Perceived risk and trust associated with purchasing at Electronic Marketplaces

Tibert Verhagen, Vrije Universiteit Amsterdam, Faculty of Economics and Business Administration, De Boelelaan 1105, 1081 HV Amsterdam, The Netherlands, tverhagen@feweb.vu.nl, Telephone: +31 (0)20 4446050

Selmar Meents, Vrije Universiteit Amsterdam, Faculty of Economics and Business Administration, The Netherlands

Yao-Hua Tan, Vrije Universiteit Amsterdam, Faculty of Economics and Business Administration, The Netherlands

Abstract

Understanding consumer behaviour is of vital importance to consumer oriented e-business models today. In this paper we study the relationships between consumer perceptions of risk and trust and the attitude towards purchasing at a consumer-to-consumer electronic marketplace. Typical for electronic marketplace settings is that consumer behaviour is subject to perceptions of the selling party as well as the institutional structures of the intermediary that is operating the electronic marketplace. Building upon the well-established literature of trust we consider the concepts of institutional trust and party trust. We extend this categorization by introducing the concepts of institutional risk and party risk. We developed measurement instruments for institutional risk and party risk. All measurement scales have acceptable alphas and are unidimensional. An empirical study is conducted to explore the relationships between the risk and trust types and consumer purchase attitude. The results reveal significant, direct effects of party trust and party risk. Second order effects of institutional trust and institutional risk are investigated and reported. The paper concludes with general observations and recommendations for research and practice.

Perceived risk and trust associated with purchasing at Electronic Marketplaces

Introduction

The research objective of this paper is to explore the relationships between perceptions of risk and trust associated with purchasing from sellers at an *Electronic Marketplace* (EM) and consumer purchase attitude. Lowering the perceived risks associated with online transaction as well as maintaining transaction trust are vital keys to attracting consumers and retain customers (Tan and Thoen, 2000 & 2002). Due to the lack of physical presence visitors of EMs cannot experience the products by, for example, touching, feeling or smelling them. Furthermore, consumers are not able to visit the EM to reassure appropriate settlement should they be dissatisfied for any reason (e.g. payment problems, product failure). This implies consumers depend on perceptions of the EM to assess the trustworthiness and perceived risks associated with the purchase before completing an online transaction.

As opposed to 'traditional' consumer- seller relationships, however, in a mediated environment consumers not only trust in perceptions of the seller when engaging in purchase behaviour but also rely on characteristics of the intermediary. In the trust literature regarding online purchasing (e.g. Pavlou, 2002) this has been acknowledged by separating *institutional trust* from *party trust*. Institutional trust refers to the trustworthiness of the intermediary operating the system. It reflects perceptions of security due to the presence of guarantees, regulations or other structures that are introduced by these institutions. Party trust concerns perceptions of trust in the counterpart of transaction. With respect to purchasing at EMs, the direct object of party trust is the party selling the products. The relationships between institutional trust and party trust and purchase behaviour at EMs have received substantial attention and are starting to be explored empirically (e.g. Pavlou and Gefen, 2004). When focusing on the closely related concept of perceived risk, however, the differences between risks associated with the intermediary operating the system versus risks associated with the selling party have been relatively unexplored. Most research on electronic commerce has considered risk as one construct (e.g. Jarvenpaa et al., 2000; Pavlou and Gefen, 2004), or has explicitly payed attention to perceived risk components (e.g. Featherman and Pavlou, 2003). We argue that, similar to the two trust types identified in the literature, purchasing at EMs is subject to two types of risk: *institutional risk* and *party risk*. Institutional risk refers to the potential failure of institutional mechanisms employed by the intermediary. The target of institutional risk is the intermediary. Party risk reflects the uncertainties that arise since one is unsure about the offers of the counterpart of the transaction and its ability and willingness to perform. The target of party risk is the selling party.

In this paper we explore the relationships between institutional trust, party trust, institutional risk and party risk and consumer attitude towards purchasing at an EM. We consider the theoretical background of institutional trust and party trust and introduce the concepts of institutional risk and party risk. Next, we develop and validate measurement instruments for institutional risk and party risk and report on first empirical exploration. Finally, we conclude with overall observations and recommendations for further research.

Theoretical foundations: perceived risk and trust associated with purchasing at EMs

The vast majority of empirical research in the field of trust, perceived risk and online purchasing behaviour has focused on purchasing from online stores. In general, the empirical results emphasize the importance of trust and risk in explaining and predicting online purchase behaviour (e.g. Jarvenpaa et al., 2000; Van der Heijden et al., 2003). Purchasing from online stores is dyadic in nature, which implies that two parties are involved in the transaction: the buyer and the seller. When studying purchase behaviour at an EM, however, three parties have to be taken into account: the buyer, the seller, as well as the intermediary operating the system. In this context, consumer purchase behaviour is not only affected by risk and trust perceptions of the selling party, but it is also subject to perceptions of risk and trust associated with the intermediary. In this study we focus on consumer purchase behaviour at EMs. An EM is defined here as a website as well as the underlying procedures, routines, and information systems that match buyers and sellers, facilitate the exchange of information, goods, services and payments associated with transaction, and provide an institutional infrastructure (see Bakos, 1998). In particular, we focus on EMs consumer-to-consumer purchasing of products (C2C).

In the literature the relationships between trust and intermediaries have been extensively discussed. Next to aggregating buyer demand and supplier products, facilitating the market by lowering costs and matching buyers and sellers, an important role of intermediaries is to protect buyers and sellers from opportunistic behaviour of other participants by acting as agent of trust (Bailey and Bakos, 1997). In this context, the term *institutional trust* is used. Institutional trust, also referred to as impersonal trust (Shapiro, 1987) or control trust (Das and Teng, 1998 & 2001; Tan and Thoen, 2000 & 2002), refers to the security one feels about a situation because of guarantees, regulations, safety nets or other structures (McKnight et al.,1998; Zucker, 1986). Following the widely established literature on trust (see Geyskens et al., 1998 and Rousseau et al., 1998 for an overview), institutional trust is regarded as unidimensional construct consisting of several intertwined beliefs. Although trust has been argued to consist of conceptually distinct dimensions such as honesty (also referred to as integrity or credibility) and ability (also referred to as competence) (e.g. Ganesan, 1994; Kumar et al., 1995a, b; Mayer et al., 1995; McKnight and Chervany, 2002), multiple authors argue that in general (Larzelere and Huston, 1980, p. 596) and even more so in commercial settings they may be "so intertwined that in practice they are operationally inseparable" (Doney and Cannon, 1997, p. 43). Therefore, in accordance with the majority of both empirical studies of trust in general commercial settings (e.g. Crosby et al., 1990; Doney and Cannon, 1997; Dwyer and Oh, 1987; Schurr and Ozanne, 1985; Sirdeshmukh et al., 2002) as well as studies of trust in online commercial settings (e.g. Belanger et al., 2002; Gefen et al., 2003; Jarvenpaa et al. 2000; Koufaris and Hampton-Sosa, 2004; Malhotra et al., 2004; McKnight et al., 2002), trust is viewed as unidimensional construct consisting of a set of specific, intertwined beliefs. More specifically we build upon the work of Pavlou and Gefen (2004) who, based on an extensive review of beliefs mentioned in trust literature, viewed trust in EM settings as a set of beliefs about the honesty, dependability, reliability and trustworthiness of the trustee. Accordingly, institutional trust is defined here as the belief that the intermediary ensures the honesty, dependability, reliability and trustworthiness of sellers at the EM. Although many third-party intermediaries contributing to institutional trust may be present in consumer-seller relationships, this research focuses on the formal authority that manages the exchange network (cf. Gallivan and Depledge, 2003; Kambil and Van Heck, 1998; Pavlou and Gefen, 2004; Zaheer et al, 1998). To generate trust in the online purchase situation, and in sellers at the EM in particular, intermediaries verify and monitor the parties engaged, reassure enforcements in case of opportunistic behaviour and take care of privacy and security of both data and transaction. Widely applied instruments include monitoring, accreditation, safeguards (e.g. contracts), regulations, and so-called structural assurances. The favourable conditions and structures offered by the intermediary allow consumers to believe that purchasing at the marketplace is safe.

Whereas institutional trust concerns the intermediary as mediating 'care-taker', *party trust* reflects perceptions of trust in the counterpart of a transaction. The direct object of party trust, in the literature also known as interpersonal trust, is the specific other individual one trusts (McKnight and Chervany, 2002, p. 42; Rotter, 1971; Zaheer et al., 1998). Party trust refers to the subjective belief with which consumers assess that sellers will perform potential transactions according to their confident expectations, irrespective of their ability to fully monitor them (Davis and Schoorman, 1995). Following the studies of Pavlou (2002) and Pavlou and Gefen (2004) the target of party trust in this study is the population of sellers at the EM. In line with the view of trust being an unidimensional construct of intertwined beliefs, we view party trust as intertwined set of beliefs of the honesty, dependability, reliability and trustworthiness of the trustee. Accordingly, and in line with the work of Pavlou and Gefen (2004), party trust is defined here as the belief that the community of sellers at an EM is honest, dependable, reliable and trustworthy.

While the trust types described above have received substantial attention in the literature, the relationships between perceived risk and consumer purchasing at EMs have been relatively unexplored. Similar to the closely related concept of trust, however, we argue two types of risk can be identified: institutional risk and party risk.

