PERCEIVED RISK AND CONSUMER ADOPTION OF SERVICE INNOVATIONS

by

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This dissertation was prepared under the direction of the candidate's dissertation advisor, Dr. Paul Sergius Koku, Department of Marketing, and has been approved by the members of her supervisory committee. It was submitted to the faculty of the College of Business and was accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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ABSTRACT

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This study examines the influence of various facets of perceived risk on the attitudes toward really new services (RNS) and adoption intentions. Although there is considerable research examining perceived risk and consumer adoption of innovations, three aspects of the relationship have been neglected. First, much of the research on really new innovations is product-focused with little attention to services. Second, there is limited research examining perceived risk as a multidimensional construct. Third, consumer characteristics that affect the relationship between perceived risks and adoption intentions have not been included in most of the innovation studies. Thus, this study seeks to provide answers to the questions of "which types of perceived risk are more likely to affect adoption intentions of RNS?" and "which consumer characteristics affect the relationship between perceived risks and adoption intentions of RNS?". The findings

of the study show the influence of perceived risk in the service innovations area. We contribute to theory and practice by identifying the specific risks that cause consumers to resist adopting RNS as well as showing the explanatory power of Regulatory Focus Theory (RFT) to understand why consumers react differently when they encounter service innovations.

DEDICATION

This dissertation is dedicated to my beloved family - my father, Gokhan Savas, who passed away during my doctoral studies, my mother Necla Savas, my brother Gokhan Savas Jr., and my husband Justin Hall whom I met in the Ph.D. program. I would not be where I am today without my father's vision and motivation, my mother's love, patience and support, my brother's invaluable friendship and wisdom, and my loving husband's inspiration and faith in me. I love them more than words can ever explain.

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CHAPTER 1

INTRODUCTION

Innovation is an idea, practice or object that is perceived as new by adopters (Rogers, 1995). Consumers' response to innovations has long been examined in the marketing literature and conceptualized as innovation adoption process. Rogers (1962) described this process as "the process through which an individual or other decision-making unit passes from first knowledge of an innovation, to forming an attitude toward the innovation, to a decision to adopt or reject, to implementation of the new idea, and to confirmation of this decision" (cited in Claudy et al., 2015, p.529). Investigating the innovation adoption process is crucial due to costly product developments, short product life cycles as well as fierce competition. Marketers have spent considerable effort to identify the factors that influence innovation adoption in order to develop successful new products/services. Studies in this field mostly build on Diffusion of Innovation Theory (DOI; Rogers, 1962), and behavioral models such as Technology Acceptance Model (TAM; Davis 1989), the Theory of Reasoned Action (TRA; Fishbein and Ajzen, 1975) and Theory of Planned Behavior (TPB; Ajzen, 1985). However, given the high failure rate of new products and services, researchers and marketers following the DOI model have been criticized for neglecting the factors that prevent consumers from adopting innovations (Antioco and Kelijnen, 2010; Garcia et al., 2007; Ram and Sheth, 1989; Sheth, 1981)

Perceived risk is one of the important factors that inhibit the adoption intentions of consumers (Kleijnen et al., 2009; Claudy et al., 2015). It is defined as a combination of uncertainty and seriousness of outcome involved (Bauer, 1967). In marketing, perceived risk is the expectation of losses that will be incurred with the purchase of products and acts as an inhibitor to purchase behavior (Peter and Ryan, 1976). Although perceived risk's impact on adoption intentions has been widely studied in the literature, the studies have been mostly conducted on product innovations rather than service innovations. As Zeithaml (1981) points out, the degree of risk depends in part on the intangibility of the product. Thus, service innovations are considered as having higher risk when compared to product innovations (Laroche et al., 2004). Research shows that innovative services typically do not diffuse beyond the innovators and early adopters (e.g. Moore, 2002). Hence, this study aims to examine perceived risk as a potential reason that negatively affects consumers' adoption intentions of service innovations.

Perceived risk is mostly measured as a unidimensional variable in the literature (e.g. Herzenstein et al., 2007; Walker and Johnson, 2006; Meuter et al., 2005; Chowdhurry et al., 2014). However, it has various dimensions such as performance risk, financial risk, physical risk, social risk and psychological risk (Cunnigham, 1967; Jacoby and Kaplan, 1972; Kaplan et al., 1974). Studies that examine the effect of each dimension on consumer adoption of innovations are scarce. More importantly, to the best of our knowledge, there is no study that has examined the effect of each facet of perceived risk on the adoption intentions of really new services (RNS), that are "innovations that create a new service category or subcategory rather than reallocating market shares within an established one" (Ma et al., 2014, p.103; Moreau et al., 2001). Some examples of RNS

are Uber for the transportation industry, Airbnb for hotel industry and PayPal for banking industry.

This study focuses solely on RNS. We suggest that service innovations differ from product innovations in several ways. Consumers perceive greater risk for service innovations because of intangibility and the absence of search qualities. Services are also higher in experience qualities which make them difficult to evaluate prior to purchase. Moreover, some services are high on credence qualities that make them more difficult to evaluate even after consumption (Nelson, 1970). Services include physical surroundings, people (human actors) and process (flow of activities) as opposed to products. In order for consumers to adopt service innovations, they must not only adopt the actual new service but also adopt all these additional elements which can't be separated. The differences between products and services provide evidence on why we need to examine adoption of service innovations separately.

