

Research article

Consumer acceptance of Internet as a channel of distribution

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Abstract

A study of consumer acceptance of the Internet as a channel of distribution in China was performed using a channel function perspective. The Technology Acceptance Model (TAM) was adopted as the theoretical basis on which to develop the research framework. The relevant research hypotheses were examined in three online channel function environments (i.e., information collection, financial payments, and product variety/assortment). Most of the hypotheses were supported by the empirical findings. The implications of these findings are highlighted, and suggestions for future research are noted as well.

Keywords: Channels of distribution; Channel functions; TAM; Internet; eCommerce.

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1. Introduction

Because of the fast expansion of eBusiness during the last ten years, Internet has become progressively more practicable as a canal of distribution. According to Peffers (2001), Internet is utilized as a canal of distribution to accomplish canal tasks online. The more consumers employ Internet to carry out such canal functions, the bigger the possibility that Internet will be considered as a contemporary marketing channel, promoting the further growth of eCommerce. Therefore, research studying the significant variables affecting customer attitudes towards the adoption of channel purposes being performed via Internet can offer enhanced insight on how to make easy the improvement of eCommerce. Such investigation is consequently judged very useful. A vigorous literature review has discovered merely a restricted amount of investigations concerned with Electronic Channels of distribution as well as online channel functions. Of these, little have been related to the subject matter cited above. In order to investigate these perspectives, an exploration founded on Davis' (1986) Technology Acceptance Model (TAM) was performed to check up the effects. In the next section, literature related to channel functions and the TAM framework will be reviewed. After that, derived from TAM, a conceptual model and associated hypotheses will be suggested. Finally, research methodology will be presented, followed by data analysis, findings, and discussion.

2. Literature review

2.1. Channel functions

The channel function concept has previously been broadly discussed by researchers (Hunt and Goolsby, 1988). According to Atwong and Rosenbloom (1995) channel functions are 'categories of activities and services that add values to physical goods as they move from manufacturers to customers'. An early inventory of channel tasks, that has been lengthily cited, can be found in the work of Vaile et al. (1952); physical possession, ownership, promotion, negotiation, financing, risk taking, ordering and financial payments were integrated. More current categorizations have been presented by Rangan et al. (1992) and Peterson et al. (1997) where further channel functions were presented, for instance quality assurance as well as customer services. In the context of the eCommerce environment, channel functions are achieved via Internet, which, for the purpose of this investigation, are called 'online channel functions.'

Research orientations surrounding online channel functions vary. For instance, Peterson et al. (1997) discussed the possible ascendancy of online channel functions. Van de Poel and Leunis (1999) looked at channel functions to be removed to the Internet. Rasheed and Geiger (2001) studied the governance arrangements for accomplishing online channel functions from a

company's standpoint. Nonetheless, slight scholarly investigations have been invested in the topic of the adoption of online channel function, in particular from the client's point of view.

2.2. Technology acceptance model

Principally anchored in Ajzen and Fishbein's (1980) Theory of Reasoned Action (TRA), the Technology Acceptance Model was primary developed by Davis (1986). The TAM framework is one of the leading theories employed to elucidate the process of user acceptance of high-tech products, chiefly from inherent perception reasons, rather than extrinsic environmental variables. Within the TAM school of thought, 'perceived ease of use', will concurrently influence 'perceived usefulness' as well as 'attitude towards use'. Perceived usefulness will consecutively influence both attitude towards usage and 'intention to use'. Eventually, attitude towards usage will influence intention to use, which will in line influence the 'actual use' of high-tech products. Other researchers in addition added extrinsic environmental factors such as extra-organizational variables (Igarria and Zinatelli, 1997) and product features (Hong et al., 2002) to develop the application of the TAM model.

The TAM model has been studied in a multiplicity of high-tech products, services as well as environments, including PCs, electronic mails, the www, and online shopping (Lederer et al., 2000; Moon and Kim, 2001; Gefen, 2003; Zhang and Prybutok, 2004). The above practical findings have demonstrated the applicability of the hypothetical TAM for assessing the use of high-tech products. However, to the best of the authors' knowledge, a small number of TAM researches have evaluated its validity to the side of the acceptability of online channel functions.

