thus shifted the focus of value creation to the individual characteristics that form the aggregated product or service value. Price typically makes a negative contribution, therefore, it is often referred to as a “sacrifice” to a buyer (e.g. Monroe, 2003) counterbalancing the positive value attributes. Transaction cost analysis (Williamson, 1979) suggests that there is not just price to be added to the sacrifice side, but all costs incurred by searching, negotiating, contracting, using and disposing of a product. Thus, net value is defined as the difference between the benefits a product or service creates in relation to the costs (price, transaction cost, etc.) incurred through the product, service or transaction (Homburg et al., 2005; Woodruff, 1997; Zeithaml, 1988).

The net value construct is employed as the basic performance measure in our model as it suitably represents one of the key issues of the research: the trade-off between benefits of buying services international (e.g. lower cost) and additional efforts incurred by the complexity of an international business service relationship. Thus, potential savings due to low-cost structures in other countries might at least be partially equaled out by additional cost of the cross-cultural relationship. An example could be transaction cost through additional contracting to provide security of quality and timely delivery.

2.2 Satisfaction

In contrast to the value construct, satisfaction is rather affective in nature, yet non-negligible for the success also in business-to-business contexts (Eggert and Ulaga, 2002). For quite a while customer satisfaction has been used as a prominent non-monetary measure of company performance attributing to its favourable influence on repurchase intention, customer loyalty and thus on future profitability (Homburg et al., 2005). According to the widely used confirmation-disconfirmation paradigm (Wirtz and Lee, 2003; Patterson, 2000; Oliver, 1997) satisfaction is a post-purchase construct which results from a perceived product or service performance and the degree to which it meets customers' expectations.

There is a huge body of literature on customer satisfaction in the field of business-to-consumer research (see for an overview Luo and Homburg, 2007). However, fewer scholars have studied satisfaction in the business-to-business context, yet seldom with an emphasis on international buyer-seller-relationships (as e.g. Homburg et al., 2002). In the international context several authors have examined cross-cultural differences influencing satisfaction in the service sector by causing differences in expectations (Furrer et al., 2000; Donthu and Yoo, 1998; Winsted, 1997). Cultural differences are also assumed to impose barriers on the international expansion strategies of service companies (Kogut and Singh, 1988). Homburg et al. (2001) found a lower level of customer satisfaction in international than in national buyer-seller relationships owing to lower levels of quality and flexibility as antecedents of satisfaction. In the following, satisfaction is employed as a second performance measure in our model and assumed to be positively influenced by the net value as the overall evaluation. The trade-off between benefits obtained and cost incurred is said to be one of the key drivers of satisfaction (Menon, Homburg, and Beutin, 2005). Thus, we view net value as the primary influence on satisfaction in international service relationships and propose:

H1: Net value is positively linked to satisfaction.

3 Potential success factors

Previous publications in the areas of purchasing, relationship marketing and inter-cultural management are analyzed to identify factors, which may have an impact on the success of international business service relationships. The potential success factors identified and the corresponding research propositions are grouped into the following three areas: characteristics of the service, characteristics of the environment and human resource factors.

3.1 Service Characteristics

According to transaction cost theory complexity and specificity are important characteristics of business services (Williamson, 1991) and potentially influence international service buying performance. Complex business services cover a broad range of integrated service offerings. They typically consist of several types of service activities including the co-ordination and control of these service activities. One

example for complex business services is the entire third-party distribution encompassing transport, warehousing, picking, packing, material handling, inventory management and distribution resource planning (Large and Kovács, 2001). On the other hand, truckload transportation from country A to country B is an example of cross-border business services low in complexity. In comparison with simple services, complex services necessitate sophisticated purchasing processes. Typically, intense negotiations are required to tailor the service combination to the specific needs of the buying firm thereby reducing the risk of failure of the business relationship.

The construct “specificity” indicates the degree to which the provider adapts his systems and procedures to the customer’s specifications or requirements. In the case of intense specificity, transaction cost theory predicts the existence of specific investments by the providers (Williamson, 1979). The so-called asset specificity is a precondition to meet the specific requirements of the customer and to efficiently support the recurrent transactions (Williamson, 1984). Detailed and long-term agreements are necessary to safeguard these specific investments (Williamson, 1979). Williamson (1984) initially, distinguished four types of asset specificity: site specificity, physical asset specificity, human asset specificity and dedicated assets specificity. Two further types were added later: brand name capital and temporal specificity (Williamson, 1991). In the context of international business service buying, the first four types are most important and will be accounted for when operationalizing the construct specificity.

The degree of complexity and specificity of the service and the level of specific investments expected by the customer seem to be interrelated. If the complexity of the requested service is low, there is usually no need for physical or human asset specificity, as standard procedures apply and existing equipment meets the customer’s requirements. Following transaction cost theory, a positive relationship between the complexity and the specificity of the service will therefore be assumed.

