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A FRAMEWORK FOR E-SERVICE CUSTOMER TRUST

-AN INTEGRATED RESEARCH MODEL BASED ON MULTITHEORITICAL VIEW

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Abstract

As a new paradigm of internet-based transaction, e-service is thriving nowadays. However, it is distinctively different from the traditional e-commerce. Taking customer-centered philosophy as fundamental focus, e-service emphasizes customization and relationship marketing based on services selling, but not tangible goods selling, which makes transaction trust, especially customer trust become more complicated. In this paper, a framework of e-service customer trust is put forward based on multitheoretical view, which will provide theoretical support for the future research.

Introduction

E-service is a new concept in developing, and there is no explicit definition from academy and industry. The proverbial viewpoint is that marketers see e-service as a natural outgrowth of e-commerce, but they also view services through a product-oriented lens; technologists naturally view e-service as Web-delivered software functionality, often characterized under the rubric of “Web services”^{[1][2][3]}. The e-service concept in this paper is based on the former view.

The transformation of physical products to pure e-service components has significant implications for building customer relationships and for exploring new service opportunities and markets, especially in the domain of network-based, digital, and information-based products^[4].

Similar to traditional e-commerce, the buyers and sellers of e-service take advantage of information technology to accomplish the transaction. However, there are differences in essence between the two network-based paradigms, which are related to customers' trust on e-service transactions.

First of all, the selling of products is different. E-service providers sell services with digital contents or value added services based on physical products. Sometime there is a physical product, but sometime only information or advice (e.g. consultancy). In this sense, what is sold is service itself but not just tangible goods^{[4][7]}.

Secondly, the marketing modes are different. E-service marketing is a kind of relationship marketing^[4], which emphasizes customization and one to one marketing, but not mass marketing as in most traditional e-commerce businesses^[7]. The research from Morgan and Hunt has revealed that trust is one of the key mediating constructs in relationship marketing^[5]. Thirdly, the profit patterns are different, e-service focuses on customers to meet their particular needs and thereby growing the markets and revenues, but not to reduce cost for more profits as in traditional e-commerce^[4]. At this point, it needs more potential costumers to put purchasing intention into purchasing action, in which trust makes an important role.

On the one hand, these distinctions in nature reflect philosophical differences between the two paradigms. Technology is an enabler in e-service, but not an end in itself^[4]. Therefore, for e-service providers, it is difficult to boost transactions effectively purely focusing on technology.

On the other hand, trust in e-service transaction is not the same as inter-personal trust, research on e-service needs to borrow supports both theoretically and practically from the fields of management, marketing and information science. At this point, research on e-service customer trust needs integration from different areas with multiple perspectives, which will deliver necessity and significance to e-service theory and practice.

Additionally, e-service, as “electronic offerings for rent” made available via the Net^[2], the same as other traditional services, is a kind of inseparability issue, which means service production and consumption, in most cases, will occur simultaneously. Intangibility of e-service selling products will bring greater uncertainty to the procedure of transactions and the potential risks perceived by customers will not be limited to the worry of transaction security and production authenticity, but more on the expectation of satisfaction and value for the future consumption of e-services.

Although more and more research achievements on traditional e-commerce trust have emerged in recent years, they can not be perfectly fitted into the environment of e-service transactions. For the reasons mentioned above, the necessity of making

theoretical research on e-service transaction trust, especially customer trust, is urgently needed. And the aim of this paper is to construct a framework of e-service consumer trust, which is integrated from multiple theories of trust, to comprehensively reflect the nature and constructs of customer trust in the context of e-service.

The rest parts of this paper are organized as following, review of related work will be provided in section 2, section 3 will introduce supportive theories for e-service consumer trust, and an integrated framework of e-service consumer trust based on multitheoretical view will be presented in section 4. The paper will end with a summary to point out the future research direction and further work in the endeavor of e-service trust research.

Related Work

Definitions of trust in different fields

The literature of trust research can be traced back to late 1800's and early 1900's[1]. Simmel Georg made academic research on trust, he pointed out that trust is one of the most important comprehensive force in society [8], which is the primary contribution of Simmel's work. As the forerunner of trust research, Simmel made a remarkable contribution to the field, his work has influenced following trust researches significantly. Barbara Misztal comments Simmel's work as follows: Simmel's brilliant analyses of the nature of trust relationships were later adopted and developed by scholars such as Luhmann and Giddens. His theory of trust provides a theoretical framework for analyzing personal as well as generalized (or impersonal) trust [10].

Trust can be defined as a state of favorable expectation regarding other's actions and intention. Based on this view point, scholars gave their definition of trust: reduce social complexity [11], co-operation [12], individual risk-taking behavior [13], social capital [14][15], order [10] and so on.