Institutional risk refers to risks that are caused by the failure of an institution to reduce opportunistic behaviour between trading parties. In many cases institutions use specific mechanisms to reduce opportunistic behaviour like, for example, contracts or certification. Consider, for example, a contract in which a due date for payment is stipulated, but there is no penalty for overdue payment. Assuming that the sellers intended to have this penalty, the lack of this penalty is an example of careless contracting and as such an institutional risk. Another typical case of institutional risk is weak monitoring. A good contract can be made ineffective by weak monitoring. An interesting case of weak monitoring is the weaknesses in the earlier versions of reputation systems, where it was possible that two people A and B could create extreme positive ratings for each other by selling the same good between each other several times with the sole purpose of being able to give high ratings to the other person. After they build up maliciously this positive reputation, they could subsequently abuse this reputation, by selling bad goods to a third person C. Institutional risk can never be completely excluded, so many things can go wrong that it is impossible to foresee all possible future mishaps, hence perfect conditions and structures that cover all risks are impossible. To some extent institutional risk is related to environmental risk (Bensaou and Venkatraman, 1996; Ring and van de Ven, 1994), system-dependent uncertainty (Grabner-Kräuter, 2002) or exogenous risk (Hirshleifer and Riley, 1979). However, by institutional risk we mean obvious omissions in institutional mechanisms offered by the intermediary operating the EM. Institutional risks are not restricted to weak contracts, but they can also relate to the lack of adequate security measures and technological mistakes (Grabner-Kräuter, 2002). Hence, even though intermediaries have an important control on the security and privacy of transactions, there is a possibility for sellers to compromise the transaction process (Pavlou, 2003). We define institutional risk as the subjective belief of a probability of suffering a loss due to the inability of the intermediary to provide sufficient protection against fraudulent and/or opportunistic sellers. In this study we specifically focus on the institutional risks that are caused by the intermediary between the buyer and seller, in particular the facilitator of the electronic marketplace. Following the vast majority of works focusing on perceived risk and online consumer purchasing (e.g. Jarvenpaa et al., 2000; McKnight et al., 2002; Pavlou, 2002; Pavlou and Gefen, 2004 Van der Heijden et al., 2003), institutional risk is viewed as narrowly defined unidimensional construct. We acknowledge that in the risk literature, perceived risk has been conceptualized as two elements: uncertainty and consequences (Dowling and Staelin, 1994; Conhar et al., 2004; Jacoby and Kaplan, 1972). Moreover, we recognize that in the risk literature the sources of perceived risk, also referred to as risk types, have received attention. Discussed sources of risk include financial risk, performance risk, physical risk, psychological risk, social risk and time risk (Jacoby and Kaplan, 1972). A widely established and validated framework of the dimensions and/or sources of perceived risk in online settings, however, is still lacking. The few empirical works focusing on the dimensionality of perceived risk in online setting (e.g. Featherman and Pavlou, 2003; Garbarino and Strahilevitz, 2004) arrive at different classifications or are limited in the sense that they have been applied to particular Internet applications and not to the risks associated with purchasing at a particular website. Moreover, defining institutional risk as rather narrowly as homogeneous belief has the advantage that narrowly defined traits intend to be better predictors of a particular behaviour (Buss, 1989; Jones et al., 2003).

In contrast to the intermediary being the implicit target of institutional risk, *party risk* concerns the relational risks resulting from the trading partner. Party risk, also referred to as behavioural risk (Bensaou and Venkatraman, 1996; Ring and van de Ven, 1994) or endogenous risk (Hirshleifer and Riley, 1979), refers to the uncertainties that arise because online sellers can behave opportunistically by taking advantage of the distant and impersonal nature of online transactions and the intermediary's inability to carefully monitor all transactions (Pavlou, 2003, p.77). Party risk addresses the uncertainties that arise since one is unsure about the offers of the selling party (Hirshleifer and Riley, 1979) and the seller's ability and willingness to perform (Grabner-Kräuter, 2002). For example, sellers can include misleading product information, use false identities, ignore warranties or commit fraud. Following Pavlou and Gefen (2004), party risk is narrowly defined as the buyers' subjective belief of a probability of suffering a loss when engaging in transaction with members of the community of sellers at a particular EM. In line with the vast majority of works on perceived risk in online purchase settings (e.g. Jarvenpaa et al., 2000; McKnight et al., 2002; Pavlou, 2002; Pavlou and Gefen, 2004 Van der Heijden et al., 2003), party risk is considered as an unidimensional concept. To reduce party risk various kinds of information are offered including information about regulations and procedures, the reputation of the seller (i.e. rating systems) and privacy statements. By offering the information and services that consumer gather/demand for, consumers are able to cope with perceptions of risk (Murray, 1991).

Given the above, we arrive at the observation that consumer purchasing at EMs is subject to two types of trust (institutional trust and party trust) and two types of risk (institutional risk and party risk). Institutional trust reflects feelings of trustworthiness due to favourable conditions and structures offered by the intermediary operating the system, whereas party trust refers to the trustworthiness of the sellers at an EM. Similarly, institutional risk concerns the uncertainty about the intermediary's ability to exclude opportunistic behaviour, whereas party risk reflects impressions of the risks associated with the sellers at an EM. The constructs differ according to the trust or perceived risk perspective they belong to, as well as the target they refer to. The similarities and differences between the four constructs are summarized in the table below.

Table 1 Trust and risk types associated with purchasing at EMs

	Trust	**Perceived risk**
Intermediary	*Institutional trust*	*Institutional risk*
Sellers	*Party trust*	*Party risk*

Research methodology

To explore the impact of institutional trust, party trust, institutional risk and party risk on consumer purchasing, we conducted an empirical study. We addressed how and to what extent perceptions of the trust and risk types affect consumers' attitude to purchase at an EM. This section introduces the research model and deliberates on measurement instruments and research method.

Conceptual model

The model to be tested is depicted in figure 1. The model reflects the relationships between the trust and perceived risk constructs discussed in the previous section, and the attitude towards purchasing from sellers at an EM. This structure conforms to the *Theory of Reasoned Action* (TRA) of Ajzen and Fishbein (1980) that has extensively been applied in online consumer behaviour research (e.g. Crisp et al., 1997; Moon and Kim, 2001; Shih, 2004; Shim et al., 2001). According to the TRA, the attitude towards behaviour is a direct determinant of the behavioural intention to perform the behaviour. The intention itself is the sole determinant of the overt behaviour. The TRA states that variables that are not part of the theory, also referred to as external variables, do not add to the predictions of intentions over and above the attitude. This is known as the claim to sufficiency (Ajzen and Fishbein, 1980; Fishbein and Ajzen, 1975). Research findings in the field of online purchasing support the claim to sufficiency and demonstrate that the relationship between the attitude and the behavioural intention can be labelled as 'very strong' (e.g. O'Cass and Fenech, 2003; Van der Heijden et al., 2003). These findings are similar to those of meta-studies conducted in traditional shopping settings (e.g. Ryan and Bonfield, 1975) as well as in non-shopping settings (e.g. Sheppard et al., 1988), supporting the notion that external variables are directly related to the attitude and that the impact of external variables is to a very large extent carried over via the attitude to the behavioural intention.

In this study we focus on the relationships between the external variables and the attitude. The external variables included are institutional trust, party trust, institutional risk and party risk. Since perceptions of trust are likely to have a positive effect on consumers' attitude towards online purchasing (Jarvenpaa et al., 2000; Pavlou, 2003), we expect the effects of institutional trust and party trust to be positive. Following research focussing on the relationships between perceived risk and online consumer purchasing (e.g, Jarvenpaa et al. 2000, Van der Heijden et al., 2003.), the effects of institutional risk and party risk on the attitude is expected to be negative. This results in the following combination:

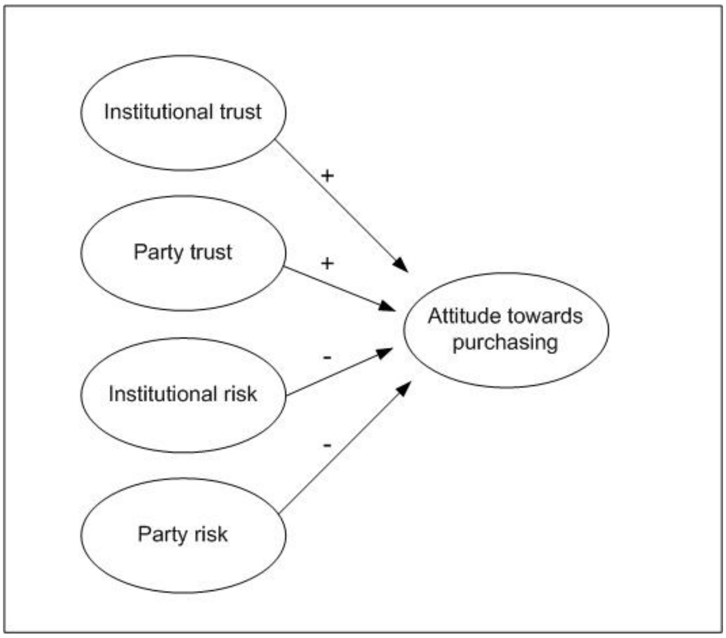

Figure 1 *Conceptual model (adapted from Ajzen and Fishbein, 1980; Pavlou, 2002; Tan and Thoen, 2000*)

Measurement instruments

In order to increase reliability we operationalised each construct with multiple items. The operationalisation for the attitude towards purchasing at an EM was taken from Van der Heijden et al. (2003) who slightly modified the scale from Jarvenpaa et al. (2000). We did make some minor modifications, including the wording of the items to make them applicable for an electronic marketplace context. The measure for the party trust construct was taken from Pavlou and Gefen (2004) who, based on items put forward by Doney and Cannon (1997), Jarvenpaa et al. (2000), Pavlou(2002), Gefen et al. (2003) and Ohanian (1991), operationalised party trust as intertwined set of beliefs about honesty, dependability, reliability and trustworthiness of the community of sellers. The measure for institutional trust was based on the party trust instrument of Pavlou and Gefen (2004). We adapted the original items to reflect the intermediary’s institutional role to act as agent of trust by ensuring the honesty, dependability, reliability and trustworthiness of the population of sellers. A measurement instrument for institutional risk was, to the best of our knowledge, lacking.

Concerning the measurement of party risk, only the instrument as applied by Pavlou and Gefen (2004) seemed appropriate to measure risk perceptions of a population of sellers in EM settings. A closer examination of the face validity of the construct (see Netemeyer et al., 2003), however, clearly revealed discrepancy between the definition of the construct and representation of measurement items. Although party risk was defined rather similarly to our interpretation of party risk, the items addressed more general notions of risk associated with taking part in an auction at an EM. As such the measurement scale lacked the level of target specificity required to address perceived risk associated with the population of sellers. We then decided to develop new measurement instruments for both institutional risk and party risk. Following calls from Straub (1989) and Boudreau et al. (2001) to increase efforts on the reliability and validation of the instruments used in IS research, we built upon the measurement development process as put forward by Churchill (1979). First, a literature study was conducted to gather a sample of items with potential validity concerning the two constructs. These items were derived from the risk literature (e.g.; Agarwal and Teas, 2001; Pavlou 2003; Pavlou and Gefen, 2004; Stone and Grønhaug, 1993) and were part of several risk measurement instruments. We then undertook a series of focus group sessions with a sample of 10 people. Two of the participants were electronic commerce practitioners working for a well-known Dutch EM. The remaining eighth participants included IS faculty (6) and marketing faculty (2) from an academic institution. In the focus groups, the participants were asked to comment on the applicability of the items for each of the constructs, and to propose new items. This resulted in a draft questionnaire containing 10 items for institutional risk and 10 items for party risk. Next, all items were translated into Dutch, resulting in a final questionnaire.