H2 The perceived level of specificity is positively influenced by the perceived level of complexity of the service.

If a service purchased is high in specificity, the provider is forced to invest in physical and human assets in order to adapt to the customer’s systems and procedures. Moreover, costly procedures are assumed necessary in both firms to safeguard the specific relationship in an uncertain and complex international environment. These additional costs exert a negative influence on the perceived net value of the relationship. Therefore, the following proposition can be formulated:

H3 The perceived net value of the relationship is negatively influenced by the perceived level of specificity of the service.

3.2 Environmental characteristics

There are various reasons for buying abroad, however, the opportunity to realize lower prices than at home is often considered to be the main reason for sourcing international (Lewin and Peeters, 2006; Frear et al., 1992; Monczka and Giunipero, 1984). This is especially true for buyer-supplier relationships between companies from developed and those from developing countries. It is shown for relationships between Western and Eastern European companies by Pfohl and Large (1997). On the other hand, sourcing services internationally may not always be as profitable as suggested by a mere look on wage differences (Bunyaratavej et al., 2007). Other factors like hidden costs incurred by the missing proximity – be it in spatial, cultural or organizational terms (Grote and Täube, 2007) - may impose a negative effect on the evaluation of the international buyer-seller relationship. Accordingly, cost-advantages as well as national and organizational culture distances are considered as environmental characteristics of potential influence on the performance of the relationship.

Cost-advantages are one of the key drivers of outsourcing. Country-specific cost-advantages play an important role in international service sourcing. As the production of services is labor-intense, the perception of low labor costs in other countries might be of prominent importance. “The term labor cost refers to the expenditure necessarily incurred by employers in order to employ personnel” (Eurostat, 2008, p. 130) and covers wages and salaries, employers’ social contributions, vocational training costs, other expenditures and taxes minus labor-cost-related subsidies. Beside labor cost, other country-specific cost such as the local price level of energy or communication could be decisive in the sourcing decision of services. Factor cost differences seem especially obvious between the Western and the Eastern European countries (e.g. Latvia, Estonia, Lithuania, Poland and the Czech Republic). On the other hand, the statistical facts might not always match with common public opinion on cost differences. For example, the wage structure in Germany in comparison to its Western neighbour countries seems surprisingly low. As the perception of the individual purchaser is essential for the international sourcing decision, cost differences need to be analyzed on the individual perception level. Accordingly, it is presumed that the perception of noticeable cost advantages in a certain country renders service providers located there more attractive as the net value of a potential service relationship rises. This idea leads to the following proposition:

H4 The perceived net value of the relationship is positively influenced by the perceived level of country-specific cost advantages.

For international business service buying cultural differences between the provider and the customer are a potential source of influence. Traditionally, the term culture is associated with (but clearly not limited to) national cultures as nationality resembles one of the most decisive criteria when differentiating between cultures. There are three basic approaches to national cultural differences: physical, cultural and psychic (or psychological) distance. Physical distance often measured as kilometer or mileage distance between two countries or companies has traditionally been

discussed as a trade-resistance factor (Bergstrand, 1989; Srivastava and Green, 1986; Learner, 1974). Additional costs incurred are assumed to be the larger the farther two countries are apart implying decreasing cultural proximity (Ratti, 1993). Yet, “rapid advances in transportation and telecommunications dramatically reduce the impact of geographic distance” (Dow, 2000, p. 54).

There might be a number of separating factors bound to geographic distance that might diminish as national borders fade, and as transportation and communication time and cost decrease - still psychological impediments might persist (Ratti, 1993). To approach these, we turn to cultural and psychological or psychic distance (Sousa and Bradley, 2006; Sousa, 2003; Hofstede, 2001; Dow, 2000). The term cultural distance is often associated with the Hofstede dimensions that can be used to form culture profiles (Hofstede, 2001) and to calculate cultural differences between two countries by means of an index (Kogut and Singh, 1988). This approach is widely known, yet criticized for neglecting aspects like crossvergence, multiculturalism and cultural diversity within one country (Jacob, 2005; Jackson, 2004).

Thus, the concept of psychic distance seems more appropriate as it allows for more variance in cultural values among the individuals of a given nation (O’Grady and Lane, 1996), which is essential when analyzing the perception of the individual purchaser. The concept of psychological or psychic distance was first introduced by Beckerman (1956) and was picked up by Johanson and Vahlne in the nineteen seventies to explain export market selection (Johanson and Vahlne, 1977). The literature, however, is not unanimous in conceptualizing or operationalizing the construct (e.g. Brewer, 2007; Evans and Mavondo, 2002). Some authors do not differentiate between cultural and psychological distance, but use the terms synonymously (e.g. Eriksson et al., 2000; Shoham and Albaum, 1995), whereas others make a clear distinction between them (e.g. Sousa and Bradley, 2006; Stöttinger and Schlegelmilch, 1998). In the following, psychic distance is used close to a definition formed by Stöttinger and Schlegelmilch (1998): Psychic distance is the individually perceived foreignness of an international (supply) market in comparison to the domestic market.