In this study, we also argue that not all consumers are affected in the same way by perceived risk during the adoption process. Regulatory focus is a factor that may influence the attitudes of consumers toward service innovations and subsequently, their adoption intentions. Regulatory Focus Theory (RFT) is a goal pursuit theory formulated by Higgins (1998) regarding peoples' perceptions in the decision making process. RFT posits two separate self-regulatory orientations: prevention and promotion. Promotion-focused individuals make decisions based on the ability to gain positive outcomes. In contrast, prevention-focused individuals aim to minimize potential negative outcomes associated with a decision (Smith et al, 2014). Although new products/services are typically riskier, they satisfy unmet needs. Hence, promotion-focused consumers when

compared to prevention-focused consumers may be more willing to take risks and adopt RNS.

Overall, this study aims to integrate perceived risk theory as well as innovation adoption literature with regulatory focus theory, to examine their combined effect on consumer attitudes toward RNS and on adoption intentions. This study contributes to the innovation adoption literature in three important ways. First, it represents an initial attempt to examine the effect of each dimension of perceived risk on consumers' adoption intentions of RNS. Second, it uses regulatory focus theory to see the moderating effect of promotion vs. prevention-focused consumers on the relationship between perceived risks and adoption intentions. Third, it distinguishes service innovations from product innovations in terms of adoption intentions by emphasizing the importance of perceived risk as a differentiating factor. This study also provides practical insights for the service industry. It points out the importance of determining the type of risk that should be eliminated to enhance adoption intentions. Marketers can increase innovation adoption if they are aware of the specific risk(s) that consumers avoid. Furthermore, this study shows that regulatory focus can be an effective segmentation tool in new service promotions. Framing communication by inducing promotion focus may encourage consumers to adopt service innovations.

The remainder of this study is organized as follows; Chapter 2 provides a literature review on the main topics of this research. Chapter 3 presents the conceptual framework with a discussion on the proposed research model and hypothesized relationships. Chapter 4 describes the methodology that is used to empirically test the

model. Chapter 5 shows the results of the data analyses. Finally, Chapter 6 includes implications of the findings, limitations of the study and directions for future research.

CHAPTER 2

LITERATURE REVIEW

Consumer Adoption of Innovations

Adoption is usually defined to include the evaluation of an innovation and a commitment to use the innovation on all following occasions (Lee, 2012). In other words, adoption is a decision to make full use of an innovation (Olshavsky and Spreng, 1996; Rogers, 1995). Adopters can be individuals, organizations (businesses, schools, hospitals, etc.), clusters within social networks, or countries (Meyer, 2004). Innovation adoption occurs through a five-step decision-making process including awareness, interest, evaluation, trial, and adoption (Rogers, 1962). Consumers, during the innovation adoption process, first gain knowledge of an innovation, and then form an attitude toward the innovation. A decision to adopt or reject follows this attitude (Gregan-Paxton and John, 1997; Rogers, 1962).

Understanding whether and why consumers adopt or resist innovations is important for firms developing new products and services. Hence, the concept of adoption has received considerable attention from the researchers over the years (e.g. Ryan and Gross, 1943; Rogers, 1962; Rogers and Shoemaker, 1971; LaBay and Kinnear, 1981; Bagozzi and Kyu-Hyun, 1999; Ma et al., 2014). Several theoretical models have been developed in the literature to understand the innovation adoption process of consumers. For example, Rogers' Diffusion of Innovations Theory (DOI) is a well-established and the most used theory in the field of innovations. Theory of Reasoned

Action (TRA), Technology Acceptance Model (TAM) and Theory of Planned Behavior (TPB) have also been used. In the following sections, each theory and their use in the innovation adoption literature is explained in detail.

Diffusion of Innovations

Adoption as a process was first identified by Ryan and Gross (1943). In 1958, Rogers introduced diffusion of innovations (DOI) in the marketing lexicon (Rogers, 1995). In the following years, it has become one of the principal models to understand why significant numbers of consumers do not adopt new products and services as fast as marketers expect (Fain and Roberts, 1997). As a theory, diffusion of innovations seeks to explain how, why, and at what rate new ideas and technologies spread through cultures. While adoption is an individual process including the stages from hearing about a product to finally adopting it, diffusion is a group phenomenon, which indicates how an innovation spreads. Zaltman and Lin (1971) have summarized this relationship in three components: 1) the innovation itself, that is, some "new" product, method or idea; 2) an individual who decides to adopt the innovation, thus exhibiting innovative behavior, and 3) the diffusion of the innovation through a social system, as more individuals make an adoption decision.

The basic DOI model postulates a bell-shaped curve which consists of innovators (2.5 % of population), early adopters (13.5%), early majority (34%), late majority (34%), and laggards (16%). Innovators are willing to take risks, have the highest social status and financial liquidity. They also have close contact with scientific sources and have interaction with other innovators. Early adopters are usually the opinion leaders. They have higher social status, higher financial liquidity and higher education. Early majority

adopt an innovation long after innovators and early adopters. They have above average social status, contact with early adopters and seldom hold positions of opinion leadership. Late majority adopts an innovation after the average participant. These individuals approach an innovation with a high degree of skepticism. They have below average social status, little financial liquidity, and little opinion leadership. They are usually in contact with others who are in late majority and early majority, and are the last to adopt an innovation. Laggards typically tend to be traditional, have lowest social status, lowest financial liquidity and are older than other adopters. They are usually in contact with only their families and close friends.