3. Research model and hypothesis development

The construction of the conceptual model and the related hypotheses for user acceptance of online channel functions have been anchored principally on the intrinsic characteristics of the TAM model, in addition the incorporation of additional intrinsic factor, perceived risk. The integration of perceived risk concept in the framework is to reveal the doubt presently connected to the online shopping setting (Zhang and Prybutok, 2004). The suggested conceptual model is showed in Fig. 1 and the associated hypotheses are discussed below.

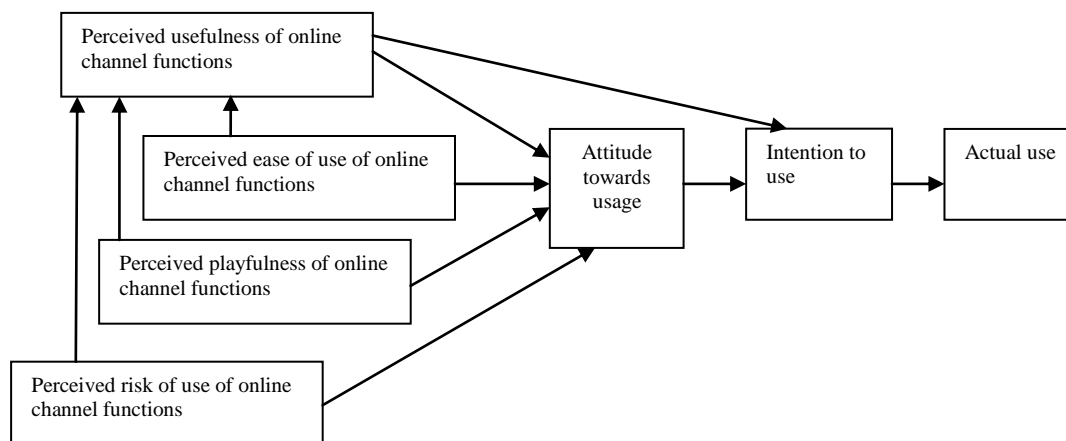


Fig. 1 Domestic characteristics and choice of exchange rate regime

3.1. Perceived usefulness, attitude towards usage, and intention to use

Perceived usefulness; denotes persons' subjective vision toward employing the function of a product that might assist recover their performance in present or upcoming situations (Davis, 1989). 'Attitude' indicates a sort of perceptual sign, that comprises the assessment of an 'attitude object' (Zanna and Rempel, 1988). 'Intention' refers to the predisposition of a person to achieve certain behaviors.

Scholarly discussion on the effect of perceived usefulness on attitude towards usage as well as intention to use can be dated back as early as the 1960s. In his work, Katz (1960) asserts that attitude is the perceptual representation that a person builds inside, therefore, perception of usefulness will influence attitude. Likewise, when a person tries to incorporate his behavior and attitudes, he will endeavor tough to shape an intention to dig up a certain action; consequently perception of usefulness will influence intention. Recent research related to the present subject is addressed in Barua and Whinston (1996) work.

Founded on their research, when a person employs a function of a system, the utilitarian's value is verified by its cost as well as productivity. If the cost is subordinate, or the productivity is elevated, the value of the function will be bigger, and, the attitude towards using it will then be favorable, and the intention to utilize it will be superior. From the above, it can be established that perceived usefulness will significantly influence attitudes and behavioural intention. Besides, empirical investigations support the theoretical debate. Both Lin and Lu (2000), and Moon and Kim (2001) research demonstrate that perceived usefulness has a significant and positive influence on a user attitudes towards usage as well as the intention to use the www. The study carried out by Gefen (2003) asserts that perceived usefulness strengthens an online customer's intention to carry on utilizing a website. The research of Atkinson and Kydd (1997) shows that the larger the perceived usefulness, the more favorable the attitudes of a customer towards online data collection. As online channel functions are an application of the WWW and e-shopping, and information collection online is one type of online channel function, it can as a result be affirmed that the similar principle will pertain in terms of carrying out further online channel functions, such as communication, researching information and cooperation. Derived from the statements and field results above, hypothesis 'H1' and hypothesis 'H2' are formulated:

H1: Perceived usefulness of online channel functions positively affects attitude towards usage.