Culture distances have been found to negatively influence service relationships (Furrer, Liu and Sudharsahn, 2000; Donthu and Yoo, 1998; Winsted, 1997). Due to the intense personal interaction culture clashes should become more obvious than in product markets (Kedia and Lahiri, 2007). They are even discussed as barriers to international expansion for service companies (Kogut and Singh, 1988). Accordingly, we propose:

H5 National culture distances do have a negative effect on the net value in international buyer-supplier service relationships.

On the other hand, national culture exerts influence on legal and economic frameworks. Particularly with regard to working conditions, dissimilarities can be expected if cultures differ in both countries. Despite additional transaction cost a positive influence of national culture distances on the perceptions of country-specific

cost advantages is conceivable. Therefore, the following hypothesis is included in the model:

H6 National culture distances do have a positive effect on the perception of country-specific cost-advantages.

Besides national culture influences, organizational culture has to be taken into consideration as a potential performance factor of international business service relationships. Schein (1984, 1992) differentiates three layers of the organizational culture construct: basic underlying assumptions, espoused values, and artifacts. Despite varying degrees in visibility and interpretability, these layers seem to be interrelated (Homburg and Pflesser, 2000). Differences in organizational cultures may cause problems between the employees from the buyer and those of the provider firm, such as misunderstandings of expectations, priorities, time schedules, and so on. Thus, they increase transaction cost as additional resources are required for calibrating daily business. Accordingly, we presume that:

H7 The larger the distance between corporate cultures (between provider and buyer organization) the lower the perceived net value.

Furthermore, the effect of national culture on organizational culture is of vital interest as national and organizational culture influences might not be independent constructs (Kshetri, 2007). The culture-bound thesis states an influence of national culture on organizational culture (e.g. Sirmon and Lane, 2004). Some research results support this by explaining much of the variance between organizational cultures with national culture distances (Morosini, Shane and Singh, 1998; Van Muijen and Koopman, 1994). Thus, national culture distance presumably widens the gap between organizational cultures and renders international business-to-business relationships even more complex:

H8 National culture distances positively affect distances between corporate cultures.

3.3 Human resource factors

Not only is the provider selection a consequence of hard facts such as country-specific cost advantages or the requirements of the service; it also is a matter of purchasers' motivation and knowledge. Therefore, soft facts are considered a potential source of influence on international business service buying. Two human resource constructs are included in our model, namely purchasers' attitudes towards and their sophistication in international sourcing.

Although there is a reasonable amount of research on country-of-origin effects on buying decisions (Peterson and Jolibert, 1995), purchasers' attitudes toward international business service buying in comparison to domestic service buying have been largely ignored in prior research. Purchasers' attitudes toward international sourcing could be defined as the entirety of beliefs an employee has about the efficiency and effectiveness of buying from foreign suppliers. In general, human

resource literature emphasizes the importance of employee attitudes for the outcomes of their work (Rodwell et al., 1998).

If purchasers hold positive attitudes toward international sourcing, they have a better impression of foreign business service providers and perceive lower cultural distances. Therefore, they will be more likely to involve foreign providers in their purchasing decisions. Otherwise, they might be disappointed afterwards, as positive attitudes toward international sourcing may lead to an overestimation of country-specific cost advantages and negligence of the obstacles and frictions of international sourcing. Thus, a negative effect on the evaluation of the net value is conceivable:

H9 The perceived net value of the relationship is negatively influenced by the buyer's attitude toward international sourcing.

Besides the attitudes, the competencies of the purchasers might play a role as a performance factor in international service relationships. To analyze the competencies of buyers in the field of international sourcing, we employ a construct that originated in the area of business-to-consumer markets: consumer sophistication which is defined as "(…) an individual's aggregated level of acquired knowledge, experience in purchasing products, and skills, which are relevant to being an efficient decision maker" (Sproles et al., 1978, p. 91). Accordingly, international sourcing sophistication will be defined as a purchaser's acquired knowledge in and experience with purchasing abroad combined with the skills to make efficient buying decisions on an international basis. For international sourcing we interpret efficiency with respect to maximizing net value. Barnes and McTavish (1983) found for industrial markets that highly sophisticated buyers are more satisfied with their buying decision than their counterparts with a rather low sophistication. These findings support a positive relationship between international buying sophistication and the performance evaluation of an international service relationship:

H10 The net value of an international service relationship is positively influenced by the purchaser's international sourcing sophistication.

With an increasing degree of experience and knowledge of international markets, hesitations towards entering international supply relationships should diminish. This would call for a positive relationship between international sourcing sophistication and a purchaser's attitude towards international sourcing:

H11 The higher the purchaser's international sourcing sophistication the more positive his or her attitude towards international sourcing.