The model implies that in order for a new product to be profitable, it needs to be adopted at least by part of the early majority. However, research shows that while many technology-driven innovations are accepted by innovators and some early adopters, they usually do not diffuse into the population at large (Fain and Roberts, 1997). To explain this pattern, researchers have been examining various factors that positively or negatively affect innovation adoption (e.g. Rogers, 1962; Tornatzky and Klein, 1982; Ram and Sheth; 1989; Littler and Melanthiou, 2006; Kleijnen et al., 2009). Before proceeding to the other theories/models used in the innovation adoption literature, it is necessary to review the innovation-related and consumer-related factors identified in the literature that are influential on the innovation adoption process.

Factors for and against innovation adoption

In the innovation adoption literature, the major drivers of innovation adoption were divided into two - 1) innovation characteristics and 2) adopter characteristics. Innovation characteristics refer to the attributes that consumers use to evaluate an

innovation, and adopter characteristics refer to the personal traits that describe the potential adopter of an innovation (Arts et al., 2011). In the following sections the characteristics that are mostly used in the literature are discussed.

1) Innovation characteristics

Rogers (1962) outlines five primary characteristics of an innovation which accelerate its adoption by the market. These factors are relative advantage, complexity, compatibility, triability, and observability. Relative advantage refers to the degree in which a potential adopter will gain or benefit from the adoption of a new innovation. Complexity is defined as the level of conceptual and technical depth the innovation possesses. Compatibility refers to how well the innovation fits into the adopter's personal life and social structure. Triability is the opportunity consumers have to use and try the innovation out or experiment with it on a limited basis. Lastly, observability refers to how visible an innovation is as it is being used by previous adopters. Innovations that are high in relative advantage, compatibility, triability and observability, and low in complexity are found to have a tendency to be adopted faster than other innovations (Tornatzky and Klein, 1982; Teo and Pok, 2003; Rogers, 2003).

In addition to Rogers' innovation characteristics, researchers have focused on various other characteristics, including result demonstrability, communicability, volition, customizability and social advantage that influence the innovation adoption likelihood of consumers. Result demonstrability is similar to Rogers' observability characteristic and refers to the ease of measuring the tangibility of the outcomes of using an innovation (Akturan and Tezcan, 2010; Liao et al., 1999). Communicability exists if the benefits of the innovation can be easily explained to potential adopters via mass media (Tornatzky

and Klein, 1982). Volition is the degree to which use of the innovation is perceived as being voluntary or of free will (Moore and Benbasat, 1991). Customizability provides potential adopters the ability to modify product features in order to maximize received benefits (Boyd and Mason, 1999), and social advantage refers to an individual's motivation to seek status through using or owning an innovation (Venkatesh et al., 2003). Research has also posited that product attributes such as product originality – product's perceived newness and uniqueness, and product usefulness – the consumer's perception that a product or service provides a benefit that fulfills his/her needs (Li, Zhang and Wang, 2015) are significant sources of new product success.

Product newness has recently received considerable attention in the innovation adoption literature (Hoeffler, 2003; Alexander et al., 2008; Herzenstein et al., 2009; Ma et al, 2014). Research in this area has distinguished newness in terms of being really-new and incrementally-new (Hoeffler, 2003). Because this study's main aim is to examine the relationship between the dimensions of perceived risk and consumers' attitudes toward and adoption intentions of RNS, studies on product newness will be thoroughly discussed later in the paper.

Researchers have also examined the major barriers which create consumer resistance to innovations. For example, a seminal article by Ram and Sheth (1989) categorized characteristics of innovation resistance in two groups: functional and psychological barriers. Functional group includes usage, value and risk barriers while psychological group consists of tradition and image barriers. Consumers experience usage barriers when an innovation conflicts with existing usage patterns (Ram and Sheth, 1989). Value barriers refer to perceived performance-to-price ratios of innovations when

compared with existing product substitutes (Molesworth and Suortti, 2002). Risk barriers, the main topic of this study, may result in postponement of adoption decisions as well as resistance toward innovations. Barriers related to tradition and norms may arise when innovations force consumers to break entrenched traditions or deviate from accepted social norms (Kleijnen et al., 2009). Image barriers occur when innovations acquire a certain identity that may be unfavorable to consumers (Ram and Sheth, 1989). Also, Hirschman (1987) emphasized the role of information overload on resistance to innovations. He suggests that dealing with overwhelming information with regard to innovations complicates decision making and leads to resistance toward novelty.

Apart from all previously mentioned innovation characteristics, the importance of perceived risk – which is the consumers' perception about the potential adverse effects of purchasing a product or service – was emphasized by numerous researchers (e.g Bauer, 1960; Ostlund, 1974; Littler and Melanthiou, 2006). This study contributes to the literature that examines innovation characteristics by showing the distinct effects of perceived risk dimensions on consumers' innovation adoption intention. Therefore, studies on perceived risk and innovation adoption intentions will be reviewed later in detail.