Finally, to purify the institutional risk and party risk measures and to address reliability and validity, we conducted a pilot test with a convenience sample of 167 undergraduate students taking a mandatory core information systems course in the economics curriculum. Each student was notified in class of an assignment to study the website of the Dutch version of the electronic marketplace eBay (www.eBay.nl) and the URL to a web-based questionnaire. Next to the to be purified institutional risk and party risk measures, the measures for institutional trust and party trust were included in the online questionnaire. This enabled us to test for convergent and discriminant validity, and to study reliability for all independent constructs under study.

The assignment focused on the purchase of a laptop, a purchase often perceived as risky due to the complexity and expensiveness of the product (Stone and Grønhaug, 1993). It is conceivable that the purchase of a laptop at an EM is subject to perceptions of risk, as well as to the closely related concept of trust. Using the data from the convenience sample we studied the validity and reliability of the four measurement instruments. For the institutional risk and party risk constructs, some items were dropped to keep the scales uni-dimensional and to improve the reliability. The remaining risk measurement instruments contained 4 items for party risk and 5 items for institutional risk. The pretest demonstrated convergent and discriminant validity for all four constructs and revealed that all measurement instruments exceeded the reliability treshholds for more established research (Cronbach's alpha > .70; Hair et al., 1998). A detailed overview of the measurement instruments is included in Appendix A.

Sample

The sample consisted of users of eBay.nl, the Dutch version of eBay.com. A web-based survey was set-up to allow eBay users to voluntarily participate in the study. The survey addressed the trust and risk perceptions of the respondents for purchasing via the eBay.nl website. Like for the pilot test, the assignment focused on the purchase of a laptop. As incentive, respondents were asked to fill in their e-mail address to engage in the raffle of a book token. 450 users responded and completed the online questionnaire, resulting in a response rate of 15 %. The survey was conducted from the 13th up to and including the 18th of July 2004.

Results

Sample demographics

Eventually 450 respondents participated in our study. 67.6 % of the respondents were men. 32.4% were women. The majority of the respondents were between 27 and 52 years old (n= 309, 68.7%). A clear peak was noticed for the group of 32-37 years old (n = 135, 22.2%). The vast majority of the sample consisted of experienced Internet users, most of them having experience with online purchasing as well. 92.98% of the respondents reported to have purchased via eBay.nl four times or more and can be considered experienced eBay.nl shoppers. The vast majority of the respondents (80.2%) reported to visit the eBay.nl website a couple of times per week. This implies that the study is biased towards middle-aged, mostly male, extensive users and experienced buyers.

Validity and reliability

Principal component factor analysis with varimax rotation was applied to explore the validity of the constructs. The sample met the thresholds for sampling adequacy (overall MSA 0.85, Bartlett's test of sphericity = 10484, $p < .001$). The five factors explained 85.36% of the variance and suggested convergent and discriminant validity since all factor loadings loaded higher on their own factor then on the others (see Appendix B). Following Gerbing and Anderson (1988) we assessed reliability after the acceptable establishment of discriminant validity. Table 2 displays the Cronbach's alphas for the constructs, all exceeding the 0.60 threshold for exploratory research (Nunnally, 1967) as well as the 0.70 standard for more established research (Hair et al., 1998). To test the predictive validity of the constructs and the conceptual model against the data, we regressed institutional trust, party trust, institutional risk and party risk on the attitude towards purchasing (see table 2).

Table 2 Multiple regression results and reliability of measurement scales (n=450)

Regression model	R^2	Adjusted R^2	Beta	Number of items	Cronbach's alpha
Attitude	0.33	0.32		3	.95
Institutional trust			0.03	4	.96
Party trust			0.39 ***	4	.98
Institutional risk			0.03	5	.90
Party risk			-0.28 ***	4	.94

*** $p < 0.001$, *Note: see appendix A for an overview of the items*

Two out of four components contributed to attitude towards purchasing. These are, in order of relative importance, party trust and party risk. The overall impact of party trust and party risk on the attitude can be labelled as 'strong'. The two institutional components, institutional trust and institutional risk, did not directly contribute to the attitude. However, there are reasons to assume that both constructs have indirect relationships with the attitude. Actually, Zucker (1986) has already observed in her seminal paper on institutional trust that there is such a relation. For example, she argues that the trust in doctors as group of trustees is brought about by their affiliation with professional medical institutions. According to Zucker the trust in medical institutions has an impact on the trust in doctors as a group of trustees. This trust in doctors as a group of trustees is very similar to our notion of party trust, because we also consider this as trust in a specific group of trustees. Hence, the relation we postulate is that institutional trust precedes party trust. This relation is very similar to the relation that Zucker observed between the trust in the professional association and the trust in a group of professionals. Further support for the proposed relationship between institutional trust and party trust is provided by literature addressing the concept of *trust transference*. Following the works of Strub and Priest (1976), Milliman and Fugate (1988) and Doney and Cannon (1997), trust in a party can be derived from another third party functioning as proof source. As such, trust can be transferred from the proof source to the group of persons to be trusted (Doney and Cannon, 1997). Building upon trust transference theory, it is well conceivable that perceptions of the institutional role of the intermediary acting as agent of trust function as proof source for trust in the population of sellers. Similarly, this transference logic applies to the closely related concept of risk (Pavlou and Gefen, 2004). Perceptions of the inability of the intermediary to fulfil its institutional role by providing protection against fraudulent and/or opportunistic sellers are likely to affect perceptions of the likelihood that sellers will behave opportunistically. Party risk arises because of the chance that online sellers can behave opportunistically by taking advantage of the intermediary's inability to carefully monitor all transactions (Pavlou, 2003, p.77). The chance that technological and regulatory measures applied by the intermediary fail to provide proper protection, functions as important source of party risk (Pavlou, 2003). As such, perceptions of the intermediary's potential failure as caretaker are transferred to perceptions of the likelihood that sellers will take advantage of the situation by behaving opportunistically. Building upon this process of risk transference, institutional risk is postulated as determinant of party risk.

Test of alternative model

To explore the theoretical assumptions that institutional trust affects party trust and that institutional risk precedes party risk, structural equation modelling (SEM) was applied. We adopted the two-step approach as put forward by Anderson and Gerbing (1988), which has more recently been applied in IS settings by Gefen (2002) and Pavlou and Gefen (2004). The two-step approach implies "a separate estimation and respecification of the measurement model prior to the simultaneous estimation of the measurement and structural submodels" (Anderson and Gerbing, 1988, p. 417). The major strengths of this approach compared to a one step approach, where the measurement and structural models are estimated simultaneously, are that the analysis is exclusively confirmatory; that the theoretical model is tested independently (Anderson and Gerbing, 1988) and that the inclusion of measurement items is much less dependent on characteristics of the data that has been used for estimation and respecification (Gefen, 2002). For our analysis we used Amos 5.0 with maximum likelihood estimation (Arbuckle and Wothke, 1999; Arbuckle, 2003).

As first step, we estimated the measurement model and assessed model fit for the eBay.nl sample (n=450). The fit values demonstrated unacceptable overall fit. To locate the source of misspecification, we focused on the patterning of the residuals, since these are the first indication to look for model improvements (Anderson and Gerbing, 1988; Gerbing and Anderson, 1984 & 1988; Hair et al., 1998). The items Insttrust3, Partrust3, Itrisk2 and Parrisk2 shared a high residual variance with other items both within and across constructs. Since items sharing residual variance with other items are subject to deletion (Anderson and

Gerbing, 1988; Netemeyer et al., 1996), and the items reflected redundancy in wording with other items within the scale, the items were dropped (cf. Gefen 2002; Netemeyer et al. 1996). Deletion of items that share high residual variance is necessary in CFA, since this method addresses the extent to which items share residual variance and the unidimensionality of the constructs (Gefen, 2002). We dropped the four items and re-estimated the model. Except for the chi-square statistic (290.26, $p<.001$), the CFA demonstrated good fit indexes (GFI .93; AGFI 0.90; NFI 0.96; TLI 0.97; RMSEA 0.066). It is common that not all fit-indexes are acceptable in CFA (Pavlou and Gefen, 2004). Moreover the chi-suare statistic is known for its sensitivity to larger samples, implying that other fit measures have to be taken into account (Hair et al., 1998).

Next, we tested for convergent and discriminant validity (cf. Pavlou and Gefen, 2004). The results confirmed convergent validity since all items loaded significantly ($p<.001$) on the underlying latent constructs (Anderson and Gerbing, 1988). Following the procedure described by Anderson and Gerbing (1988), we tested for discriminant validity by conducting chi-square difference tests between all possible pairs of constructs (see also Joreskog, 1971). By constraining the estimated correlation parameter between a pair of constructs to 1.0, and assessing statistical differences between the constrained and unconstrained models, discriminant validity was tested (Anderson and Gerbing, 1988, p.416). Significant lower chi-square values for the unconstrained model indicated discrimant validity (Bagozzi and Philips, 1982). The chi-square difference tests confirmed significantly lower chi-squares values ($P<.001$) for the unconstrained models for all comparisons we tested for, implying the achievement of discriminant validity (Bagozzi and Phillips, 1982). We reassessed reliability of the measures. All cronbach's alpha's were more than acceptable (institutional trust 0.94; party trust: 0.97; institutional risk:0.88; party risk: 0.91).

Finally, the second step of the two-step approach was taken. Following Anderson and Gerbing (1988) and Chi and Todd (1995), we cross-validated the model by a simultaneous estimation of the measurement and structural models on another independent sample. The sample consisted of 266 visitors of a relatively well-known Dutch EM that facilitates online consumer-to-consumer exchanges solely in the Netherlands. The visitors where invited via a banner at the website to voluntarily participate in the research. The data was collected from the 8th up to and including the 31th of August 2005.