In the same way, sophistication may exert influence on the perception of national culture distance. International sourcing sophistication exceeds experience by including the subconstructs knowledge and skills (Sauer, 2004). Dow (2000) found the impact of psychic distance diminishing with increasing experience in international markets. Other empirical findings, however, could not support his results (Davidson, 1983). In contrast, if a purchaser is familiar with a foreign market he or she will be empathetic and therefore able to recognize cultural distance and culture driven

obstacles of purchasing success. Therefore, an additional research hypothesis was formed covering the relationship between sophistication and cultural distance:

H12 The higher the purchaser's international sourcing sophistication the higher the perceived distance between the national cultures.

These hypotheses indicate a complex and closely connected set of relationships between the theoretical constructs involved in this research. The constructs used (e.g. cultural distance, satisfaction or loyalty) are latent variables and as such not directly observable or measurable. In other words, it is necessary to define reflective multi-item scales to account for each theoretical construct involved (Hair et al., 2005). To meet these requirements, the model is constructed using structural equation modeling (SEM). The usefulness of SEM lies within its ability to test a set of hypotheses simultaneously (Giménez, Large and Ventura, 2005). Furthermore, SEM is a statistical technique that transfers the structural model (theoretical model) and the measurement model into one combined model (Hair et al., 2005). The first step of using SEM as a research method is the development of the structural model specifying the constructs and the causal relationships among them. Therefore, the hypotheses need to be expressed in the form of a path model. Figure 1 depicts the structural model which is used as a starting point to empirically test the hypotheses presented.

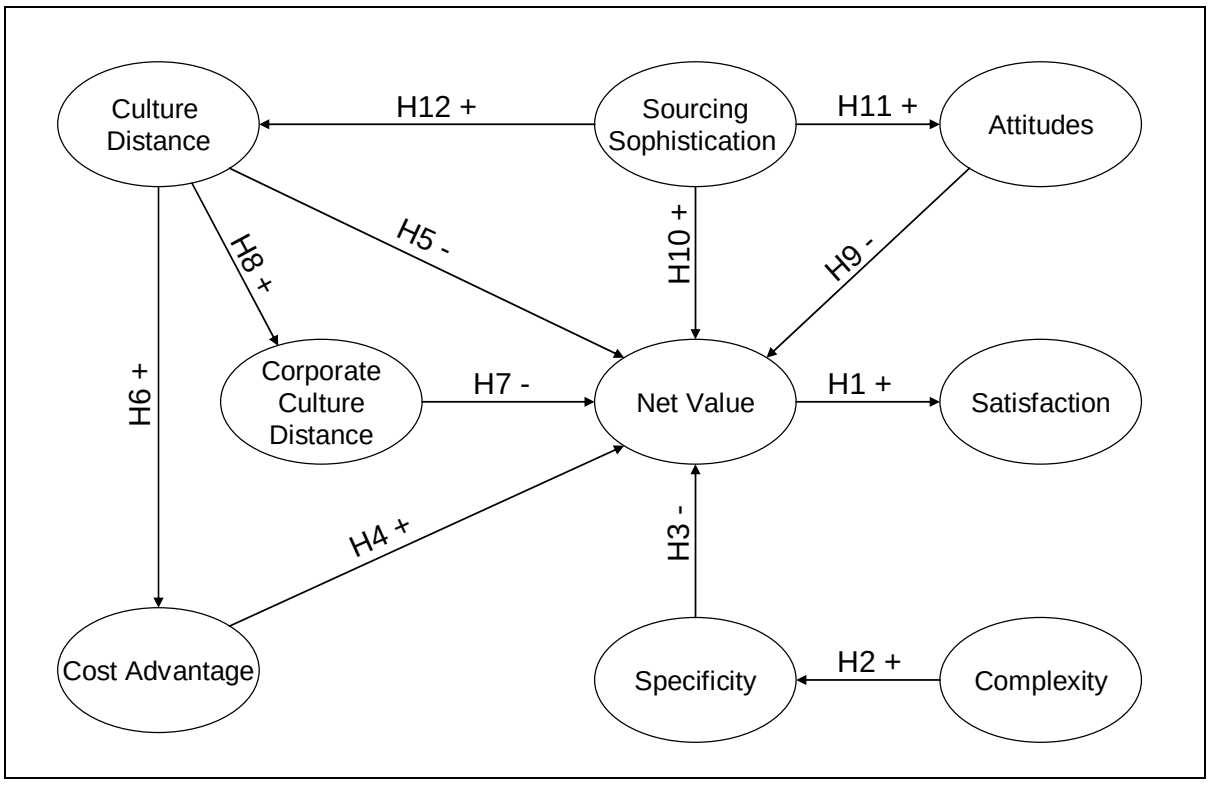

Figure 1: Hypothesized path model.