In the field of Psychology, trust research began with Deutsch's seminal study of trust in the Prison's Dilemma game [16][17]. Deutsch concluded that trust is a set of expectations that lead to behavioral intentions in which potential loss is involved.

In the view of social exchange, Blau concluded that trust contains three distinct beliefs: integrity, benevolence and ability [18]. Rotter defined interpersonal trust as "an expectancy held by an individual or a group that the word, promise, verbal or written statement of another individual or group can be relied on" [19].

In the area of management research, trust issues have aroused scholars' interests. Rousseau et al. concluded that trust deals with "intention to accept vulnerability based upon positive expectations of the intentions or behavior of another" [20]. Lewis and Weigert noted that trust differs depending upon the history and nature of the relationship between the parties [21].

Along with these views, trust related literatures have emerged in marketing area in recent decades. Two components appear in the definition of trust include the psychological and sociological. Schurr and Ozanne defined trust as a kind of belief, which leads to behavioral intentions [22]. Moorman et al. conceptualized trust as "a willingness to rely on an exchange partner in whom one has confidence" [23]. Ganesan hold the view that the psychological elements of the definition include trust in the partner's honesty and trust in the partner's benevolence [24]. Morgan and Hunt regarded trust as confidence in another person's reliability and integrity [5].

As mentioned above, trust is defined in different areas from different perspectives, and this is the common ground of these researches: trust is regarded as a kind of human to human interaction; even organization trust is regarded as human group communication. However, as a new paradigm of transaction, net-based transaction delivers a mode of human to information system interaction, which has its own characteristics. Hence, trust researches related to net-based transaction are reviewed in a special section followed.

Research on net-based transaction trust

In the field of Information System(IS), trust is a relatively new concept attracting enthusiasm of researchers in recent years. Researchers mainly focus on trust issues in net-based transaction, and most of them focus on traditional e-commerce, especially on B2C.

Different from human to human trust, net-based transaction trust is a kind of human to automation trust. Studies examining the nature of human interaction with automation have revealed that users have a propensity to apply norms of human to human interaction to their communication with automated systems [25]. Hence, theoretical achievements can be borrowed from traditional trust research literatures as foundation of net-based transaction trust research. Nevertheless, there exist differences in essence with the manner in which humans perceive and react to automated systems compared to human to human interaction [25], which bear characteristics of e-transaction.

Although trust has been defined in many different ways, as mentioned in the previous section, there is agreement that trust only exists in an uncertain and risky environment. From the view of customer, the degree of uncertainty in the virtual environment of net-based transaction is higher than in traditional settings [26]. In the context of net-based transaction, the uncertainty can be caused either by using open technological infrastructures for the exchange of information (system-dependent uncertainty) [26][28][29][33][34] or by the conduct of actors involved in

the transaction (transaction-specific uncertainty)^{[26][27][30][31][32][35]}.

Based on the prerequisite that regarding trust as a kind of behavior intention, some researchers take Theory of Reasoned Action (TRA) as fundamental model, on the consideration that transaction conducting is a reasoned action^{[27][31][35]}. From the perspective of technology context in e-transaction, some researchers focus on consumer's attitude toward technology acceptance^{[28][29]}, which are based on Technology Acceptance Model (TAM). These researches emphasize on the prediction of behavior intention, but lack of subtle explains and descriptions on trust nature and trust building, which is necessary to the e-transaction trust.

Net-based transaction trust-related literatures mainly centered on the traditional e-commerce trust. Contrary to the thriving development of e-service, e-researches on e-service are not sufficient, especially on the topic of trust. Current related literatures mainly focus on the construction and validation of service quality^{[37][38][39]}. Trust is one of the primary constructs of SERVQUAL model, which is validated in the field of marketing^{[36][37]}. Nevertheless, SERVQUAL can not explain why a consumer will trust services provided by e-vendors and how the trust is built and developed.

As mentioned above, trust is a multi-dimensional issue^[20], and trust in the context of e-service is different from traditional e-commerce. Hence, simply applying research models of e-commerce trust into research of e-service trust is not reasonable. And considering the unique characteristics of e-service and complicated context of e-service transaction, mono-theory approach is not sufficient in the exploration of e-service trust issues, and adopting

multi-theory approach in e-service trust research is significant. Although there is research using multi-theory approach to solve trust issues^[47], it focused on tangible product-based e-transaction trust but not service-based. Therefore, it is urgently needed to do some theoretical exploration on e-service trust.