As product a digital camera was selected. A digital camera is sufficiently complex in terms of its attributes set (cf. Jahng et al., 2002) and therefore likely to be subject to perceptions of trust and risk. Eventually 266 respondents participated in our study. 62 % of the respondents were men. 38% were women. The majority of the respondents were between 21 and 50 years old (n= 185, 70.6%). A peak was noticed for the group of 21-30 years old (n = 73, 27.9%). The vast majority of the sample consisted of experienced Internet users, most of them having experience with online purchasing as well. 47.1% of the respondents had prior experience with purchasing via the Dutch EM. The vast majority of the respondents (72.6%) reported to visit the website of the Dutch EM a couple of times per week. This implies that, in line with the eBay.nl study, our findings are biased towards middle-aged, mostly male, extensive users and experiences buyers.

The goodness of fit indices suggested, except for the chi-square (202.01; P<.001), good fit with the data (GFI .92; AGFI 0.88; NFI 0.96; TLI 0.97; CFI .98; RMSEA 0.063). The estimated path coefficients are depicted in Figure 2.

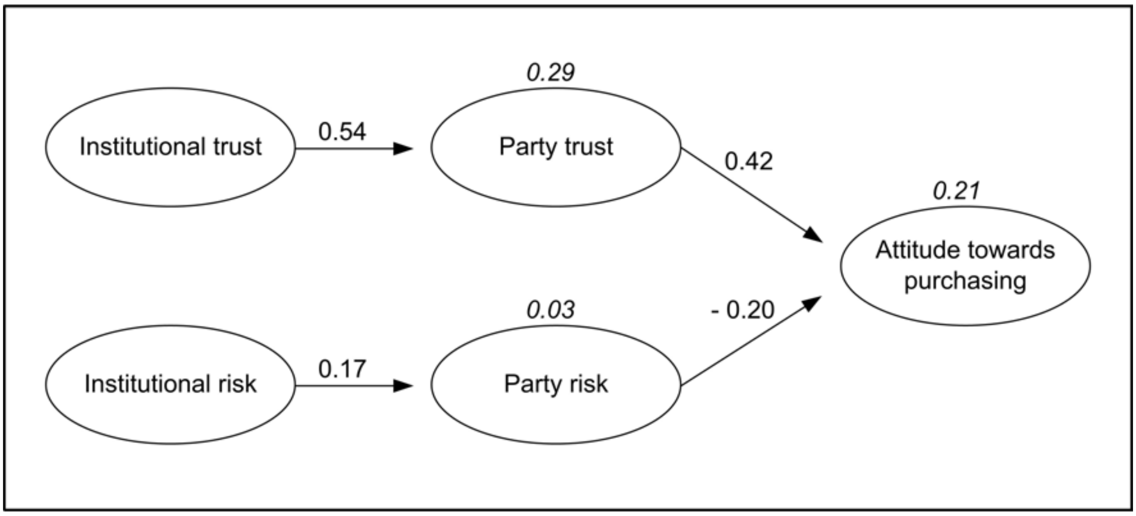

Figure 2 *SEM results. All standardized path coefficients are significant at p < .001. Italic parameters above the constructs refer to the amount of variance explained*

The data revealed a significant beta of 0.54 of institutional trust on party trust (R^2 = .29). We also detected a significant impact of institutional risk on party risk (beta 0.17, R^2 = .03). Together, party trust (beta 0.42) and party risk (beta –0.20) accounted for 21% of the attitude variance. A re-estimation of the reliability of the scales demonstrated more then acceptable cronbach's alpha's (institutional trust 0.94; party trust: 0.96; institutional risk: 0.93; party risk: 0.94; attitude 0.94).

Discussion

This research has focused on the relationships between perceptions of trust and risk in intermediaries and sellers at an electronic marketplace and consumers' purchase attitude. We have examined the literature on institutional trust and party trust and introduced the concepts of institutional risk and party risk. Building upon literature study, focus group interviews and a pilot survey we developed measurement instruments for institutional risk and party risk. Two real shopper samples were used to address the validity of the measurement instruments.

We linked the trust and risk types to the attitude towards purchasing at a particular EM. The results show statistical significance for party trust and party risk. Building upon trust and risk transference logic, we tested and confirmed second order effects for institutional trust and institutional risk. In general, the impact of party trust and party risk on the attitude can be considered as rather strong. Together, party trust and party risk accounted for 21 % of the variance of the attitude towards purchasing at an EM. This finding is rather similar to other empirical studies addressing the impact of seller-related trust and risk in online consumer purchasing (e.g. Jarvenpaa et al., 2000). Since empirical studies in both on- and offline settings have demonstrated that shopping environments explain about 30-40 % of the variance of consumers' attitude towards purchasing (Van der Heijden and Verhagen, 2004), our findings are quite encouraging. It is conceivable that party trust and party risk explain most of the attitude variance potentially accounted for by characteristics of the shopping system. We believe that part of the remaining attitude variance is likely to be explained by other online shopping system characteristics like, for example, ease-of-use, usability and enjoyment. Concerning the individual role of party trust and party risk as attitude determinants, our results demonstrate that the impact of party trust can be labelled as "very strong" (beta: 0.42), whereas the impact of party can be labelled as "rather strong" (beta -0.20). These findings are in line with the findings of the online shopping research of Jarvenpaa et al. (2000), where both trust and risk seemed to have clear impacts on consumer purchase attitudes. Compared to the findings of the online shopping study of Van der Heijden et al. (2003), however, a difference was noticed since their empirical study revealed that only perceived risk significantly contributed to the attitude towards purchasing, while the direct impact of trust on purchase attitudes was non-significant. A plausible explanation for this rather contrasting finding is that the vast majority of the student sample used by Van der Heijden et al. did not have any experience with online purchasing. Consequently, a relationship with the websites under investigation was lacking. The fact that trust is most likely to be a determinant of transaction-oriented behaviour when a relationship has been established (Dwyer et al., 1987; Doney and Cannon, 1997; Geyskens et al., 1998), is likely to explain why in their study no significant relationship between trust and consumer purchase attitude was found. Building upon this argumentation, is conceivable that the nature of our sample, mainly consisting of very experienced users and buyers at the EMs under investigation, explains the very strong impact of party trust. Obviously, more empirical research is needed to address and validate the relative impact of party trust and party risk in online shopping settings in general, and in EM settings in particular.

With respect to the transferred impact of institutional trust and institutional risk, the results are encouraging though ambiguous. Institutional trust can be considered a rather strong determinant of party trust, accounting for 29 % of the party trust variance. Comparable findings have been revealed in research in B2B settings, where perceptions of institutional structures explained a substantial part of trust in sellers (e.g. Pavlou, 2002). Regarding the impact of institutional risk, however, the results are less conclusive. Institutional risk only explained 3 % of the variance in party risk. We advocate more research to explore the relationships between institutional risk and party risk in detail.

Conclusions and recommendations

At least two conclusions can be derived from our research. First, perceptions of trust and risk account for a 21% proportion of the attitude towards purchasing at an EM. This finding contributes to the research on trust and perceived risk in electronic commerce. Second, party trust and party risk have significant direct effects on the attitude towards purchasing, whereas institutional trust and institutional risk can be labelled as second order determinants. These findings have implications for both research and practice.

In practice, we believe one should realize that consumer purchasing behaviour is the outcome of a mixture of decision-making processes, each of them being affected by a large number of factors. Most of these factors (e.g. income, culture, family, referral groups, social influence, experience) are beyond the scope of the intermediary facilitating online transactions. The only ‘instrument’ intermediaries of an EM have is the online exchange environment itself. Our findings imply that intermediaries are likely to profit most directly from applying instruments that contribute to party trust and decrease party risk. Examples of such instruments include guarantees, monitoring, conditions and feedback mechanisms (see Pavlou, 2002). From a communication point of view intermediaries might also use their position as independent mediator to distribute transaction-related information that effects perceptions of party trust and party risk. In particular, we refer to the communication of quantitative information like, for example, detailed information about the numbers and percentages of exchanges that were completed successfully without signs of any fraudulent behaviour. To process such quantitative information, potential buyers will have to rely more on their cognitive resources and will therefore focus less on the message itself and more on the source credibility and expertise to arrive at judgments (Artz and Tybout, 1999; Petty et al., 1983). As such, intermediaries can take advantage of their role as independent mediator and credible information provider, and persuade more consumers to trust sellers at the EM and engage in transactions. Since our results provide support for the process of trust and risk transference, intermediaries would also profit from applying information to affect perceptions of institutional trust and institutional risk. In particular, following Palmer et al. (2000), intermediaries might pay attention to projection of information on their capabilities. These

capabilities refer to the skills and competencies of the intermediary to ensure the trustworthiness of sellers and prevent sellers from engaging in fraudulent behaviour. By convincing buyers of their care taking competencies, institutional trust and institutional risk are likely to be affected and transferred to perceptions of trust and risk in the population of sellers. We believe research into the different types of instruments and information that intermediaries can apply to affect perceptions of trust and risk is likely to result into useful insights for practice. We have planned further research in this field in the near future.
For research, our findings show that explaining and predicting online purchase behaviour in EM settings demands taking the different actors into account. Our research results strongly support that purchasing at an EM is subject to perceptions of two different actors: the intermediary operating the system and the population of sellers. Next to the trust and risk constructs we focused on, other characteristics of the online exchange environment are likely to explain part of the remaining attitude variance. An interesting challenge would be to explore whether these characteristics can be attributed to these two actors as well and, even more interesting, what the relationships between these characteristics and consumer purchasing would be. It is well conceivable that consumer perceptions of widely explored system characteristics, like for example system usefulness, are derived from actions of the intermediary, as well as different actions of sellers. Similarly, perceived reputation might be attributed to the intermediary and its facilitated system but also to the population of sellers. We believe a study focusing on the impact of these perceptions, differentiated according to the actor they refer to, will add to our understanding of online purchasing.

We believe our research has made a number of contributions to the existing body of research.

First, we introduced the concepts of institutional risk and party risk. We believe the concepts will add to the discussion of how and to what extent perceptions of EMs affect consumer purchase behaviour.