4 Methods

4.1 Sampling and Data Collection

The questionnaire used for this research consists of two parts. In the first part general questions were asked, for example questions regarding respondent's position or attitudes towards international sourcing, but also the sector and industry in which the company operates as well as general and service-specific annual purchasing volumes. In the second part the respondents were invited to select one of their cross-border business service relationships and to answer the questions respecting this relationship.

Reflective multi-item scales were used to measure most of the constructs (see Appendix). As far as possible proved scales were adopted: Cannon and Perreault, 1999 (satisfaction), Menon, Homburg and Beutin, 2005 (net value) and adapted items from Kim and Hwang (1992) for culture distance. However, in most cases new scales had to be designed. The constructs "specificity" (Williamson, 1984) and "country-specific cost advantage" were measured using formative scales (Diamantopoulos and Winkelhofer, 2001).

The questionnaire was sent out by e-mail to 608 individuals responsible for business service buying, primarily purchasing managers. Altogether 107 completed questionnaires were returned, resulting in a response rate of 17.6%. The majority of the respondents belong to the group of purchasing professionals (67.6%) or CEOs (20%). 56% of the respondents stated to operate at least one cross-border service relationship, resulting in 60 service relationships that are available for statistical analysis. The service providers of the relationships characterized stem from countries like France, Poland, the UK, Austria, the U.S. and the Czech Republic.

4.2 Partial Least Square Method

SEM techniques can be grouped into covariance-based and variance-based procedures. Variance-based smartPLS 2.0 (Ringle, Wende and Will, 2005) was used for the analysis of the path model shown in Figure 1. This structural equation modeling software package is an application of the Partial Least Square Method (PLS) (Tenenhaus et al., 2005; Chin, 1998). Covariance based SEM procedures such as LISREL or AMOS perform a simultaneous estimation of the totality of the model parameters. Therefore, these procedures require very large sample sizes if models are complex (Bentler and Chou, 1987, p. 89). In contrast, the PLS estimation is based on a set of multiple regressions. Thus, in comparison to covariance based procedures the PLS algorithm is advantageous if the model is complex and sample size is small (Chin, 1998, p. 311).

Following the recommendations of Chin and Newsted (1999, p. 327) the sample size should be at least ten times either the largest number of formative indicators or the largest number of independent variables influencing a dependent variable of the structural model. The largest number of formative indicators is four (specificity). The dependent variable with the larges number of predictor variables is net value. This

number is six. Thus, sample size should be at least 60. Based on this recommendation the sample meets the sample size requirements of PLS.

Furthermore, variance-based methods are appropriate for analyzing formative scales. In this study we used formative scales to measure asset specificity and cost advantage. Finally, the PLS approach is more suitable for explorative studies where the level of theoretical knowledge and scale development is rather low (Henseler, Ringle and Sinkovics 2008; Chin, 1998, p. 295). Summing up, PLS is the method of choice for analyzing the data of this study.

4.3 Measurement Assessment

An important precondition for structural equation modeling is scale purification for each single construct, especially in the case of new or adapted scales. In this study the path model consists of 9 latent variables. Two of the constructs were measured using formative scales (cost advantage and specificity), because each of these two variables consist of several cost categories and specificity types respectively. Therefore, in these two cases the latent variable is rather an index calculated from the values of indicators for each category (Diamantopoulos and Winkelhofer, 2001). For the other latent variables reflective measurement models were chosen. In the case of reflective measurement the unknown value of the latent variable is causing the values of the items assigned to this latent variable. As a start, for each of the reflective scales reliability analysis and explorative factor analysis with SPSS were performed. The evaluation was based on the criteria provided by Hair et al. (2006). Table 1 shows sufficient degrees of reliability and convergent validity after scale purification. The Cronbach Alpha of complexity is slightly below the limit. Due to this scale consists of two items only, this value is also acceptable.

Unlike reflective scales, formative latent variables are measured by indices composed of their indicator values and therefore the analysis of internal consistency as shown above is not feasible (Diamantopoulos and Winkelhofer, 2001, p. 272). Especially, scale purification by eliminating single items should be avoided. “The items used as indicators must cover the entire scope of the latent variable as described under the content specification” (Diamantopoulos and Winkelhofer, 2001, p. 271). In order to meet these requirements the variable “specificity” is measured according to the four types of asset specificity: site specificity, physical asset specificity, human asset specificity and dedicated assets specificity (Williamson, 1984). The construct “cost advantage” covers the three cost categories influenced by national conditions: labor costs, information/communication costs, and energy costs.