H2: Perceived usefulness of online channel functions positively affects intention to use.

3.2. *Perceived ease of use, attitude towards usage, and perceived usefulness*

'Perceived ease of use' denotes the personal perception of smoothness in utilizing a function (Davis, 1989). In keeping with Pintrich (1989), the larger the perceived ease of use of a system, the more favorable the attitude formed towards it will be. Into the bargain, in line with Rogers (1995), complication will lessen a user's willingness to accept the system. So, it can be established that perceived ease of use has a significant effect on consumer attitudes towards usage. With regard to the effect of perceived ease of use on the perceived usefulness, in line with Barua and Whinston (1996); Rogers (1995), the less the involvedness needed for the deployment of a product function, the lesser the cost will be, which creates the value of utilizing such a function upper. Consequently, there is a positive relationship linking perceived ease of use and perceived usefulness. What's more, rooted in Bandura's (1977a) research, the upper the perceived ease of use of a function, the bigger the final result will be. Consequently, it can be supposed that perceived ease of use will have a significant effect on perceived usefulness. Practical investigations hold up the above. Both Szajna (1996); Gefen and Straub (1997)

showed that perceived ease of use has a positive effect on the individual's attitude towards actually utilizing e-mails, and the perceived usefulness of this action. In their paper Liao et al. (1999) make clear that, the lesser the perceived complexity of using a service provided by eBanking is, the more favorable will the attitude of the user towards using this service be. According to Gefen (2003), perceived ease of use will reinforce online shoppers' intentions to carry on using a website. From the standpoint of channel functions, emailing can be considered as performing online data collection, and ebanking and e-shopping employ Internet as a channel of distribution. As a consequence, the results suggest a positive association involving the ease of use of the online channel functions, as well as their perceived usefulness and the attitude towards doing so. In line with the academic debate and practical findings, the present research, consequently, concludes:

H3: Perceived ease of use of online channel functions positively affects attitudes towards usage.

H4: Perceived ease of use of online functions positively affects perceived usefulness of online channel functions.

3.3. *'Perceived playfulness', attitude towards usage, and perceived usefulness*

Perceived playfulness denotes the level of enjoyment that is experienced as soon as an individual partakes in an activity or else takes up a system (Barnett, 1990). In accordance with Csikszentmihalyi (1975), if a contact with the surroundings generates a positive emotion, this agreeable sentiment is perceived as playful, and due to this, individuals will form a favorable attitude towards such usage. As well, consistent with Barua and Whinston (1996), perceived playfulness will amplify the effectiveness of an activity. Therefore, the upper the perceived amount of playfulness, the upper will the perceived value of participating in the activity be. Thus, perceived playfulness will influence perceived usefulness. The above statement is maintained by field study done by Webster (1992), Maignan and Lukas (1997), Eighmey and McCord (1998), and Moon and Kim (2001). For instance, Maignan and Lukas' paper demonstrates that playfulness has a significant effect on consumer attitudes towards e-shopping. A possible elucidation of the above study findings could be that playfulness has a significant effect on consumer attitudes towards the achievement of such online channel functions, such as data collection as well as financial payments made online. Consistent with the above, the following hypotheses can be formulated:

H5: Perceived playfulness of online channel functions positively affects attitude towards usage.

H6: Perceived playfulness of online channel functions positively affects perceived usefulness of online channel functions.

3.4. 'Perceived risk', attitude towards usage, and perceived usefulness

The main idea of perceived risk is that certain behaviors may bring about capricious effects, and in any case some of these effects will be disagreeable and as a result be deemed expensive; that's why, these behaviors can be judged as a sort of risk taking (Kotler, 1999). The consequential distasteful sensations will then produce unfavorable attitudes that will affect their ultimate choice. Accordingly, it is obvious that perceived risk and an individual's attitudes are unenthusiastically associated. As to the effect of perceived risk on perceived usefulness, in line with Barua and Whinston (1996), the lesser the perceived risk is, the lesser the investment cost will be, and in consequence, the upper the perceived value of using the system will be. Hence, there is a negative relationship between perceived risk and perceived usefulness.