Second, we developed reliable and valid new measurement instruments for the concepts of institutional risk and party risk. We encourage researchers to apply these instruments in their own research.

Third, we empirically explored the relationships between institutional trust, party trust, institutional risk, party risk and the attitude towards purchasing at an EM. Our research results support the distinction between trust and risk perceptions of the intermediary operating the system and the population sellers. Furthermore, we have shown that party trust and party risk have a direct impact on the attitude towards purchasing while institutional trust and institutional risk are likely to function as second-order determinants.

Our research has been subject to some limitations. An important limitation of our work concerns the bias of our sample. The sample mainly consisted of extensive users and experienced buyers. Consequently, the results of the study are biased towards *repeated* purchases. This might have implications for our findings. For example, the fact that the vast majority of the sample consisted of experienced users of the EM could have had an upward-biasing effect on the impact of the institutional trust and party trust variables. In established relationships, behaviour is to a large extent subject to perceptions of trust (Grabner-Kräuter and Kalusha, 2003; Ratnasingam, 2005). Having established relationships with the EM and, possibly, also with part of the population of sellers, trust is likely to have been an important issue to the respondents. Future research will have to show that our findings apply in other contexts, with other samples.

Another limitation concerns the validity of the research. We introduced the concepts of institutional risk and party risk. Next, we empirically explored the impact of both EM characteristics and the closely related concepts of institutional trust and party trust on consumer purchase attitudes. Based on the outcomes we explored the indirect relationships of institutional trust and institutional risk. These findings, and the nature of the relationships in particular, have to be interpreted with care since more theoretical rationale and empirical exploration are needed. We plan to investigate this in future research.

References

AGARWAL S and TEAS RK (2001) Perceived value: mediating role of perceived risk. *Journal of Marketing theory and Practice* 9(4), 1-14.

AJZEN I and FISHBEIN M (1980) *Understanding Attitudes and Predicting Social Behaviour*, Prentice Hall, Inc., Englewood Cliffs, New Jersey.

ANDERSON JC and GERBING DW (1988) Structural equation modelling in practice: a review and recommended two-step approach. *Psychological Bulletin* 103(3), 411-423.

ARBUCKLE JL and WOTHKE W (1999) *Amos 4.0 User's Guide*. SmallWaters Corporation, Chicago.

ARBUCKLE JL (2003) *Amos 5.0 Update to the Amos User's Guide*. SmallWaters Corporation, Chicago.

ARTZ N and TYBOUT AM (1999) The moderating impact of quantitative information on the relationship between source credibility and persuasion: a persuasion knowledge model interpretation. *Marketing Letters* 10(1), 51-62.

BAGOZZI RP and PHILIPS LW (1982) Representing and testing organizational theories: a holistic construal. *Administrative Science Quarterly* 27, 459-489.

BAILEY J and BAKOS JY (1997) An exploratory study of the emerging role of electronic intermediaries. *International Journal of Electronic Commerce* 1(3), 7-20.

BAKOS JY (1998) Towards Friction-Free Markets: The emerging role of electronic marketplaces on the Internet. *Communications of the ACM* 41(8), 35-42.

BELANGER F, HILLER JS and SMITH WJ (2002) Trustworthiness in electronic commerce: the role of privacy, security, and site attributes. *Journal of Strategic Information Systems* (11), 245-270.

BENSAOU M and VENKATRAMAN N (1996) Inter-organizational relationships and information technology: a conceptual synthesis and a research framework. *European Journal of Information Systems* 5(2), 84-91.

BOUDREAU MC, GEFEN D and STRAUB DW (2001) Validation in information systems research: a state-of-the-art assessment. *MIS Quarterly* 25(1), 1-16.

BUSS AH (1989) Personality as traits. *American Psychologist* 44(11), 1378-1388.

CHURCHILL, JR GA (1979) A Paradigm for Developing Better Measures of Marketing Constructs. *Journal of Marketing Research* 16(1), pp.64-73.

CONCHAR MP, ZINKHAN GM, PETERS C and OLAVARRIETA S (2004) An integrated framework for the conceptualization of consumers' perceived-risk processing. *Academy of Marketing Science* 32(4), 418-436.

CRISP CB, JARVENPAA SL and TODD PA (1997) Individual differences and internet shopping attitudes and intentions. Graduate School of Business Working Paper, University of Texas.

CROSBY LA, EVANS KR and COWLES D (1990) Relationship quality in services selling: an interpersonal influence perspective. *Journal of Marketing* 54, 68-81.

DAS TK and TENG B-S (1998) Between trust and control: developing confidence in partner cooperation in alliances, *Academy of Management Review*, 23(3), 491-512.

DAS TK and TENG B-S (2001) Trust, control, and risk in strategic alliances: an integrated framework. Organization Studies 22(2), 251-283.

DONEY PM and CANNON JP (1997) An examination of the nature of trust in buyer-seller relationships. *Journal of Marketing* 61(1), 35-51.

DOWLING GR and STAELIN R (1994) A model of perceived risk and intended risk-handling activity. *Journal of Consumer Research,* 21(1), 119-134.

DURKHEIM E (1964) *The division of labor in society*, Free Press, New York.

DWYER FR and OH S (1987) Output sector munificence effects on the internal political economy of marketing channels. *Journal of Marketing Research* 24, 347-358.

DWYER FR, SCHURR PH and OH S (1987) Developing buyer-seller relationships. *Journal of Marketing* 51, 11-27.

FEATHERMAN MS and PAVLOU PA (2003) Predicting e-services adoption: a perceived risk facets perspective. *International Journal of Human-Computer Studies*, 59, 451-474.

FISHBEIN M and AJZEN I (1975) *Belief, Attitude, Intention and Behaviour: an introduction to theory and research.* Addison-Wesley Publishing Company, Reading Massachusetts.

GALLIVAN M and DEPLEDGE G (2003) Trust, control and the role of interorganizational systems in electronic partnerships. *Information Systems Journal*, 13(2), 159-190.

GANESAN S (1994) Determinants of long-term orientation in buyer–seller relationships. *Journal of Marketing* 58, 1–19.

GEFEN D (2002) Reflections on the dimension of trust and trustworthiness among online consumers . *The data base for Advances in Information Systems*, 33(3), 38-53.

GEFEN D, KARAHANNA E and STRAUB DW (2003) Trust and TAM in online shopping: an integrated model. *MIS Quarterly* 27(1), 51-90.

GERBING DW and ANDERSON JC (1984) On the meaning of within-factor correlated measurement errors. *Journal of Consumer Research* 11(1), 572-580.

GERBING DW and ANDERSON JC (1988) An updated paradigm for scale development incorporating unidimensionality and its assessment. *Journal of Marketing Research* 25, 186-192.

GEYSKEN I, STEENKAMP J-B EM and KUMAR N (1998) Generalizations about trust in marketing channel relationships using meta-analysis, *Intern. J. of Research in Marketing* 15, 223-248.

GRABNER-KRAUTER S (2002) The role of consumers' trust in online-shopping. *Journal of Business Ethics* 39, 43-50.

GRABNER-KRAUTER S. and KALUSHA EA (2003) Empirical research in on-line trust: a review and critical assessment. *International Journal of Human-Computer Studies* 58(6), 783-812.

HAIR, JR JF, ANDERSON RE, TATHAM RL and BLACK WC (1998) *Multivariate data analysis*, Prentice-Hall, Upper Saddle River, NJ.

HIRSHLEIFER J and RILEY JG (1979) The analytics of uncertainty and information: an expository survey. *Journal of Economic Literature* 17(4), 375-1421.

JACOBY J and KAPLAN LB (1972) The components of perceived risk. In *Proceedings of the third annual conference on the association for consumer research* (VENKETASAN M, Ed), p. 382-393, Chicago.

JAHNG JJ, JAIN H and RAMAMURTHY K (2002) Personality traits and effectiveness of presentation of product information in e-business systems. *European Journal of Information systems* 11(3), 181- 195.

JARVENPAA SL, TRACTINSKY N and VITALE M (2000) Consumer trust in an Internet store. *Information Technology and Management* 1(1), 45-71.

JONES MA, REYNOLDS KE, WEUNG S and BEATTY SE (2003) The product-specific nature of impulse buying tendency. *Journal of Business Research* 56. 505-511.

JORESKOG KG (1971) Statistical analysis of sets of congeneric tests. *Psychometrika* 36(2), 109-133.

KAMBIL A and VAN HECK E (1998) Reengineering the Dutch flower auctions-a framework for analyzing exchange organizations. *Information Systems Research* 9(1), 1-19.

KOUFARIS M and HAMPTON-SOSA W (2004) The development of initial trust in an online company by new customers. *Information & Management* (41), 377-397.

KUMAR N, SCHEER LK and STEENKAMP J-BEM (1995a) The effects of supplier fairness on vulnerable resellers. *Journal of Marketing Research* 32, 54-65.

KUMAR N, SCHEER LK and STEENKAMP J-BEM (1995b) The effects of perceived interdependence on dealer attitudes. *Journal of Marketing Research* 32, 348-356.

LARZELERE RE and HUSTON TL (1980) The dyadic trust scale: toward understanding interpersonal trust in close relationships. *Journal of Marriage and the Family*, 595-604.

MALHOTRA NK, Kim SS and Agarwal J (2004) Internet users' information privacy concerns (IUIPC): The construct, the scale, and a causal model. Information Systems Research 15 (4), 336-355.

MAYER RC, DAVIS JH and SCHOORMAN FD (1995) An integrative model of organizational trust, *Academy of Management Review* 20(3), 709-734.

MCKNIGHT DH, CUMMINGS LL and CHERVANY NL (1998) Initial trust formation in new organizational relationships. *Academy of Management Review* 23(3), 473-490.

MCKNIGHT DH and CHERVANY NL (2002) What trust means in e-commerce customer relationships: an interdisciplinary conceptual typology. *International Journal of Electronic Commerce and Business Media* 6(2), 35-59.

MCKNIGHT DH, CHOUDHURY V and KACMAR C (2002) The impact of initial consumer trust on intentions to transact with a web site: a trust building model. *Journal of Strategic Information Systems* 11, 297-323.