Construct	Indicator	Cronbach Alpha >0.7	Loading >0.7	Variance explained >50%	Source
Net value	VAL1	0.85	0.777	69.1%	Menon, Homburg and Beutin, 2005
	VAL2 R		0.886		
	VAL3		0.784		
	VAL4		0.872		
Satisfaction	SAT1	0.90	0.886	78.5%	Cannon, Perreault 1999
	SAT2 R		0.865		
	SAT3		0.927		
	SAT4 R				
	SAT5		0.864		
National culture distance	NCUL1 R	0.87	0.809	66.3%	Adapted from Kim and Hwang, 1992 and new items
	NCUL2		0.757		
	NCUL3		0.793		
	NCUL4		0.873		
	NCUL5		0.833		
	NCUL6 R				
Corporate culture distance	CCUL1	0.91	0.765	68.3%	New scale
	CCUL2		0.788		
	CCUL3		0.867		
	CCUL4		0.832		
	CCUL5		0.851		
	CCUL6		0.854		
Complexity of the service	COM1	0.64	0.857	73.5%	New scale
	COM2				
	COM3		0.857		
	COM4				
International sourcing sophistication	SOPH1 R	0.86	0.785	71.4%	New scale
	SOPH2		0.868		
	SOPH3		0.846		
	SOPH4 R				
	SOPH5 R		0.877		
Attitudes	ATT1	0,75	0.7390	68.4%	New scale
	ATT2 R				
	ATT3		0.883		
	ATT4 R				
	ATT5				
	ATT6 R				
	ATT7		0.852		
	ATT8				

Table 1: Reliability and validity of the reflective scales (calculations with SPSS).

Finally, smartPLS was used to evaluate the scales of the model. Common criteria to evaluate reflective measures of PLS path models are the average variance extracted, the composite reliability and the communality (Stone-Geissers Q^2) (Chin, 1998, p. 316-321). For formative scales only the communality is appropriate. The results of these calculations are shown in Table 2.

Scale			Average variance extracted > 0.6	Composite reliability > 0.7	Stone-Geissers Q^2 (communality) > 0
Net value	VAL	reflective	0.69	0.90	0.69
Satisfaction	SAT	reflective	0.79	0.94	0.79
Cost advantage	COST	formative	-	-	0.79
National culture distance	NCUL	reflective	0.66	0.91	0.66
Corporate culture distance	CCUL	reflective	0.67	0.93	0.67
Complexity of the service	COM	reflective	0.73	0.84	0.73
Asset specificity of the service	SPE	formative	-	-	0.33
International sourcing sophistication	SOPH	reflective	0.63	0.87	0.63
Attitudes towards international sourcing	ATT	reflective	0.69	0.87	0.69

Table 2: Evaluation based on smartPLS.

5 Results and discussion

The path relationships (standardized regression coefficients) shown in Figure 2 were estimated performing smartPLS. The bootstrap procedure (Diaconis and Efron, 1983; Efron, 1979) was used to obtain t-statistics in order to evaluate the significance of the parameters. The coefficients of determination (R^2) for each dependent construct provide a signal whether the independent variables of the model exert substantial influence on this construct (Chin, 1998, p. 316-317). The results of this estimation are shown in Table 3. The bootstrap sample means match with the original sample estimates. Therefore, bootstrapping is an appropriate method to evaluate the significance of the estimation. All regression coefficients are significant at the 5% level with the exception of the relationship between national culture distance and net value which is significant only at the 10% level.

Hypotheses			Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	Statistics (|O/STERR|)	Significance
H1	pos.	VAL ⇨ SAT	0.81	0.82	0.04	0.04	21.792	0.000
H2	pos.	COM ⇨ SPE	0.51	0.54	0.07	0.07	7.191	0.000
H3	neg.	SPE ⇨ VAL	0.32	0.34	0.09	0.09	3.374	0.001
H4	pos.	COST ⇨ VAL	0.26	0.26	0.09	0.09	2.845	0.004
H5	neg.	NCUL ⇨ VAL	-0.18	-0.19	0.10	0.10	1.779	0.075
H6	pos.	NCUL ⇨ COST	0.61	0.62	0.06	0.06	10.710	0.000
H7	neg.	CCUL ⇨ VAL	-0.32	-0.30	0.12	0.12	2.739	0.006
H8	pos.	NCUL ⇨ CCUL	0.69	0.70	0.06	0.06	12.405	0.000
H9	neg.	ATT ⇨ VAL	-0.25	-0.25	0.09	0.09	2.744	0.006
H10	pos.	SOPH ⇨ VAL	0.44	0.43	0.09	0.09	5.110	0.000
H11	pos.	SOPH ⇨ ATT	0.27	0.30	0.12	0.12	2.299	0.021
H12	pos.	SOPH ⇨ NCUL	0.32	0.33	0.10	0.10	3.211	0.001

Table 3: Parameter estimation (calculation with SmartPLS).