2) Adopter Characteristics

The second group of major drivers of innovation adoption is characteristics of adopters. Individual characteristics are as important as innovation characteristics and cause differences in consumer demand. The different variables used to capture adopter characteristics are divided into two in the meta-analysis conducted by Arts et al. (2011) as socio-demographics and psychographics. Age, level of education, income, household

size, gender, family life cycle are mostly examined socio-demographics that affect adoption of innovations. Psychographics that are influential on innovation adoption include consumer innovativeness - the tendency of consumers to buy new products in a particular product category soon after they appear in the market and relatively earlier than most other consumers in the market segment (Foxall, Goldsmith, and Brown, 1998); opinion leadership - the degree to which an individual is able to influence other individuals' attitudes; media proneness - the degree to which an individual is receptive for the media as well as how often he/she uses certain media, and product involvement - the degree to which a consumer experiences differentiation, familiarity, importance and commitment for a specified product category. Moreover, price-consciousness, brand familiarity, self-confidence as well as dogmatism are found to be less frequently used but influential factors on consumer innovation adoption (Arts et al., 2011).

Consumer innovativeness is by far the mostly examined consumer characteristic in the literature and found to be a major driver of the adoption and diffusion of new products. Researchers have focused on different types of consumer innovativeness while examining the adoption intentions of consumers. For example, motivated consumer innovativeness considers various motivations of innovative consumers including functional, hedonic, social and cognitive. Functionally motivated innovative consumers buy innovative products to improve their performance, productivity or to avoid threatening circumstances (Voss et al., 2003). Hedonically motivated innovative consumers buy innovative products because of experiencing excitement, joy and satisfaction (Roehrich, 2004). Socially motivated innovative consumers want to achieve self-assertive goals regarding social relationships (Ford and Nichols, 1987). Cognitively

motivated innovative consumers want to explore, understand and stimulate creativity (Venkatraman and Price, 1990).

Similar to cognitively motivated innovativeness, some studies (e.g. Hirshman, 1980; Im et al., 2007) used innate consumer innovativeness to refer to consumers' inherently innovative personality and cognitive style. Consumer innovativeness was also broken into global and domain-specific innovativeness; while the former is viewed as personality trait (Midley and Dowling, 1978), the latter is related to the individual's predisposition toward a product class, and refers to the tendency to acquire new products or related information within a specific domain (Goldsmith and Hofacker, 1991).

Although previously mentioned adopter characteristics are important to understand consumers' innovation adoption intentions, this study considers an individual characteristic, namely regulatory focus, which has recently started to receive attention in the literature regarding innovation adoption. Regulatory focus is deemed important for this study because it is more related to perceived risk than the other adopter characteristics. A thorough review of the studies on regulatory focus and how it relates to perceived risk and innovation adoption will be described later in the study.

Theory of Reasoned Action (TRA)

Most of DOI research has focused on understanding how perceptions of innovation characteristics influence consumers' likelihood to adopt innovations. Two widely accepted frameworks, Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1975) and Technology Acceptance Model (TAM) (Davis, 1989), also helped researchers to examine the effects of innovation characteristics on consumers' adoption intentions. These two frameworks are both rooted in the assumption that consumers' evaluation of

product or service characteristics result in the formation of favorable or unfavorable attitudes toward an innovation. This, in turn, determines the decision whether to adopt or reject a new product or service (Claudy et al. 2015).

The TRA is a social psychological model that focuses on the antecedents of consciously intended behaviors. The TRA assumes that individuals are rational decision makers and consider the implications of their actions before they decide whether to perform a behavior (Ajzen & Fishbein, 1980). The TRA specifies two determinants for behavioral intentions. One is a personal factor which is attitude toward behavior, and the other is a person's perception of social pressures which is subjective norm. Attitude refers to the person's opinions about the performance of the behavior. Subjective norm is a perceived social pressure as a predictor to whether to engage in a behavior (Fishbein and Ajzen, 1975).

TRA, as a consumer behavioral framework, predicts that consumers evaluate innovations according to the innovation characteristics such as relative advantage, compatibility, complexity, triability, and/or observability. These characteristics of innovations have strong influence on their adoption intentions. TRA has also demonstrated how important social norms are in the diffusion of innovation as well as how much consumers rely on the opinion of relevant others when they make a decision of adoption (Kulviwat et al., 2009).

Technology Acceptance Model (TAM)

Davis (1989) adapted the TRA and introduced the technology acceptance model (TAM), which was specifically developed to explain computer usage and adoption of new information technologies. The TAM adapts the framework of the TRA and

hypothesizes that a person's acceptance of a technology is determined by his or her voluntary intention to use that technology. Intention, in turn, is determined by the person's attitude toward the use of that technology and his or her perception on its usefulness. Attitudes are formed from the beliefs a person holds for the use of the technology. TAM provides the theoretical link between two specific beliefs - perceived usefulness (PU) and perceived ease of use (PEOU) - and potential adopters' attitudes, intentions, and computer usage behavior. "PU is the degree to which a person believes that using a particular system would enhance his or her job performance, and PEOU is the degree to which a person believes that using a particular system would be free of effort" (Davis, 1989, p.320). PU and PEOU are commonly used constructs in innovation studies and are found to be important factors that influence consumers' adoption of innovations (e.g. Chowdhury et al., 2014; Lee, 2012; Featherman et al. 2010; Featherman and Pavlou, 2003).