MILLIMAN RE and FUGATE DL (1988) Using trust-transference as a persuasion technique: an empirical field investigation. *The Journal of Personal Selling and Sales Management* 8(2), 1-7.

MOON J-W and KIM Y-G (2001) Extending the TAM for a world-wide-web context. *Information and Management* 38(4), 217-230.

MURRAY KB (1991) A test of services marketing theory: consumer information acquisition activities. *Journal of Marketing* 55(1), 10-25.

NETEMEYER RG, BOLES JS and MCMURRIAN R (1996) Development and validation of work-family conflict and family-work conflict scales. *Journal of Applied Psychology* 81(4), 400-410.

NETEMEYER RG, BEARDEN WO and SHARMA S (2003) Scaling procedures: issues and applications, *Sage Publications*, Thousand Oaks, California.

NUNNALLY JC (1978) *Psychometric Theory.* McGraw-Hill, New York.

O'CASS A and FENECH T (2002) Web retailing adoption: exploring the nature of internet users web retailing behaviour. *Journal of Retailing and Consumer Services* 10(2), 81-94.

OHANIAN R (1991) The impact of celebrity spokespersons "perceived image on consumers" intention to purchase. *Journal of Advertising Research* 31(1), 45-64.

PALMER JW, BAILEY JP and FARAJ S (2000) The role of intermediaries in the development of trust on the WWW: use and prominence of trusted third parties and privacy statements. *Journal of Computer Mediated Communication* 5(3), available online at http://jcmc.indiana.edu/vol5/issue3/palmer.html

PAVLOU PA (2002) Institution-based trust in interorganizational exchange relationships: the role of online B2B marketplaces on trust formation. *Journal of Strategic Information Systems* 11, 215-243.

PAVLOU PA (2003) Consumer acceptance of electronic commerce: integrating trust and risk with the technology acceptance model. *International Journal of Electronic Commerce* 7(3), 69-103.

PAVLOU PA and GEFEN D (2004) Building effective online marketplaces with institution-based trust. *Information Systems Research* 15(1), 37-59.

PETTY RE, CACIOPPO JT and SCHUMANN D (1983) Central and peripheral routes to advertising effectiveness: the moderating role of involvement. *Journal of Consumer Research* 10, 135-146.

RATNASINGAM P (2005) Trust in inter-organizational exchanges: a case study in business to business electronic commerce. *Decision Support Systems* 39(3), 525-544.

RING PS and VAN DE VEN AH (1994) Developing processes of cooperative inter-organizational relationships. *Academy of Management Review* 19, 90-118.

ROTTER JB (1971) Generalized Expectancies for Interpersonal Trust. American Psychologist 26, 443-450.

ROUSSEAU DM, SITKIN SB, BURT RS and CAMERER C (1998) Not So Different After All: A Cross-Discipline View of Trust. Academy of Management Review 23(3), 393-404.

RYAN MJ AND BONFIELD EH (1975) The Fishbein extended model and consumer behaviour. *Journal of Consumer Research* 2(2), 118-136.

SCHURR PH and OZANNE JL (1985) Influences on exchange processes: buyers' preconceptions of a seller's trustworthiness and bargaining toughness. *Journal of Consumer Research* 11, 939-953.

SHAPIRO SP (1987) The social control of impersonal trust. *American Journal of Social Psychology* 93(3), 623-658.

SHEPPARD BH, HARTWICK J and WARSHAW PR (1988) The theory of reasoned action: a meta-analysis of past research with recommendations for modifications and future research. *Journal of Consumer Research* 15(3), 325-343.

SHIH H-P (2004) An empirical study on predicting user acceptance of e-shopping on the Web. *Information & Management* 41(3), 351-368.

SHIM S, EASTLICK MA, LOTZ SL and WARRINGTON P (2001) An online prepurchase intentions model: the role of intention to search. *Journal of Retailing* 77(3), 397-416.

SIRDESHMUKH D, SINGH J and SABOL B (2002) Consumer trust, value, and loyalty in relational exchanges. Journal of Marketing 66 (January), 15-37.

STONE RN and GRONHAUG K (1993) Perceived risk: further considerations for the marketing discipline. European Journal of Marketing 27(3), 39-50.

STRAUB DW (1989) Validating instruments in MIS reseach. *MIS Quarterly* 13(2),147-169.

STRUB PJ and PRIEST TB (1976) Two patterns of establishing trust: the marijuana user. *Sociological focus* 9(4), 399-411.

TAN Y-H and THOEN W (2000) Towards a generic model of trust for electronic commerce. *International Journal of Electronic Commerce* 5(2), 61-74.

TAN Y-H and THOEN W (2002) Formal aspects of a generic model of trust for electronic commerce. *Decision Support Systems* 33(3), 233-246.

VAN DER HEIJDEN H and VERHAGEN T (2004) Online store image: conceptual foundations and empirical measurement. *Information and Management* 41(5), 609-617.

VAN DER HEIJDEN H, VERHAGEN T AND CREEMERS M (2003) Understanding online purchase intentions: contributions from technology and trust perspectives. *European Journal of Information Systems* 12(1), 41-48.

ZAHEER A. MCEVILIY B and PERRONE V (1998) Does trust matter? Exploring the effects of interorganizational and interpersonal trust on performance. *Organization Science* 9(2), 141-159.

ZUCKER L (1986) Production of trust: institutional sources of economic structure. *Research in Organization Behaviour* 8(1), 53-111.

Appendix A: measurement instruments

Item	**Caption**
Institutional trust	
Insttrust1	<name intermediary> ensures sellers are dependable
Insttrust2	<name intermediary> ensures sellers are reliable
Insttrust3	<name intermediary> ensures sellers are honest
Insttrust4	<name intermediary> ensures sellers are trustworthy
Party trust	
Partrust1	Sellers of <product> in this online market are in general dependable
Partrust2	Sellers of <product> in this online market are in general reliable
Partrust3	Sellers of <product> in this online market are in general honest
Partrust4	Sellers of <product> in this online market are in general trustworthy
Institutional risk	
Instrisk1	If I were to purchase a <product> through this online marketplace, I become concerned about whether <name intermediary> will take care of transaction security
Instrisk2	If I were to purchase a <product> through this online marketplace, I become concerned about whether <name intermediary> will preclude theft of money
Instrisk3	If I were to purchase a <product> through this online marketplace, I become concerned about whether <name intermediary> will protect me against fraudulent sellers
Instrisk4	If I were to purchase a <product> through this online marketplace, I become concerned about whether <name intermediary> will prevent fraudulent seller from doing business via the EM
Instrisk5	If I were to purchase a <product> through this online marketplace, I become concerned about whether <name intermediary> will trace sellers in case of disputes
Party risk	
Parrisk1	As I consider to purchase a<product> through this online marketplace, I become concerned about whether sellers will commit fraud
Parrisk2	As I consider to purchase a<product> through this online marketplace, I become concerned about whether sellers will swindle
Parrisk3	As I consider to purchase a<product> through this online marketplace, I become concerned about whether sellers offer products that will not perform as expected
Parrisk4	As I consider to purchase a<product> through this online marketplace, I become concerned about whether sellers will behave opportunistic
Attitude	
Att1	I am positive towards buying a <product> on the <name> website.
Att2	The thought of buying a <product> at the website of <name> is appealing to me.
Att3	I think it is a good idea to buy a <product> at the website of <name>.

Appendix B: Principal Components Factor Analysis (n=450)

	Party trust	**Inst. trust**	**Inst. risk**	**Party risk**	**Attitude**
Insttrust1	,167	**,910**	,049	-,046	,059
Insttrust2	,156	**,935**	,057	-,058	,058
Insttrust3	,211	**,898**	,012	-,136	,128
Insttrust4	,194	**,915**	,033	-,117	,085
Partrust1	**,899**	,190	,117	-,158	,202
Partrust2	**,913**	,215	,113	-,144	,204
Partrust3	**,895**	,216	,101	-,172	,221

Partrust4	**,902**	,221	,086	-,180	,211
Instrisk1	,041	,088	**,789**	,005	-,007
Instrisk2	,045	,082	**,825**	,068	,048
Instrisk3	,125	-,014	**,871**	,117	,060
Instrisk4	,059	,004	**,874**	,105	,013
Instrisk5	,075	-,017	**,824**	,096	-,026
Parrisk1	-,167	-,090	,111	**,866**	-,161
Parrisk2	-,185	-,107	,100	**,908**	-,139
Parrisk3	-,074	-,112	,103	**,872**	-,156
Parrisk4	-,156	-,043	,103	**,891**	-,169
Att1	,300	,131	,001	-,251	**,843**
Att2	,221	,089	,027	-,168	**,926**
Att3	,231	,101	,053	-,223	**,906**

2001-1	Samuel Chong Michael S.H. Heng Kecheng Lieu	The Social Consequences of Using Agent-Based Systems, pp. 12
2001-2	Frank A.G. den Butter Udo Kock	Social Security, Economic Growth and Poverty, pp. 21
2001-3	Udo Kock	Institutions, incentives and social policy in the 'Dutch model', pp. 20
2001-4	Jasper M. Dalhuisen Henri L.F. de Groot Peter Nijkamp	Economic Policy Instruments and Sustainable Water Use, pp. 16
2001-5	Bart W. Wiegmans Peter Nijkamp Piet Rietveld	Container Terminals in Europe: Their Position in Marketing Channel Flows, pp. 19
2001-6	Michael S.H. Heng	Implications of e-Commerce for Banking and Finance, pp. 14
2001-7	Michael S.H. Heng	Rethinking the Strategy of Amazon.com, pp. 14
2001-8	Peter Nijkamp Erik Verhoef Barry Ubbels Caroline Rodenburg	Sustainable Mobility, pp. 14
2001-9	Marina van Geenhuizen Peter Nijkamp	Coping with Uncertainty An Expedition in the Field of New Transport Technology, pp. 20
2001-10	Frank A.G. den Butter Edwin van Gameren Jan M.P. de Kok	The effects of transaction costs and human capital on firm size: a simulation model approach, pp. 28
2001-11	Michael S.H. Heng Mike Newman	Beyond the Espoused Goals of IS/IT Strategy Planning, pp. 28
2001-12	Michael S.H. Heng	The Recent US Election as an Information System Case Study, pp. 15
2001-13	Peter A.G. Vanbergeijk Jan Marc Berk	European Monetary Union, the term Structure, and the Lucas Critique, pp. 13
2001-14	Erik Verhoef Barry Ubbels Caroline Rodenburg Peter Nijkamp	Sustainable Mobility, pp. 15
2001-15	Ron Vreeker Peter Nijkamp	Advances in Multicriteria Decision Support Methods for Evaluating Development Scenarios; An Appliation to Thailand, pp. 28
2001-16	Enno Masurel	Export Behavior of Service Sector SMEs, pp. 18
2001-17	Frank A.G. den Butter Egbert L.W. Jongen	Labor supply shocks and unemployment persistence An empirical analysis of labor market dynamics in The Netherland, pp. 25