The above is sustained by the investigations done by Innis and Unnava (1991), and Tan (1999). The findings of the previous point out that a decline in the perceived risk can show the way to enhanced favorable user attitudes towards innovative products. As for the second, the findings show that, as individuals have to get upper risks in online shopping than when off line shopping, this can straightforwardly create unfavorable attitudes towards online shopping. Reflecting upon the findings of this last study, it is understandable that there is a positive correlation between risk and attitude in online channel functions. From the above, the following hypotheses have been formulated:

H7: Perceived risk of online channel functions negatively affects attitude towards usage.

H8: Perceived risk of online channel functions negatively affects perceived usefulness of online channel functions.

3.5. Attitude towards usage, intention to use, and actual use

Atkinson (1964) affirms that attitude is shaped by cognition factors. Accordingly, attitude will then affect the strength of behavioral intention. Both Bandura (1977b); Ajzen and Fishbein (1980) also share identical thinking that, a person's intention will be influenced by his attitudes, which generates action and reaction at the last part. Field studies providing proof of the above can be found in Liao et al.'s (1999) paper. The findings demonstrate that a user's intention towards e-banking functions is shaped by his attitudes. From theoretical discussions and the above practical results, it is obvious that there is a significant association between attitudes towards the usage of online channel functions and behavioral intention to do so. As for the connection between behavioral intention to use and real use, consistent with Pintrich and Schunk (1996), desires is one of the intrinsic variables shaping a person's

behavior. As needs are these purported intentions, such intentions will influence real behavior. Ajzen and Fishbein (1980) also affirm that intention is a significant factor affecting real behavior. Practical studies also maintain the proclamation that intention influences actual behavior (Taylor and Todd, 1995, Venkatesh and Davis, 1996, Pavlou, 2003). Applying the above principle into the present study, this research concludes:

H9: Consumer's attitudes towards online channel functions positively affects intention of using online channel functions.

H10: Consumer's intention towards the use of online channel functions positively affects actual use of online channel functions be.

4. Methodology

4.1. Environmental setting

As such several channel functions exist, which generates an irresistible lumbur for testing all these functions in the research framework, it was decided to employ the above hypotheses to look at only three channel function environments: information collection, assortment and financial payments.

4.2. Definitions of variables and related measures

The definitions of the study variables were adjusted to fit the present study context from the literature. 7-point Likert-scales were used for the measurement process. The definitions and scales are discussed and examples of questions of individual scales are illustrated in Table 1. Perceived usefulness, adapted from Davis (1989), is defined as the consumer's perceived degree of usefulness that is using the Internet to carry out channel functions; a 7-item measurement scale, modified from Davis (1989) study, was operationalized. Perceived ease of use, also adapted from Davis (1989) work, refers to the consumer's perceived degree of ease for performing channel functions through the Internet; a 7-item measurement scale, based on Davis (1989), was operationalized. Perceived playfulness, adapted from Barnett (1990) work, is the perceived degree of pleasure consumers experienced when performing channel functions through the Internet; a 6-item measurement scale, modified from Moon and Kim (2001), was developed. Intention to use, also adapted from Ajzen and Fishbein (1980), is defined as the consumer's behavioral intention to perform channel functions through the Internet; a 4-item measurement scale, also modified from Moon and Kim (2001) paper, was operationalized. Actual use refers to the consumer's actually performing channel functions through the Internet; a 3-item measurement scale, also modified from Moon and Kim (2001) paper, was developed. Perceived risk, adapted from Kotler (1999), is defined as the degree of risk that consumers perceive in performing channel functions through the Internet; a 16-item measurement scale,

modified from the study of Stone (1993), was developed. Attitude to use, adapted from Ajzen and Fishbein (1980), is defined as the consumer's attitudes towards performing channel functions through the Internet; a 5-

item measurement scale, modified from Moon and Kim (2001) study, was developed.