Ground theories to support the research in trust

Three supportive theories are introduced in this section, they are Simmelian Model of Trust, Semiotics and Theory of Reasoned Action, which are from different fields and take their roles in explaining e-service trust mechanism.

Simmelian Model of Trust (SMT)

Simmelian Model of Trust is a theory on trust building. It undertakes substantial theoretical reorientation of research into the concept of trust based on the research work of Simmel^[46], who was regarded as the forerunner of trust research, and other scholars' research achievements on trust.

Why is Simmelian Model of Trust? One reason is that in most e-transaction trust researches, the explanation on trust mechanism is not sufficient. Besides technological factors, e-service trust follows the law of general trust, therefore it is necessary to find a ground theory to support trust building process in the context of e-service. SMT is used to explain the nature of trust, which is a three-step process: interpretation, suspension and expectation^[46], as shown in Figure 1.

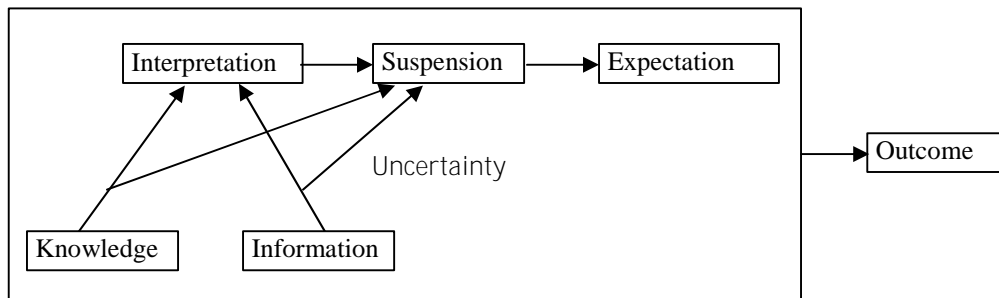


Figure1. Simmelian Model of Trust

Interpretation is the first step, which signifies the process when one perceives something and then interprets it into something else based on incomplete knowledge and information. The incompleteness of knowledge and information perceived by trustor will subsequently lead uncertainty, which shows the necessity to trust.

According to Möllering's^[46] discussion on Simmel's trust research, suspension, which signifies the process when one needs to ignore uncertainty in

interpretation, takes a role as bridge to hinge interpretation and expectation. Through suspension, interpretation is temporarily valid.

Under the consideration that the interpretation and suspension are right things to do, expectation signifies the process that the object should be trusted or distrusted, which is a kind of behavior intention for trust. The outcome after three steps is either trust or distrust.

It is the contribution of SMT that the trust building process is divided into 3 steps, which outlines the nature of trust. And the process of suspension reflects the subjective estimation on uncertainty. In the initial research of Simmel, it was regarded as a kind of mysterious leap from interpretation to expectation [8], and Möllering cleared it as suspension, which bridges interpretation and expectation [46]. However, it is just an outlined framework of trust building process, no specific details in each step, especially, there is no comments on how to complete the process of interpretation, which is the foundation of trust building. Therefore, at this point, to make the process of interpretation tangible is significant for trust research, especially in the context of e-service transaction.

Semiotics

Semiotics is the study of signs [42] [43]. Semiotics has a long history and it is applied in the field of information system and information management since 1970s [43]. Peirce made great contribution to semiotics. He used triadic relationship to describe the process of cognition, as shown in Figure 2. When one (interpretant) cognizes something (object), the object is interpreted into impression (representamen) in one's mind, which describes the process of perception on object. It is true that the focus of Semiotics is on perception but not directly on trust. However, Semiotics is heavily based on belief, which is one of primary components of trust in many classic trust theories. Therefore, adopting Semiotics to explain perception process of trust building is reasonable and appropriate, which can link what it is perceived and what it is meant to one that perceives. Especially in the process of trust building, Semiotics is helpful to explain the mechanism of interpretation and useful for facilitating perception with the flow of signs.

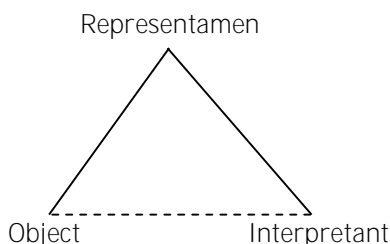


Figure2. Interpretation process in Semiotics

Theory of Reasoned Action (TRA)

Theory of Reasoned Action is the research findings from the field of Social Psychology and is used in the prediction of behavior. As a general model of behavior prediction, TRA is widely used in different areas, and in most cases, its effectiveness and validation in behavior prediction have been validated. The model is shown in Figure 3. In the field of trust research, TRA is one of the most frequently used

theories; it reveals the relationship of influencing factors, intention and behavior.