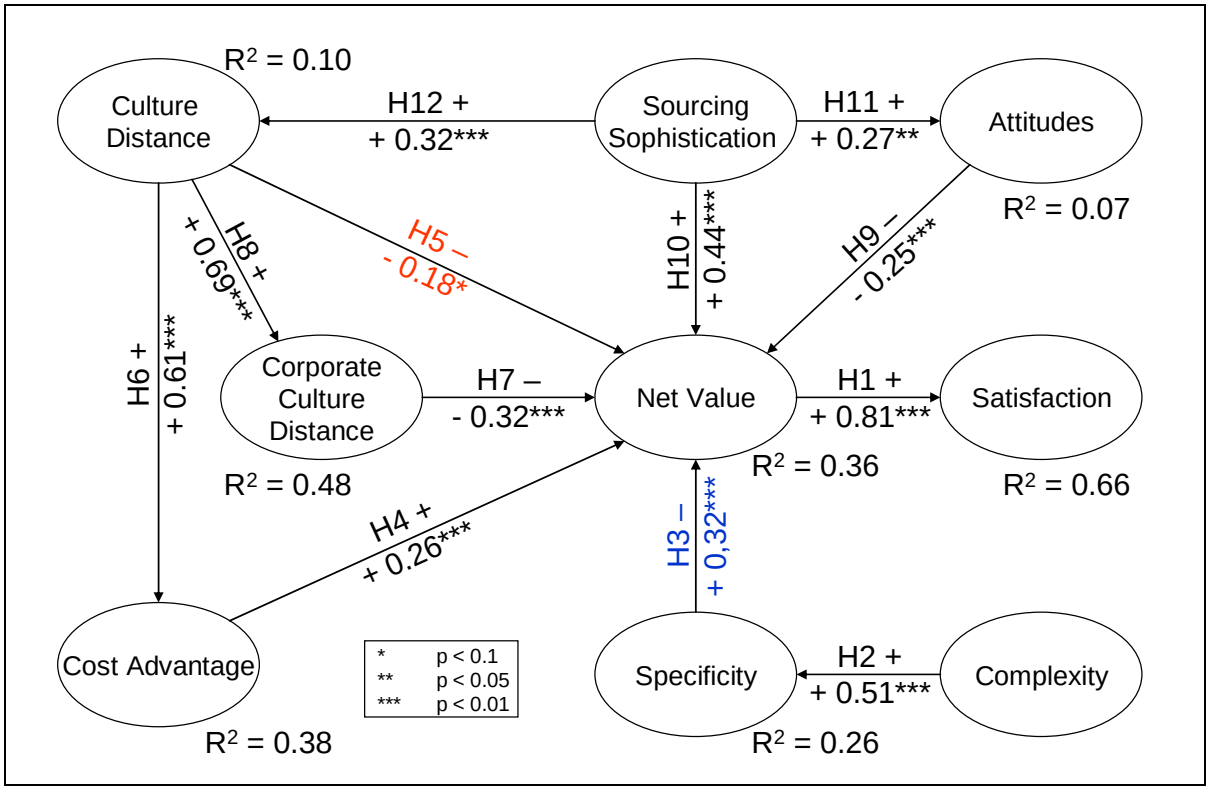

Figure 2: Approved path model.

We found support for H1, which predicted that the net value of a cross-border service relationship is positively linked to the satisfaction of the buyer. Moreover, the R-square of satisfaction is large (R^2 = 0.66). In support of H4, H7, H9 and H10, the results indicate, that cost advantage, corporate culture distance, buyer's attitudes towards international sourcing and buyer's international sourcing sophistication exert

significant effects on the net value perceived. As predicted the influence of corporate culture and attitude is negative. The relationship between national culture distance and net value (H5) is negative as presumed, but weak (-0.18) and only significant at the 10%-level. We also found support for a culture-cost trade-off. As H6 predicted, there is a strong positive influence of national culture distance on the level of country-specific cost-advantages. The larger the perceived distance between national cultures the higher the cost advantage of cross-border service buying. The latter effect is enhanced by cultural distance also affecting net value indirectly via corporate culture distance (H8). Despite of the positive link through cost advantages, the total effect of national culture distance on net value is considerably negative:

$$-0.18 + (-0.32 \cdot 0.69) + 0.61 \cdot 0.26 = -0.24$$

This value is close to the influence of cost advantage on net value (+0.26). As a consequence, companies should try to reduce corporate culture distance to lower the negative impact on net value. If not, the negative total effect of national culture distance will compensate the positive effect of cost advantages.

Surprisingly, the influence of asset specificity on net value is positive. Therefore, hypothesis 3 is not supported. Contrary to the expectations based on transaction cost theory, the higher the magnitude of asset specificity the more positive is the buyer's perception of the net value. The specificity is influenced by the complexity of the service, resulting in a R^2 of 0.26. Maybe a certain level of complexity and specificity is necessary to stabilize and maintain the service relationship. Nevertheless this contradictory result needs further investigation. Altogether the R^2 of net value is substantial (0.34).

The role of buyer's international sourcing sophistication is also remarkable. Beside the positive direct impact of sophistication on net value (H10), there is evidence that sourcing sophistication exerts an influence on buyers' attitudes toward international sourcing (H11) as well as on the level of perceived national culture distance (H12). Therefore, the results urge managers to shift focus away from cost orientation and toward a broader scope including human resource orientation in cross-border service buying.