Perceived risk is one of the most commonly applied extensions of TRA and TAM (Herzenstein et al., 2007). Especially in the early stages of innovation adoption, consumers have little information about the products/services, thus higher risk perceptions. Various types of risk affect consumers' attitudes toward innovations and accordingly their adoption intentions. For example, performance risk often arises when consumers cannot evaluate the functionality of the product, or social risk, similar to subjective norms in TRA, occurs when consumers worry that the innovation may not be approved by relevant others (Stone and Gronhaug, 1993). Thus, this study drives from TRA and TAM to develop the conceptual framework which shows the distinct effects of various types of risks on consumer attitudes and behavioral intentions.

Theory of Planned Behavior

Theory of Planned Behavior (TPB) is an extension of TRA (Ajzen 1985; 1991) and is used in innovation adoption literature to predict consumers' adoption behavior. Both TRA and TPB posit that behavior is a direct function of behavioral intention. Behavioral intention is modeled as the weighted sum of attitude and subjective norm. In TPB, there is an additional construct called perceived behavioral control, including two components. First component, facilitating conditions, refers to the availability of resources needed to engage in a behavior. Second component, self-efficacy, refers to an individual's confidence in his/her ability to perform a behavior (Ajzen, 1991).

In innovation adoption literature, TPB has been proven successful in explaining consumer behavior across various product/service innovations as well as information technologies (Ajzen, 2001). Perceived risk is also used as an additional component to TPB framework (e.g. Lee, 2009). Moreover, some studies have also integrated the TPB and TAM model (Lee 2009) to see the joint effects of the components of each model on adoption intentions (Lee 2009; Nasri and Charfeddine, 2012).

Perceived Risk Theory

Perceived risk is an important factor that is used in various areas of social sciences. Consumer behavior was first examined as risk-taking as well as risk-reducing behavior by Bauer (1960). Bauer's initial proposition was that "consumer behavior involves risk in the sense that any action of a consumer will produce consequences which he/she cannot anticipate with anything approximating certainty, and some of which at least are likely to be unpleasant" (1960, p. 24). Later, Cox (1967) extended Bauer's seminal conceptualization and developed a two-factor view of risk structure. The amount

of perceived risk is construed to be a function of (1) the amount that would be lost (i.e., that which is at stake) if the consequences of the act were not favorable, and (2) the individual's subjective feeling of certainty that the consequences will be unfavorable" (Cox, 1967, p. 37).

Similarly, Cunningham (1967) proposed two basic components for perceived risk, which are uncertainty and consequences. Uncertainty refers to the likelihood of unfavorable outcomes, and consequences refer to the importance of losses. Consequences are also divided into two categories as performance and psychosocial consequences. Since Cunningham (1967), the other investigators (e.g., Perry and Hamm, 1969; Roselius, 1971) have distinguished psychological from social consequences and identified other types of consequences such as physical, safety and financial. Bettman (1972, 1973) used a different distinction for risk as "inherent risk" and "handled risk". He defined inherent risk as the latent risk that a product class holds for a consumer, and handled risk as the amount of conflict a product or product class causes when the purchaser chooses a brand in a particular buying situation. Handled risk includes the effects of information, risk reduction processes, and the degree of risk reduction provided by familiar buying situations (Bettman, 1973, p. 184; Ross, 1975).

An important study was conducted by Jacoby and Kaplan (1972) to determine the interrelationships among the five types of consequences (financial risk, performance risk, physical risk, social risk and psychological risk) and to measure their individual and collective relationship to overall perceived risk. The results indicated that the five types of consequences explained an average of 74% of the variance in the overall perceived risk measures taken across 12 different products. Performance risk tended to explain

more variance than did any other type of consequence. A cross validation of components of perceived risk was later conducted by Kaplan et al. (1974) and the results reflected high agreement with the Jacoby and Kaplan's (1972) findings. Hence, the study indicated that overall perceived risk can be fairly well predicted with the five types of consequences. Later, the risk literature suggested different types of consequences, or dimensions, such as time risk (e.g. Roselius, 1971; Stone and Gronhaug, 1993), and privacy risk (e.g. Featherman and Pavlou, 2003).

This study argues that understanding to what extent each type of risk dimension contributes to overall risk is critical to reduce risk perceptions during the innovation adoption process of consumers. Especially, really new products/services are innovative and require consumer learning. They are therefore associated with various risks. Hence, seven types of perceived risk, including financial risk, performance risk, physical risk, social risk, psychological risk, time risk and privacy risk are used in this research as the potential factors that affect consumers' attitudes toward and adoption intentions of RNS. Perceived risk dimensions along with their definitions are summarized in Table 1.

Table 1: Dimensions of Perceived Risk

Dimension	**Definition**	**Source**
Financial risk	the potential loss of money associated with the purchase	Laroche et al. (2004)
Physical risk	the perception that products/services will be harmful to adopters	Jacoby and Kaplan (1972)
Performance risk	the potential loss due to product/service failure after purchase	Laroche et al. (2004)
Social risk	the potential loss of consumer's esteem, respect, and/or friendship that are offered by others	Murray and Schlacter (1990)

Psychological risk	the nervousness that arises from post-purchase emotions such as regret, disappointment, worry and frustration	Dholakia (2001)
Time risk	the perception that the adoption and the use of the product/service will take too much time	Stone and Gronhaug (1993)
Privacy risk	the potential loss of control over personal information	Featherman and Pavlou (2003)