	Udo Kock	
2001-18	Frank A.G. den Butter Robert H.J. Mosch	The Dutch miracle: institutions, networks and trust, pp. 27
2001-19	Marina van Geenhuizen Peter Nijkamp	Urban Futures in the Era of the E-Economy, pp. 17
2001-20	P. Rietveld F.R. Bruinsma H.T. van Delft B. Ubbels	Economic impacts of high speed trains Experiences in Japan and France: expectations in The Netherlands, pp. 18
2001-21	Frank Bruinsma Caroline Rodenburg Piet Rietveld	On the interface between surface and underground transport networks, pp. 12
2001-22	Peter Nijkamp Wouter Jonkhoff	The city in the information and communication technology age: A comparative study on path dependency , pp. 28
2001-23	Guido Mignolli Peter Nijkamp	Values and effects of local identity preservation A taxonomic approach, pp. 23
2001-24	Fabiana Forte Peter Nijkamp Francesca Torrieri	Shared choices on local sustainability projects: a decision support framework, pp. 22
2001-25	Galit Cohen Peter Nijkamp	ICT Policy in European Cities: A Comparative Approach, pp. 24
2001-26	Udo Kock den Butter	Can individual unemployment savings accounts resolve Okun's equity-Frank A.G. efficiency trade-off?, pp. 18
2001-27	Adele Finco Peter Nijkamp	Pathways to Urban Sustainability, pp. 27
2001-28	Raymond J.G.M. Florax	Methodological pitfalls in meta-analysis: Publication bias, pp. 29
2001-29	Frank A.G. den Butter Pieter W. Jansen	An empirical analysis of the German long-term interest rate, pp. 13
2001-30	Paul Jansen Bert Stoop	The Dynamics of Assessment Center Validity: Results of a Seven Year Study, pp. 24
2001-31	Reinout Heijungs Henri L.F. de Groot Raymond J.G.M. Florax	MetaGrowth 1.0 A Computer Program for Robustness Analysis, pp. 15
2001-32	Jan Marc Berk	New Economy, Old Central Banks? Monetary transmission in a new economic environment, pp.
2001-33	Frank Bruinsma Mark Koetse	Social Costs of Land Use Claims for Transport Infrastructure: A Survey for The Netherlands, pp. 23

	Piet Rietveld Ron Vreeker	
2001-34	Lidewey van der Sluis Roger Williams	Measuring the quality of managerial learning on the job, pp. 26
2001-35	Hans van der Heijden Tibert Verhagen	Measuring and Assessing Online Store Image: A Study of Two Outline Bookshops in the Benelux, pp. 18
2001-36	Hans G. Bloemen Elena G.F. Stancanelli	Financial Wealth, Consumption Smoothing, and Income Shocks due to Job Loss, pp. 37
2001-37	Hans G. Bloemen	Job search, search intensity and labour market transitions: an empirical analysis, pp. 47
2001-38	Paul Ingenbleek Marion Debruyne Ruud T. Frambach Theo M.M. Verhallen	On cost-informed pricing and customer value: A resource-advantage perspective on industrial innovation pricing practices, pp. 29
2001-39	Patrick van Egmond Nijkamp Gabriella Vindigni	A comparative analysis of the performance of urban public transport systems Peter in Europe, pp. 15
2001-40	Bart W. Wiegmans Piet Rietveld Peter Nijkamp	Container terminal services and quality, pp. 16
2001-41	Patrick van Egmond Peter Nijkamp Gabriella Vindigni	A comparative analysis of the performance of urban public transport systems in Europe, pp.16
2001-42	Francesca Torrieri Grazia Concilio Peter Nijkamp	Decision support tools for urban contingency policy, pp.21

2002-1	Esther Goede Peter Nijkamp	Urban Developments in the Netherlands: New Perspectives, pp. 29
2002-1A	Esther Goede Peter Nijkamp	**REVISED VERSION** Urban Developments in the Netherlands: New Perspectives, pp. 30
2002-2	André Lucas Jan Bertus Molenkamp Arjen Siegmann	De Pensioen- en Verzekeringskamer komt van rechts: Buffervorming en beleggingsbeleid bij Nederlandse pensioenfondsen, pp. 8
2002-3	Bart W. Wiegmans Barry Ubbels Piet Rietveld Peter Nijkamp	Investments in Container Terminals: Public Private Partnerships, pp. 19
2002-4	Peter Nijkamp Harmen Verbruggen	Global Trends and Climate Change Policies, pp. 17
2002-5	Raymond J.G.M. Florax	Accounting for Dependence among Study Results in Meta-Analysis: Methodology and Applications to the Valuation and Use of Natural Resourses, pp. 30
2002-6	Ruud T. Frambach Manoj K. Agarwal Edwin J. Nijssen	Beyond the Adoption/Non-Adoption Dichotomy: The Impact of Innovation Characteristics on Potential Adopters' Transition through Adoption Process Stages, pp. 32
2002-7	Jos van Ommeren	A Note on Workers' Willingness to Pay for Nonwage Job Attributes and Labor Mobility, pp.31
2002-8	Jos van Ommeren	Employed and unemployed search activity: Estimating individuals' marginal willingness to pay for attributes, pp. 30
2002-9	Rob Alessie Arie Kapteyn	Savings and Pensions in the Netherlands, pp. 58
2002-10	Peter Nijkamp Cher Guldemond Hugo Teelen	Venture capital as a critical success condition for hightech development Experiences from the Netherlands and Israel, pp. 15
2002-11	Esther Goede Peter Nijkamp	Travel information on urban public transport: A comparative analysis of Berlin and Amsterdam, pp. 18
2002-12	Marina van Geenhuizen Peter Nijkamp	A Changing Spatial Scene of Innovation, pp. 14
2002-13	Jos van Ommeren	A Note on the Unemployed Individual's Marginal Willingness to Pay for the Remaining Entitlement Period, pp. 16
2002-14	Frank A.G. den Butter Florian V. Eppink	The influence of labour flows on wage drift: an empirical analysis for The Netherlands, pp. 7
2002-15	F.R. Bruinsma R.J.G.M. Florax	Wonen en werken binnen contouren?, pp. 12

	F.G. van Oort M. Sorber	
2002-16	Jan Marc Berk Job Swank	Regional Price Adjustment in a Monetary Union: The case of EMU, pp. 10
2002-17	Foort Hamelink Martin Hoesli	What factors determine international real estate security returns?, pp. 35.
2002-18	Dr.J.N. van Ommeren Prof.dr.P. Rietveld	A Multiregional Equilibrium Search Model for the Labour Market, pp. 12
2002-19	Hester van Herk Tammo H.A. Bijmolt Ype H. Poortinga	Rating versus Ranking in a Cross-National Context: Effects of response styles on a values scale, pp. 34
2002-20	Bart A.G. Bossink	The development of co-innovation strategies: stages and interaction patterns in interfirm innovation, pp. 32
2002-21	Bart A.G. Bossink	Innovative quality management practices in the Dutch construction industry, pp. 33
2002-22	Bart A.G. Bossink	The strategic function of quality in the manegement of innovation, pp. 23
2002-23	Enno Masurel Peter Nijkamp Gabriella Vindigni	Breeding Places for Ethnic Entrepreneurs; A comparative marketing approach, pp. 14
2002-24	Hans van der Heijden	The personal usage of online information services: Theory and empirical investigation, pp.31
2002-25	Tuzin Baycan-Levent Eveline van Leeuwen Caroline Rodenburg Peter Nijkamp	Development and Management of Green Spaces in European Cities: A Comparative Analysis, pp. 12
2002-26	Eveline van Leeuwen Caroline Rodenburg Peter Nijkamp	Urban Green and Integrative Urban Sustainability: Concepts and Relevance for Dutch cities, pp. 16
2002-27	Caroline A. Rodenburg Eveline S. van Leeuwen Peter Nijkamp	A Comparative Framework of Assessment Indicators for Urban Green Spaces: A Case study on Dutch cities, pp. 14
2002-28	Caroline Rodenburg Peter Nijkamp	Evaluation of Multifunctional Land Use: Design and Application of Policy Criteria, pp. 18
2002-29	Caroline A. Rodenburg Peter Nijkamp	Multifunctional land use in the city, pp. 18

2002-30	Piet Rietveld	Multimodaliteit, knooppunten en complementariteit; Grenzen aan de concurrentie, pp. 22
2002-31	Bert van Wee Piet Rietveld Henk Meurs	A constant travel time budget? In search for explanations for an increase in average travel time, pp. 22
2002-32	Tuzin Baycan Levent Enno Masurel Peter Nijkamp	Diversity in Entrepreneurship: Ethnic and Female Roles in Urban Economic Life, pp. 45
2002-33	Cees Dert Michiel Lodewijk Bart Oldenkamp Michiel de Pooter	The Design and Production of New Retirement Savings Products: A Note, pp. 5
2002-34	Marina van Geenhuizen Peter Nijkamp	Lessons from Learning Regions: Policymaking in an Evolutionary Context, pp. 25
2002-35	H.A. Rijken S.H. Roelofs H.G. Eijgenhuijsen	EVA levert een bescheiden bijdrage aan de verklaring van abnormale koersontwikkeling, pp. 17
2002-36	Arno van der Vlist Piet Rietveld	The Amsterdam Metropolitan Housing Market; How a prosperous metropolitan area coexists with a central city dominated by social rental housing for the poor, pp. 23
2002-37	Bart A. Bossink	A Dutch public-private strategy for innovation in sustainable construction, pp. 32
2002-38	Hans G. Bloemen	Job search, hours resttrictions and desired hours of work, pp. 39
2002-39	Piet Rietveld Jan Rouwendal Arno van der Vlist	Equity issues in the evaluation of transport policies and transport infrastructure projects, pp. 38