Tables 1. Scales' Reliabilities

Constcucts	Crombach's aplha
Perceived usefulness	Information : 0.78 Payments : 0.76 Assortment : 0.89
Perceived ease of use	Information : 0.76 Payments : 0.89 Assortment : 0.88
Perceived playfulness	Information : 0.90 Payments : 0.83 Assortment : 0.84
Perceived risk	Information : 0.88 Payments : 0.87 Assortment : 0.91
Attitudes towards use	Information : 0.82 Payments : 0.81 Assortment : 0.83
Intention towards use	Information : 0.85 Payments : 0.86 Assortment : 0.87
Actual use	Information : 0.77 Payments : 0.76 Assortment : 0.71

Table 2 Goodness of fit measurement

Data sets with respect to channel functions	Absolute fit measures					Incremental fit measures		
	Chi-2	df	p	GFI	RMSEA	AGFI	NFI	IFI
Information collection	12.35	8	0.09	0.89	0.04	0.86	0.91	0.91
Financial payments	15.09	8	0.089	0.91	0.06	0.90	0.90	0.92
Assortment	11.57	8	0.201	0.96	0.07	0.91	0.92	0.93

4.3. Sampling and data collection

Students in three Chinese's college were selected as research samples. The survey was conducted in some specially selected classrooms, which had students that came from diverse departments. Three sets of questionnaires, representing the three types of channel functions (i.e., information collection, financial payments, and assortment), were distributed to the

students, and 232, 199, and 139 valid questionnaires were retrieved respectively.

5. Data analysis and results

5.1. Reliability assessment

A reliability assessment was performed, throughout the computation of the Cronbach alpha. As its shown in Table 1, all item-total correlation coefficients of the final

value of the items of each construct exceeded the threshold of 0.3, as well as all the α values of each construct exceeded the threshold of 0.7.

5.2. Structural model assessment

SEM was selected as the statistical tool (Hair et al., 1998). The computer program used was AMOS 4.0 (Arbuckle, 1999). The three channel function data sets were used individually for research model testing. As can be seen in Table 2, all the measurements of the data sets met the recommended thresholds, something that points out a good overall fit to the developed model.

5.3. Results of hypotheses testing

As can be seen in Table 3, H₁–H₆, H₉, and H₁₀ were accepted across all data sets. As for the other hypotheses, H₇ was not supported by the ‘information collection’ as well as the ‘assortment’ data sets, however was slightly supported by the ‘financial payments’ data set. Regarding H₈, no support was observed by any of the data sets.

While the virtual market (i.e., eCommerce) has turned into a reality, scholarly investigations concentrated on the Internet as a channel of distribution are still being developed. In the current research, an attempt has been made to discuss the present subject matter from the perspective of online channel functions.

Table 3 Results of the hypotheses tests for each data set

Hypotheses	Sign	The coefficients for each data set		
		Information	Payments	Assortment
H1	+	0.337	0.201	0.299
H2	+	0.310	0.224	0.182
H3	+	0.261	0.198	0.200
H4	+	0.399	0.470	0.250
H5	+	0.263	0.401	0.612
H6	+	-0.031 (Not significant)	-0.119	0.061 (Not significant)
H7	-	-0.069 (Not significant)	-0.020 (Not significant)	0.089 (Not significant)
H8	-	0.627	0.600	0.498
H9	+	0.496	0.402	0.400
H10	+	0.245	0.431	0.126

An expansion of the TAM model was applied. In line with the theoretical framework, this research demonstrate that exogenous factors, such as the consumer’s perceived ease of use and the perceived playfulness, would affect perceived usefulness when using online channel functions. Perceived usefulness would then influence attitudes as well as intentions. At last, attitudes would influence intentions, which would result in the effective utilization of online channel functions. These results offer guidelines for academicians and practitioners to assist the employment of Internet as a channel of distribution. Nonetheless, some of the results failed to lend support to the effect of perceived risk on usage attitude, over and above on perceived usefulness.