Perceived Risk and Adoption of Innovations

A rich stream of research has been conducted on perceived risk in consumer behavior literature to understand consumers' product and service evaluations and purchases. Ingene and Hugbes (1985) propose risk as the core concept for consumer theory because consumer choices are most often made relative to situation-specific goals (Cunningham 1967; Stone and Winter 1985) and a priori probabilities of specific outcomes are not known. Several studies have suggested that perceived risk may negatively influence the adoption decisions of new products (Conchar et al., 2004). Similarly, resistance toward innovations is influenced by consumers' awareness of the perceived risk of adopting an innovation (Shoemaker and Shoaf, 1975). In addition, studies showed that the importance of each type of risk varies across product categories (Jacoby and Kaplna, 1972; Kaplan et al., 1974; Murray and Schlacter, 1990; Havlena and DeSarbo, 1990). Hence, the dimensions of risk are product specific and can be independent of each other. Thus, it is important to examine each type of risk and its contribution to innovation adoption instead of considering solely overall perceived risk. Table 2 is a review of studies that are conducted on perceived risk and consumers' innovation adoption.

Table 2: Overview of innovation adoption studies regarding perceived risk

Authors	**Study Type**	**Research Question**	**Main Findings**
Ram and Sheth (1989)	Conceptual	What are the major barriers which create customer resistance to innovations? What are the marketing strategies to overcome these barriers?	Functional (usage, value, risk) barriers and psychological (tradition and image) barriers are identified as major barriers and solutions are offered to overcome them. Four types of risks identified are physical risk, economic risk, functional risk and social risk.
Featherman and Pavlou (2003)	Empirical	How important are risk perceptions to the overall e-services adoption decision? What types of risk are salient and therefore important to the consumer of e-services?	Performance-related risk facets (performance risk, time risk, privacy risk, financial risk) are proved to be the most salient concerns for e-bill pay service context.
Hirunyawipada and Paswan (2006)	Empirical	What are the effects of consumer innovativeness and perceived risks on new product adoption?	Perceived risk significantly impacts the innovation adoption. Perceived social, financial and psychological risks are salient dimensions in the consumer electronic product domain. Social and physical risks together play an active role in the adoption by enhancing the acquisition of novel information.
Walker and Johnson (2006)	Empirical	What are the reasons of why people use or choose not to use three	Willingness to use the internet and telephone for

		types of technology enabled services - internet banking, bill-paying and internet shopping services?	financial and shopping services is influenced by the individual sense of personal capacity, the perceived risks, relative advantages, and the extent of contact with the service personnel. Perceived risks are found to be lower when personal capacity and confidence are perceived to be high.
Herzenstein, Posavac and Brakus (2007)	Empirical	What are the effects of self-regulation systems and risk salience on new and really new product adoption?	Regulatory focus is a good predictor of purchase intentions of many product types that constitute both new and really new products. The effect of regulatory focus on purchase intentions for new products is due to performance uncertainty (risk).
Kleijnen, Lee and Wetzels (2009)	Empirical	What are the antecedents of consumer resistance to innovation?	Traditions and norms, usage patterns, perceived image and perceived risks were identified as antecedents. Risk was the most common antecedent discussed during focus group studies. The most commonly-mentioned risk types were functional and economic risks,

			followed by physical and social risks.
Featherman, Miyazaki and Sprott (2010)	Empirical	What are the factors that reduce the effect of privacy risk on the online adoption and usage of e-services?	Corporate credibility and perceived ease of use of the service reduce privacy risk and its effects, and enhance adoption likelihood of e-services.
Flight, D'Souza and Allaway (2011)	Empirical	What is the relationship between product characteristics and innovation adoption?	A measurement scale that encompasses a wide array of product characteristics, including product category risk, is developed. Product category risk was found to be negatively related to adoption.
Hanafizadeh and Khedmatgozar (2012)	Empirical	Is bank customers' awareness of the services and advantages of internet banking (IB) effective in reducing the negative effect of customers' perceived risk on their intention of IB adoption?	The mediating effects of dimensions of perceived risk, from highest to lowest, are performance risk, time risk, security risk, financial risk, privacy risk and social risk.
Patsiotis, Hughes and Webber (2013)	Empirical	What are the determinants of customers' propensity to adopt or not to adopt computer-based technologies?	Interactivity, benefits and knowledge were found to act as drivers of adoption, while the aspects of human interaction, perceived risks, including privacy and security risks, and lack of trial

			were found to act as inhibitors of adoption.
Garrett, Rodermund, Anderson, Berkowitz and Robb (2014)	Empirical	What are the personal factors that affect the adoption of mobile payment technology by consumers?	Individuals with more positive risk attitudes were more likely to have made a mobile payment. Those who reported making mobile payments were predominantly young, male, educated, minorities with higher than average incomes.
Chowdhury, Patro and Israel (2014)	Empirical	What are the factors affecting the customers' intention to adopt technology-facilitated services (TFS)?	Perceived risk (only privacy and performance) is examined as one of the antecedents of attitude toward technology; however it wasn't found to be a significant predictor.
Kapoor, Dwivedi and Williams (2014)	Conceptual	What are the factors that affect consumers' adoption of mobile innovations?	A theory-based conceptual framework is developed to show the influence of innovation characteristics, including risk, on adoption of mobile innovations.
Ma, Gill and Ying (2015)	Empirical	What is the effect of innovation locus on consumers' risk perceptions and on adoption intentions of really new innovations (RNI)?	Performance risk is a significant mediator between peripheral (vs. core) locus and adoption intentions of RNI.
Slade, Williams, Dwivedi and Piercy (2015)	Empirical	What are the factors affecting non-users' adoption of proximity	Perceived risk was found to negatively influence the

		mobile payments?	intention to adopt proximity MPs.