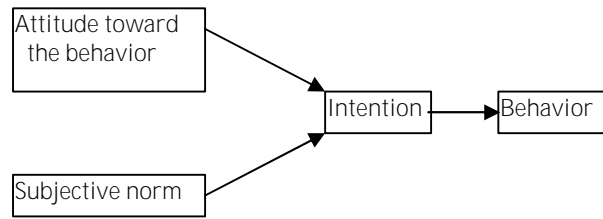


Figure3. Theory of Reasoned Action

There are 3 presuppositions in TRA:

1. Generally, individuals are reasonable and deal with information based on systematic perspective;
2. The social behavior of humans will not be affected by unintentional inducements or forces;
3. Human behavior is completely self-controlled.

Based on these presuppositions, TRA shows good validation and capacity in behavior prediction in the past researches. However, as a kind of social and psychological phenomenon, trust building is a complicated process, it is not reasonable to simply define trust as a totally reasoned action. In the context of e-service, intangibility of service, virtuality of net-based environment and difference of customer's perception on services will make trust procedure more complicated.

As a general model of behavior prediction, TRA has effectively explained the casual relationship between intention and behavior, but it is not customized for trust issues and does not reflect the nature of trust, which is the key part of trust research. Therefore, it is necessary to borrow support from other trust research achievements and make modifications on the original TRA model to reflect characteristics of trust in e-service transaction.

An integrated research model on e-service customer trust

The theories mentioned above have their own advantages in explaining trust building in e-service context. However, no one theory alone can resolve e-service trust issues comprehensively. In the previous literature review, trust research based on multitheoretical view is seldom found, especially in the field of e-service. Therefore, integrating multiple theories into a framework of e-service consumer trust model, which is the key part of the work presented in this paper, has its necessity.

Integration of SMT and Semiotics

From the view of Semiotics, the communication process of e-service sellers and buyers is a procedure of interpreted signs flowing between them, on which trust perception is acquired. The integration explains the interpretation process of trust building, which is

not described specifically in SMT. The integration of SMT and Semiotics is shown in Figure 4.

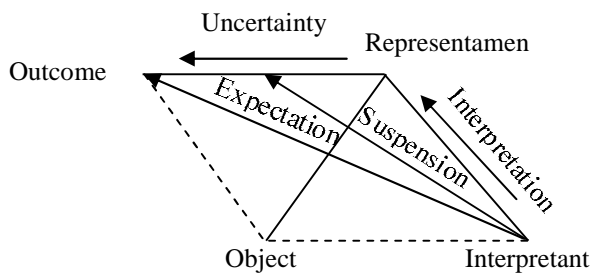


Figure4. Integration of SMT and Semiotics

The object to be trusted is interpreted by the trustor, reflected as one’s subjective perception in mind. Incompletion of knowledge and information perceived in interpretation process will cause uncertainty. If the trustor intends to trust, he will ignore the uncertainty based on the subjective judgment that the representamen in his mind is temporally valid, and then will make the expectation for the outcome of trust behavior. Adopting Semiotics into trust building procedure is a complement to SMT, which describes the perception mechanism of trust building, and reflects the nature of trust from the view of social psychology and information signs.

Integration of TRA and SMT from the perspective of Semiotics

The integrated model is shown in Figure 5. Only basic constructs of trust intention are illustrated in the framework, the refinements of the model will be done in the future work. The model should be read from left to right, which is in line with the procedure of trust building. The one-way-arrowed line means a

kind of causal relationship, can be understood as “lead to” or “put effect on”. And the two-way-arrowed line with vertical lines sided the arrows is used to segment the processes of trust building.

Trust building, in the first stage, is a process of perception. From the view of Semiotics, perception is a process of interpretation, therefore, the main constructs affected trust intention are representamen, which is the reflection of perceived signs in a person’s brain, as shown in the rectangle with dashed line.

Trust building is a complicated procedure in the context of e-service transaction. And based on the view of regarding trust as a partial reasonable behavior, irrational factors are considered in the framework. Individual’s perception on attitude toward e-service transaction, subjective norm and irrational factors will probably lead to uncertainty. The effect of irrational factors to trust intention is unclear, and the meditating effects caused by irrational factors are interesting, therefore they deserve testing in the future empirical study.

Based on TRA, the integrated framework is staged by 3 elements of trust: interpretation, suspension and expectation and the outcome of trust is also staged in it. TRA alone, even with some modification on it, can not explain e-service consumer trust building procedure comprehensively. Therefore, one of the aims of the integration is to put trust elements into the behavior prediction model for a clear explanation of trust mechanism.