6. Discussion

The unproven findings associated with H₇, i.e. the negative effect of perceived risk on attitude towards usage for the two data sets, information collection and assortment, may be a result of the particular research

sample used, that is, students, and is related their setting. The access to free Internet throughout the campus network, a plethora of entertaining and fun sites geared towards students, and the convenient and thorough nature of Internet research, all donate to a student’s high level of Internet activity. Under such state of affairs, a lower degree of loss for Internet use as a media for collecting information as well as assorting products out occurs. Students would, consequently, be less likely to be deterred from using the Internet for these purposes.

However, when using the Internet for monetary payment purposes, students may feel there is bigger threat due to security breaches, and may shape a negative attribute towards paying online, as a consequence of this perceived risk. As for the unsupported findings associated with H₈, across all data sets, these may be a consequence of the data confirmation mechanism used by these students. Perceived uncertainty of the Internet setting results in sober reservations concerning the feasibility of online compilation, assortment, and financial payments.

Nonetheless, the convenience linked to Internet and the authentication of data collected from a website with that from other websites (or from the physical environment) will help to improve doubts that such online channel functions are not accommodating. As a consequence, the perceived risk failed to influence the usefulness of these online channel functions.

7. Managerial implications & Future research

Based on the findings, companies must help customers to identify the value (i.e., usefulness) of channel functions conducted online and make them easy to use. For instance, firms could suggest online search engines, which would offer necessary information instantaneously. Additionally, it seems to be decisive to customers to have simple online operations. Hence, mechanisms such as the provision of Frequently-Asked-Question (FAQ) pages and well ergonomic websites that allow user-friendly operations would be important. It is also accommodating to divert cyber-users. Then, having background music and authentic world simulation systems could be valuable. An encouragement system could as well be created through communications (such as event marketing) to instruct customers on the subject of the benefits of using online channel functions, which would guide to amplify positive consumer attitudes as well as a strengthening of intention to utilize online channel functions.

Several research projects merit further study. Obviously, future research should re-examine the influences that the perceived risk has within the present environment. In addition, as this research was conducted only in China, exploration that cross diverse environments would permit a more broad view of the topic or attention of the cultural effect on notions could be explored and compared. As well, an examination of the remaining online channel functions will make up for any limitations of this research. What is more, the introduction of external environmental variables, a proposal made by the TAM school, should be conducted. Additional investigations could also reformulate the research model corresponding to consumer profiles, as differences in consumer profiles may produce discrepancies in the degree of the user acceptance of online channel functions (cf. Gefen and Straub, 1997). Last but not least, the uniqueness of innovation (e.g. compatibility) that influences consumer attitudes towards the adoption of new products (Taylor and Todd, 1995) offers another direction for future research.