Prior research has also shown that perceived risk is a major psychological barrier to consumers' adoption of really new products (RNP), and reduced risk perceptions directly enhance adoption likelihood (Herzenstein et al., 2007; Ram and Sheth 1989; Rogers 2003). This study examines perceived risk in the context of service innovations. Specifically, we investigate the effect of each dimension of risk on adoption intentions of RNS. Although several types of perceived risk have been identified in the literature, researchers in marketing discipline seldom used multiple measures of this concept. The objective of this study is to show that each dimension of perceived risk has a distinct effect on adoption intentions of RNS. In the next section, the studies that examine the characteristics of services with respect to perceived risk are reviewed.

Perceived Risk and Services

Earlier empirical research on perceived risk experienced by consumers mostly focused on consumer products (Bettman, 1973; Cox, 1967; Horton, 1976). The perceived risk associated with services became the focus of researchers in the early 1980s, as academics started to distinguish services marketing from goods (Fisk, Brown and Bitner, 1993). It has been argued that consumer evaluation processes differed between goods and services marketing (Zeithaml, 1981) and that specific strategies should be developed when marketing services (Parasuraman, Zeithaml and Berry, 1985). Studies on consumers' perception of risk have indicated that consumers perceive services as riskier than products (Guseman, 1981; Murray and Schlacter, 1990; McDougall and Snetsinger,

1990; Mitchell and Greatorex, 1993); this perception is due to four main characteristics of services - intangibility, heterogeneity, perishability and inseparability.

Research has shown that there is a positive correlation between intangibility and perceived risk (e.g. Murray and Schlacter, 1990; Zeithaml and Bitner, 2000, De Ruyter et al.,2001; Laroche et al., 2004). Because a priori information about the services is inadequate, when compared to products, the risk involved in services tends to be higher (Bebko, 2000). Laroche et al. (2001) developed a three-dimension scale for intangibility including physical intangibility, generality and mental intangibility. Physical intangibility represents the extent to which a good cannot be touched or seen; generality refers to the consumer's difficulty in precisely defining or describing a particular good, and mental intangibility reflects the fact that a good can be physically tangible but difficult to grasp mentally (Laroche et al., 2001; Laroche et al., 2004, p. 374). Later, Laroche et al.'s (2004) study showed the effects of multiple dimensions of intangibility on various types of perceived risk. The study was the first study that takes into account all the dimensions of both intangibility and perceived risk, instead of considering both constructs as unidimensional. The authors found variations in the strength of the relationships between the intangibility dimensions and the risk dimensions in terms of goods vs. services, generic products vs. brands and online vs. offline purchase contexts.

Heterogeneity means that a service is always subject to some variation in performance. Hence, developing realistic standards of performance for services is extremely difficult. The perishability characteristic (services cannot be inventoried) may also cause unsatisfactory service due to under-staffing or over-demand. Hence, the performance of the service may be well below expectations at times. The inseparability

characteristic means that the consumer is personally involved with the purchase and must usually be present when the service is being purchased (Mitchell and Greatorex, 1993; p. 180-181). Also, physical evidence (e.g. store atmosphere) and people (e.g. service employees) involved in the service cannot be separated from the service experience. Hence, social risk is more likely to occur with services because of the service encounter (Mitchell and Greatotex, 1993; Murray and Schlacter, 1990). These characteristics increase the degree of perceived risk in the purchase of services by increasing the uncertainty with the purchase, and accordingly lowering the consumer confidence (Mitchell and Greatorex, 1993; Mitchell, 1999).

The above characteristics of services that are highly related to perceived risk may also cause consumers' resistance to service innovations. However, compared to product innovations, research that focuses on service innovations are relatively scarce (Bagozzi and Kyu-Hyun, 1999; Ellen et al., 1991; Kelijen et al., 2005; Shih and Venkatesh, 2004). This is particularly true with regard to consumer adoption of RNS. To the best of our knowledge, no studies have examined the relationship between risk dimensions and adoption of RNS. Previous studies on really new products/services are discussed in the next section.

Really-New Product/Services

Innovation newness is an important characteristic of innovation adoption. The categorization scheme developed by Booz et al. (1982) shows that new products can include new-to-the-world (really-new) products, new-to-the-firm products, additions to existing product lines, improvements and revisions to existing products, repositionings and cost reductions. Prior research has also distinguished innovations according to the

degree of their newness as really new and incrementally new (Hoeffler, 2003). Hence, innovation newness can be thought as a continuum from incrementally new to really new, which shows to what extent consumers feel "newness" in their own perspective (Kim, Hanh and Yoon, 2015). This study focuses on solely really-new products which are inventions that create a whole new market. Some examples include Polaroid camera, Sony Walkman, Hewlett Packard's laser printer and Rollerblade skates (Cooper, 2001).

Various definitions exist for what makes a product really new depending on chronological, technological or psychological newness (Alexander et al., 2008). In general, RNPs are "innovations that create a new product category or subcategory rather than reallocating market shares within an established one" (Ma et al., 2014, p.102; Moreau et al., 2001). They "attempt to break the mold, in terms of function, design, performance, novelty, or other characteristics that separate them from the pack" (Krieger et al, 2003, p.7). Similarly, Garcia and Calantone (2002) describe really new innovations as discontinuities in technology (e.g. digital cameras vs. film cameras) or discontinuities in the market (i.e. existing technology in a new market, e.g. Sony Walkman vs. other portable cassette recorders).