As a theoretical framework, the integrated model needs further refinements and empirical validation. Based on this framework, some fundamental research hypotheses will be put forward as below and need for further examination in future empirical study.

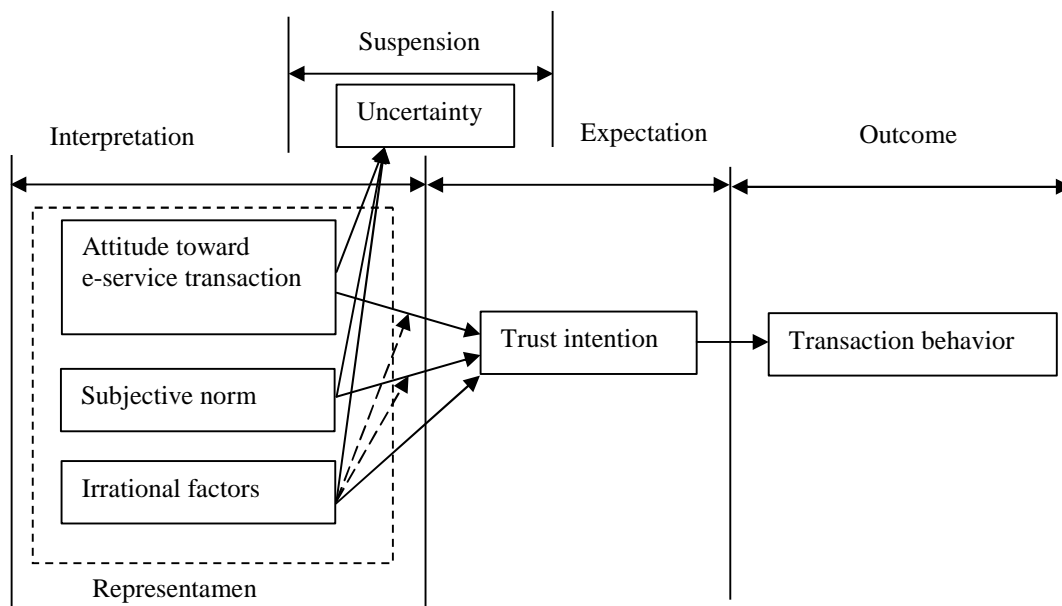


Figure5. Framework of an integrated model on e-service customer trust

Hypothesis 1 Attitude toward e-service transaction will affect consumer's trust intention;

Hypothesis 2 Subjective norm will affect consumer's trust intention;

Hypothesis 3 Irrational factors will affect consumer's trust intention;

Hypothesis 4 Irrational factors will put moderating effect on the relation of attitude toward e-service transaction and trust intention;

Hypothesis 5 Irrational factors will put moderating effect on the relation of subjective norm and trust intention;

Hypothesis 6 Attitude toward e-service transaction will lead to uncertainty;

Hypothesis 7 Subjective norm will lead to uncertainty;

Hypothesis 8 Irrational factors will lead to uncertainty;

Hypothesis 9 Trust intention will affect consumer's transaction behavior;

The framework put forward in this paper is still in the initial stage of the research on e-service trust. And the current work developed in the range of theory need to be examined by empirical approaches and we expect it will lend theoretical support to the future work. Supplement and refinement to the framework and validation for it will be the main part of the following research.

Summary and Future Research

The e-service consumer trust framework proposed in this paper is an integrated model based on a multi-theory view in the context of e-service transaction, which aims to reflect nature of trust and influencing factors with relationships to trust intention. The current work is focusing on building a framework in the range of theory. And the contribution delivered from current work is as follows: firstly, the process of interpretation is specified in a way of human perception, which will be helpful for e-service providers to understand customers' requirements; secondly, modifications on the original TRA will reflect the nature of trust as a partially rational behavior; thirdly, the phases divided on the modified TRA is in line with the procedure of trust building, which will facilitate finding relationships among influencing factors, trust intention and trust behavior. As a framework of e-service consumer trust, specific factors is needed to be added into the model to reflect the characteristics of e-service trust, and the following work should be focused on testing the research hypotheses to validate the model.

One research direction is focused on the dynamic procedure of trust. Trust is a dynamic procedure^[48], especially in the context of e-service transaction. The building stage of trust, stable stage of trust and contradictory stage of trust has different

characteristics distinctively, which should embrace further research in the future.

Research on the relationship of trust and culture is another interesting topic, because individual's trust behavior is affected by the culture background of local area. In the context of e-service, to what extent consumer's behavior on transaction and consumption is affected by the culture is not clear, which deserves further exploration.

Acknowledgements

This work is supported by the National Natural Science Foundation of China, Grant No.:70972006

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