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References

- Agarwal, R., Prasad, J., (1997). The role of innovation characteristics and perceived voluntariness in the acceptance of information technologies. *Decision Sciences* 28 (3), 557–582.
- Ajzen, I., Fishbein, M., (1980). *Understanding attitudes and predicting social behavior*. Prentice-Hall, Englewood Cliffs, NJ.
- Arbuckle, J.L., (1999). *AMOS 4.0: User's Guide 4*. SPSS, Chicago.
- Atkinson, J.W., 1964. *An Introduction to Motivation*. Princeton, Van Nostrand, NJ. 862 J.M.-S. Cheng et al. / *Technovation* 26 (2006) 856–864
- Atkinson, M.A., Kydd, C., (1997). Individual characteristics associated with world wide web use: an empirical study of playfulness and motivation. *The Database for Advances in Information Systems* 28 (2), 53–62.
- Atwong, C.T., Rosenbloom, B., (1995). A spatial approach to measuring functional spin-offs in marketing channels. *Journal of Marketing Theory and Practice* 3 (4), 58–72.
- Bandura, A., (1977a). Self-efficacy: towards a unifying theory of behavioral change. *Psychological Review* 84, 191–215.
- Bandura, A., (1977b). *Social Learning Theory*. Prentice-Hall, Englewood Cliffs, NJ.
- Barnett, L.A., (1990). Playfulness: definition, design, and measurement. *Play and Culture* 3, 319–336.
- Barua, A.C., Whinston, A.B., (1996). Creating a collaboratory in cyberspace: theoretical foundation and an implementation. *Journal of Organizational Computing* 5 (4), 417–442.
- Bauer, R.A., (1960). Consumer behavior as risk-taking, in: Hancock, R.S. (Ed.), *Dynamic Marketing for a Changing World America Marketing Association*, pp. 389–398.
- Cheng, J.M.S., (1999). *A Model for the Degree of Integration of International Channel Structures: The Case of Exporters from Newly Industrialized Countries (NICs) with Special Reference to Taiwan*. Unpublished PhD Thesis. Kingston University, UK.
- Chin, W.W., Gopal, A., (1995). Adoption intention in GSS: relative importance of beliefs. *Database Advance* 26 (2), 42–63.
- Csikszentmihalyi, M., (1975). *Beyond boredom and anxiety*. Jossey Bass, San Francisco, CA.
- Davis, F.D., (1986). *Technology Acceptance Model for Empirically Testing New End-User Information Systems: Theory and Results*. Unpublished Doctoral Dissertation. Massachusetts Institute of Technology.
- Davis, F.D., (1989). Perceived usefulness, perceived ease of use and user acceptance of information technology. *MIS Quarterly* 13 (3), 319–340.
- Davis, F.D., Bagozzi, R.P., Warshaw, P.R., (1989). Extrinsic and intrinsic motivation to use computers in the workplace. *Journal of Applied Social Psychology* 22 (13), 1111–1132.
- Eighmey, J., McCord, L., (1998). Adding value in the information age: uses and gratifications of sites on the world wide web. *Journal of Business Research* 41 (3), 187–194.
- Gefen, D., (2003). TAM or just plain habit: a look at experienced online shoppers. *Journal of End User Computing* 15 (3), 1–13.
- Gefen, D., Straub, D., (1997). Gender differences in the perception and use of e-mail: an extension to the technology acceptance model. *MIS Quarterly* 21 (4), 389–400.
- Hair Jr., J.F., Anderson, R.E., Tatham, R.L., Black, W.C., (1998). *Multivariate data analysis: with readings, fifth ed.* Prentice Hall, Englewood Cliffs, NJ.
- Hong, W., Thong, J.Y.L., Wong, W.M., Tam, K.Y., (2002). Determinants of user acceptance of digital libraries: an empirical examination of individual differences and system characteristics. *Journal of Management Information Systems* 18 (3), 97–124.
- Hunt, S.D., Goolsby, J., (1988). The risk and fall of the functional approach to marketing: a paradigm displacement perspective, in: Neveitt, T., Fullerton, R.A. (Eds.), *Historical Perspectives in Marketing*. Lexington Books, Massachusetts, pp. 35–51.
- Igbaria, M., Zinatelli, N., (1997). Personal computing acceptance factors in small firms: a structural equation model. *MIS Quarterly* 21 (3), 279–305.
- Innis, D.E., Unnava, H.R., (1991). The usefulness of product warranties for reputable and new brands. *Advances in Consumer Research* 18, 317–322.
- Katz, D., (1960). The functional approach to the study of attitudes. *Public Opinion Quarterly* 24, 163–174.