2003-1	Enno Masurel Kees van Montfort Ramon Lentink	SME Innovation and the Crucial Role of the Entrepreneur, pp. 45
2003-2	Bart A.G. Bossink	Strategic ambitions as drivers of improvement at Daimler Chrysler, pp. 27
2003-3	Eric Pels Piet Rietveld	Rail cost functions and scale elasticities: a meta-analysis, pp. 23
2003-4	Arno J. van der Vlist	Housing Consumption and Young Households' Residential Moves, pp. 24
2003-5	Fabienne Corvers Peter Nijkamp	Regional Development and EU Research Policy, pp. 16
2003-6	Jan Marc Berk Beata K. Bierut	Committee structure and its implications for monetary policy decision-making, pp. 24
2003-7	Tugrul Temel Andre Lucas	Deepening the Measurement of Technical Inefficiency in Private Farming in Georgia: Locally Parametric Regression, pp. 11
2003-8	Frank den Butter Gerrit Kronjee	Doelgericht de toekomst verkennen, pp. 23
2003-9	Jan Bertus Molenkamp	Risk allocation under shortfall constraints, pp. 13
2003-10	Jan K. Brueckner Eric Pels	Institutions, Regulation and the Evolution of European Air Transport, pp. 34
2003-11	Tibert Verhagen Erik van den Ham Marcel Creemers	Functional online store attributes: towards a classification of CDSS content, pp. 24
2003-12	Frank A.G. den Butter Silvie Y. Koppes	Strikes in France and the Netherlands: A comparison of labour market institutions, pp. 19
2003-13	Annemieke van Goor-Balk Lisanne Warmerdam Zohreh Ghameshlou Enno Masurel	Satisfaction among Museum Visitors: The Holistic Approach Confirmed Empirical Evidence from the Anne Frank House Visitors, pp. 14
2003-14	Ruud T. Frambach Hester van Herk Manoj K. Agarwal	Culture's Influence on Innovation Adoption A global study of managers' adoption intention of telecom innovations, pp. 38
2003-15	Manoj K. Agarwal Ruud T. Frambach	Customized Service Bundles in a Competitive Context: Integrating Consumers' Bundling, Brand and Quantity Decisions, pp. 38
2003-16	B.A.G. Bossink	Coinnovation research Manuel for experiential research into organizational coinnovation, pp. 56

2003-17	Nolke Posthuma Pieter Jelle van der Sluis	A Reality Check on Hedge Fund Returns, pp. 37
2003-18	Paul Jansen	Thirteen years after. Using hierarchical linear modeling to investigate long-term assessment center validity, pp. 32
2003-19	Hans G. Bloemen Arie Kapteyn	The estimation of utility consistent labor supply models by means of simulated scores, pp. 47
2003-20	Arianne de Blaeij	De monetaire waarde van een statistisch mensenleven in een verkeersveiligheidscontext, pp. 27
2003-21	Lourens Broersma Frank A.G. den Butter Udo Kock	A Cointegration Model for Search Equilibrium Wage Formation, pp. 21
2003-22	J.K. Verduyn	The interrelatedness of family firm and entrepeneur A life course approach, pp. 43
2003-23	A.E. Brouwer I. Mariotti J.N. van Ommeren	The firm relocation decision: an empirical investigation, pp. 16
2003-24	Enno Masurel Peter Nijkamp	Differences between First-Generation and Second-Generation Ethic Start-Ups: Implications for a New Support Policy, pp. 27
2003-25	Jerry van Leeuwen Hans van der Heijden Reinhard Kronsteiner Gabriele Kotsis	Group decision support for resource allocation decisions in three-person groups, pp. 38
2003-26	Hans G. Bloemen	Job search, job intensity and labour market transitions: An empirical analysis, pp. 50

2004-1	Francesca Medda	Modelling public-private-partnersips, pp. 12
2004-2	Hans G. Bloemen	An empirical model of collective household labour supply with nonparticipation, pp. 53
2004-3	Simonetta Longhi Peter Nijkamp Iulia Traistaru	Economic Integration and Manufacturing Location in EU Accession Countries, pp. 29
2004-4	Isabelle Maignan Carolyn Egri David A. Ralston Frances Bowen Jean-Pascal Gond David A. Griffith Carlos W.H. Los	A Cross-Cultural Examination of Corporate Social Responsibility Practices and their Benefits in China, France, Spain, the U.K. and the U.S., pp. 46
2004-5	Frank A.G. den Butter	Kosten/baten analyse als bestuurlijk baken in het milieubeleid, pp. 13
2004-5	Peter Nijkamp Jos van Ommeren	Drivers of entrepreneurial location as an innovative act, pp. 10
2004-6	Raymond J.G.M. Florax Thomas de Graaff Brigitte S. Waldorf	A spatial economic perspective on language acquisition: Segregation, networking and assimilation of immigrants, pp. 36
2004-7	Marina van Geenhuizen Peter Nijkamp	Foreign direct investment and learning regions development in New EU member countries, pp. 15
2004-8	K.J. Button P. Nijkamp P. Rietveld	Land-use, transportation and urban development, pp. 27
2004-9	Jacob A. Bikker Laura Spierdijk Pieter Jelle van der Sluis	The Implementation Shortfall of Institutional Equity Trades, pp. 35
2004-10	Frank A.G. den Butter Robert H.J. Mosch	Externalities of social capital: the role of values, norms and networks, pp. 23
2004-11	Jaap Boter Rouwendal Michel Wedel	Employing Travel Costs to Compare the Use Value of Competing Cultural Jan Organizations, pp. 31
2004-12	Lidewey E.C. van der Sluis	Designing for learning and innovation at work, pp. 20
2004-13	Peter Nijkamp Leo van Wissen	Modelling the Entrepreneurial Space-Economy: an overview, pp. 18

2004-14	Gabriella Vindigni Peter Nijkamp Giuseppina Carrà Iuri Peri	Organizational success factors in market-driven local agro-food industries: a regional case study from Sicily, pp. 22
2004-15	Bart A.G. Bossink	Managing drivers of innovation in construction networks, pp. 34
2004-16	Thomas de Graaff	On the Substitution and Complementarity between Telework and Travel: A Review and Application, pp. 26
2004-17	Tüzin Baycan Levent Ron Vreeker Peter Nijkamp	Multidimensional Evaluation of Urban Green Spaces: A Comparative Study on European Cities, pp. 18
2004-18	Andrea De Montis Giancarlo Deplano Peter Nijkamp	Multicriteria evaluation and local environmental planning for sustainable tourism, pp. 14
2004-19	Iris F.A. Vis Kees Jan Roodbergen	Short term storage of goods in cross-docking operations, pp. 11
2004-20	Peter J. Peverelli	Creating Corporate Space. In search of Chinese corporate identity, pp. 27
2004-21	Eveline S. van Leeuwen Peter Nijkamp	The Embeddedness of small enterprises to the rural local economy of small and medium sized towns, pp. 18
2004-22	Tüzin Baycan Levent Peter Nijkamp	Urban Green Space Policies: A Comparative Study on Performance and Success Conditions in European Cities, pp. 18
2004-23	Iris F.A. Vis Kees Jan Roodbergen	Warehouse layout alternatives for varying demand situations, pp. 14
2004-24	William R. Black Peter Nijkamp	Transportation, Communication and Sustainability: In Search of a Pathway to Comparative Research, pp. 16
2004-25	Pauline Poel Enno Masurel Peter Nijkamp	The importance of friends and relations in tourist behaviour: A case study on heterogeneity in Surinam, pp. 21
2004-26	Michiel Beekman Frank Bruinsma Piet Rietveld	ICT and the location of call-centres: regional and local patterns, pp. 17
2004-27	Bart A.G. Bossink	Effectiveness of Innovation Leadership Styles: A Manager's Influence on Ecological Innovation in Construction Projects, pp. 39

2005-1	Meindert Flikkema	Exploring service development for understanding Schumpeterian innvoation in service firms: the deduction of special case criteria, pp. 43
2005-2	Enno Masurel	Use of Patent Information: Empirical Evidence from Innovative SME's, pp. 18
2005-3	Rutger Kroon Iris F.A. Vis	Seriously Ceres?, pp. 23
2005-4	Lidewey van der Sluis Leon de Caluwé Antonie van Nistelrooij	An explorative analysis of the links between learning behavior and change orientation, pp. 18
2005-5	F.A.G. den Butter O.K. van Megchelen	Uitbesteden en innovatie in de bouw Het toenemend belang van de regie- en handelsfunctie, pp. 10
2005-6	Adriaan J. van der Welle Frank A.G. den Butter	Arbeidsmarktflexibiliteit in de EMU: een beleidsgericht literatuuroverzicht, pp. 31
2005-7	Marina van Geenhuizen Peter Nijkamp	Death of distance and agglomeration forces of firms in the urban E-economy An artificial intelligence approach using rough set analysis, pp. 23
2005-8	Iris F.A. Vis Maurice Bakker	Dispatching and layout rules at an automated container terminal, pp. 17
2005-9	M. Francesca Cracolici Peter Nijkamp	Attractiveness and Effectiveness of Competing Tourist Areas: A Study on Italian Provinces, pp. 53
2005-10	Tibert Verhagen Jaap Boter	The importance of website content in online purchasing across different types of products, pp. 28
2005-11	Marina van Geenhuizen Peter Nijkamp	Place-bound versus Footloose Firms in a Metropolitan Area, pp. 17
2005-12	J.M. van Sonsbeek R.H.J.M. Gradus	A microsimulation analysis of the 2006 regime change in the Dutch disability scheme, pp. 29
2005-13	Kim A.D. Treur Lidewey E.C. van der Sluis	The benefits of coaching for empoloyees and their organizations, pp. 30
2005-14	Wim den Dekker Paul G.W. Jansen Claartje J. Vinkenburg	Dimensions of an individual global mindset, pp. 29

2006-1	Tibert Verhagen Selmar Meents Yao-Hua Tan	Perceived risk and trust associated with purchasing at Electronic Marketplaces, pp. 39