6 Implications and limitations

Our study shows that a consideration of net value and satisfaction is helpful to understand the meaning of success in cross-border service buying. Important drivers of net value and satisfaction are perceived cost advantages, perceived culture distances, buyer's attitude towards international sourcing and buyer's international sourcing sophistication. Furthermore, this study sheds new light on the link between perceived culture distance and perceived cost advantages. Furthermore, the results indicate that the consideration of human resource factors like professional knowledge and experience as well as managers' attitudes is important to understand the influences on success in cross-border service buying.

These findings have several implications. They suggest that managers involved in service buying should be aware of each of the three groups of success factors identified in this study: characteristics of the service, characteristics of the environment and human resource factors. For managers who want or need to use the opportunities of international service buying, our study offers some useful insights into establishing and maintaining cross-border relationships.

Nevertheless, there are some limitations of this research. First of all, cross-border service buying is a comparatively new field of research in purchasing. Thus, some of the hypotheses presented in this article are rather speculative and not well embedded in previous research. For the same reason new reflective scales have to be used to measure corporate culture distance, complexity of the service, international sourcing sophistication, and buyers' attitudes. These scales need additional validation. Therefore, the nature of this research is rather explorative. Furthermore, the small sample size warrants future replication and validation studies. We hope that further research uses these first results to investigate the nature of cross-border service buying.

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Appendix: Items used in the study

Construct	Kind	Item	Wording	Source
Net value	reflective	VAL1	For the costs incurred, we find the benefits offered by this supplier to be of high value.	Menon, Homburg and Beutin, 2005
		VAL2	The supplier does not provide good value for us. R	
		VAL3	The benefit we receive from the relation-ship with this supplier far outweigh the price/costs incurred.	
		VAL4	We receive high value from this supplier.	
Satisfaction	reflective	SAT1	We are very pleased with what this provider does for us.	Cannon and Perreault 1999
		SAT2	Our firm regrets the decision to do business with this provider. R	
		SAT3	Overall, we are very satisfied with this provider.	
		SAT4	Our firm is not completely happy with this provider. R	
		SAT5	If we had to do it all over again, we would still choose to use this provider	
Cost advantage	formative	COST1	In the provider's country labor costs are lower than in Germany.	New scale
		COST2	In the provider's country information and communication costs are lower than in Germany.	
		COST3	In the provider's country energy costs are lower than in Germany.	
National culture distance	reflective	NCUL1	Hardly any differences do exist between our country and the provider's country. R	Adapted from Kim and Hwang, 1992 and new items
		NCUL2	The political system in that country is very different from ours.	
		NCUL3	The prevalent religious orientation differs to that in our country.	
		NCUL4	The education system in that country is very different from ours.	
		NCUL5	The general economics in that country are rather particular.	
		NCUL6	So far, we have hardly had any experience with that particular country.	
Corporate culture distance	reflective	CCUL1	Similar values, norms and standards exist in the provider firm. R	New scale
		CCUL2	The manners in that company correspond to those in our company. R	
		CCUL3	The style of communicating is very similar to that in our company. R	
		CCUL4	The way of planning, aligning and coordinating is very similar to that in our company. R	
		CCUL5	The decision-making competencies of the individual employee correspond to that of our employees. R	
		CCUL6	The management style is similar to that of our company. R	

Construct	Kind	Item	Wording	Source
Complexity of the service	reflective	COM1	This service consists of various service categories.	New scale
		COM2	This service is performed on various locations.	
		COM3	Performing this service needs a longer period of time.	
		COM4	The service specification was changed over time.	
Asset specificity of the service	formative	SPEZ1	The service has to be performed on a specific location.	Williamson, 1984
		SPEZ2	The provider needs idiosyncratic facilities to perform this service.	
		SPEZ3	The provider needs idiosyncratic labor to perform this service.	
		SPEZ4	The provider has dedicated labor or facilities to our company.	
International sourcing sophistication	reflective	SOPH1	I have little experience in the area of international sourcing. R	New scale
		SOPH2	I know a lot about international supply markets.	
		SOPH3	I have given several larger orders to foreign suppliers in recent years.	
		SOPH4	It is easier for me to assess the quality of national than that of international suppliers. R	
		SOPH5	I am an expert in the area of international sourcing.	
Attitudes towards international sourcing	reflective	ATT1	International sourcing of goods and services contributes to the decrease of prices of our national produce.	New scale
		ATT2	International sourcing leads to national job losses. R	
		ATT3	International sourcing of goods and services adds to the competitiveness of the national economy.	
		ATT4	Given equal capabilities, I prefer national suppliers (to international ones). R	
		ATT5	International sourcing of goods and services raises the quality of life in the home country.	
		ATT6	International sourcing of goods and services causes problems in terms of quality standards. R	
		ATT7	International sourcing of goods and services improves the competitive position of the German Economy.	
		ATT8	Generally, I work just as well together with national as with international suppliers.	