- Kotler, P., (1999). *Marketing management: analysis, planning, implementation, and control*, ninth ed. Prentice-Hall, Englewood Cliffs, NJ.
- Lederer, A.L., Maupin, D.J., Sena, M.P., Zhuang, Y., (2000). The technology acceptance model and the world wide web. *Decision Support Systems* 29 (3), 269–282.
- Liao, S., Shao, Y.P., Wang, H., Chen, A., (1999). The adoption of virtual banking: an empirical study. *International Journal of Information Management* 19 (1), 63–74.
- Lin, J.C.C., Lu, H., (2000). Towards an understanding of the behavioral intention to use a web site. *International Journal of Information Management* 20 (3), 197–208.
- Maignan, I., Lukas, B.A., (1997). The nature and social uses of the internet: a qualitative investigation. *The Journal of Consumer Affairs* 31 (2), 346–371.
- Mallen, B., 1973. Function spin-off: a key to anticipating change in distribution structure. *Journal of Marketing* 37 (3), 18–25.
- Moon, J.W., Kim, Y.G., (2001). Extending the TAM for a world-wide-web context. *Information and Management* 38 (4), 217–230.
- Pavlou, P.A., (2003). Consumer acceptance of electronic commerce: integrating trust and risk with the technology acceptance model. *International Journal of Electronic Commerce* 7 (3), 101–134.
- Peppers, K., (2001). The future of electronic commerce: a shift from the EC channel to strategic electronic commerce. *The Journal of Information Technology Theory and Application* 3 (4), 7–16.
- Peterson, R.A., Balasubramanian, S., Bronnenberg, B.J., (1997). Exploring the implications of the internet for consumer marketing. *Journal of the Academy of Marketing Science* 25 (4), 329–346.
- Phau, I., Poon, S.M., (2000). Factors influencing the types of products and services purchased over the internet. *Internet Research: Electronic Networking Applications and Policy* 10 (2), 102–113.
- Pintrich, P.R., (1989). The dynamic interplay of student motivation and cognition in the college classroom, in: Ames, C., Maehr, M. (Eds.), *Advance in Motivation and Achievement: Motivation Enhancing Environments*, vol. 6. JAI Press, Greenwich, CT, pp. 117–160.
- Pintrich, P.R., Schunk, D.H., (1996). *Motivation in Education: Theory, Research, and Applications*. Prentice Hall.
- Rangan, V.K., Menezes, M.J.K., Maier, E.P., (1992). Channel selection for new industrial products: a framework, method and application. *Journal of Marketing* 56 (3), 62–82.
- Rasheed, H.S., Geiger, S.W., (2001). Determinants of governance structure for the electronic value chain: resource dependency and transaction costs perspectives. *Journal of Business Strategies* 18 (2), 159–176.
- Rogers, E.M., (1995). *Diffusion of Innovations*, third ed. The Free Press, New York.
- Stone, R.N., (1993). Perceived risk: further considerations for the marketing discipline. *European Journal of Marketing* 38 (3), 54–60.
- Szajna, B., (1996). Empirical evaluation of the revised technology acceptance model. *Management Science* 42 (1), 85–92.
- Tamilia, R.D., Senecal, S., Corriveau, G., (2002). Conventional channels of distribution and electronic intermediaries: a functional analysis. *Journal of Marketing Channels* 9 (3,4), 27–35.
- Tan, S.J., (1999). Strategies for reducing consumers' risk aversion in internet shopping. *Journal of Consumer Marketing* 16 (2), 163–180.
- Taylor, S., Todd, P.A., (1995). Understanding information technology usage: a test of competing models. *Information Systems Research* 6 (2), 144–177.
- Vaile, R.S., Grether, E.T., Cox, R., (1952). *Marketing in the American Economy*. The Ronald Press Company, New York.
- Van de Poel, D., Leunis, J., (1999). Consumer acceptance of the internet as a channel of distribution. *Journal of Business Research* 45 (3), 249–256.
- Venkatesh, V., Davis, F.D., (1996). A model of the antecedents of perceived ease of use: development and test. *Decision Sciences* 27 (3), 181–451.
- Webster, J., (1992). Microcomputer playfulness: development of a measure with workplace implications. *MIS Quarterly* 16 (2), 201–226.
- Zanna, M.P., Rempel, J.K., (1988). Attitudes: a new look at an old concept, in: Bar-Tal, D., Kruglanski, A. (Eds.), *The Social Psychology of Knowledge*. Cambridge University Press, New York, pp. 315–334.
- Zhang, X., Prybutok, V.R., (2004). An empirical study of online shopping: a service perspective. *International Journal of Services Technology and Management* 5 (1), 1–14.