A RNP creates a new market, relies on new technology, and requires customer learning (Urban, Weinberg and Hauser, 1996). On the other hand, incrementally new products (INP) are characterized as refinements of existing products used by the majority of consumers (Min et al., 2006). In other words, they are innovations without any discontinuities in the technology or the market. An INP is designed to satisfy a felt need and uses an existing technology or refinement of it (Min et al., 2006). For example, while high definition 3-D televisions were RNPs at the time of their initial commercial

introduction, high definition 2-D televisions were INPs. Another example is smart phones with touch screen (Apple iPhone) versus advanced phones with new features such as music player or camera (e.g. Nokia 6300) (Ma et al., 2014).

A study conducted by Min et al. (2006) shows that when a market pioneer starts a new market with a RNP, it experiences major survival challenges. In contrast, market pioneer survival risks are much lower in markets started by an incremental innovation. Likewise, Goldenberg, Lehmann and Mazurski (2001) find that moderately-new-to-market products are more successful than completely-new-to-market products. In another study which examines innovation locus – whether the innovation is integrated with the base product (the core locus) or offered as a detachable accessory (the peripheral locus), Ma et al. (2015) show that offering a really new innovation as a peripheral component leads to higher adoption intentions than offering the same innovation as integrated into the core.

Despite the benefits that are provided by RNPs, consumer acceptance is low because consumers are uncertain about their performance and they are attached to the habits that were built by using old products (Hoeffler, 2003; Gourville, 2006, Castano et al., 2008). For example, Alexander, Lynch and Wang (2008) using a large scale panel data found that consumers are more willing to purchase INPs compared to really new products. In addition, Mukherjee and Hoyer (2001) stated that when a novel attribute is added to the product, the positive evaluation of the new products started to decrease. As previous studies indicate, firms have difficulty to survive in the market with really new innovations, which is caused by consumers' reluctance to adopt them. Hence, this study proposes perceived risk as a major factor for lower adoption intentions.

Research on RNP/S is very limited especially in the consumer behavior literature. Also, most of these studies conduct experiments using RNPs instead of services (e.g. Ma et al., 2015; Ma et al., 2014; Herzenstein et al., 2007). Entertainment and communication technologies as well as durable goods are the mostly used items in the experiments. Studies that use service innovations usually include technology-enabled services such as internet banking or internet shopping (e.g. Walker and Johnson, 2006; Featherman and Pavlou, 2003; Hanafizadeh and Khedmatgozar, 2012). Among those studies, very few of them examine perceived risk's impact on consumers' adoption intentions.

Research has already shown that consumers perceive RNPs as having higher risks than INPs (Min et al., 2006). This study suggests that it is important to examine RNS in terms of risk perceptions since services are perceived as having higher risk than products. Also, studies on RNPs that include risk dimension in their frameworks mostly consider performance risk among all other risk dimensions or have an overall risk construct that does not encompass all risk components. This research aims to examine adoption intentions of RNS by showing the individual effect of each perceived risk.

This study also proposes that not all consumers are affected by perceived risk in the same way when they encounter RNS. Consumers differ in their preferences for stability and also in how much they value being different (Berger and Health, 2007). A psychology theory, namely, regulatory focus, may help to understand how consumers perceive risk, and how their attitudes toward the adoption of innovations change correspondingly, due to their personal characteristics.

Regulatory - Focus Theory

Individual characteristics have pervasive influence on all aspects of perceived-risk processing (Conchar et al., 2004). However, most of the studies focus on perceived risk related to a situation, for example a single product or a product category, rather than a person (Dowling, 1986). This study not only examines the direct effect of each risk dimension on consumer adoption of service innovations, but also investigates the moderating effect of regulatory focus. Among various other personality traits, these two theories are found to be more related to risk perception in terms of innovation adoption (Smith et al., 2014; Ma et al. 2014; Herzenstien et al., 2007; Mandel, 2003).

Regulatory focus theory (RFT) focuses on self-regulation toward an end state and is directed by two motivational systems – promotion focus and prevention focus (Higgins, 1998). The premise of promotion focus is that individuals possess an orientation where the end goal is reached through positive mechanisms. Prevention focus, on the other hand, "manifests itself in the form of avoidance of loss, aversion to risk, or a need for continuous safety" (Smith et al., 2014, p.89). Individuals' regulatory focus affects their decision making in many ways. For example, promotion-focused decision makers "employ advancement tactics, seek accomplishments and exhibit a risky bias, whereas prevention-focused decision makers use precautionary tactics, try to avoid mistakes, and are conservatively biased" (Herzenstein et al., 2007, p.252; Crowe and Higgins, 1997).

Consumers' regulatory focus also guides their product evaluations (Huffman, Ratneshwar and Mick, 2000). Thus, difference in regulatory focus may lead consumers to weigh the needs satisfied by a new product against its costs (Herzenstein et al., 2007). Because new products/services are riskier than existing products/services, promotion-

focused consumers (vs. prevention-focused consumers) may be more willing to take risks and adopt innovations.

CHAPTER 3

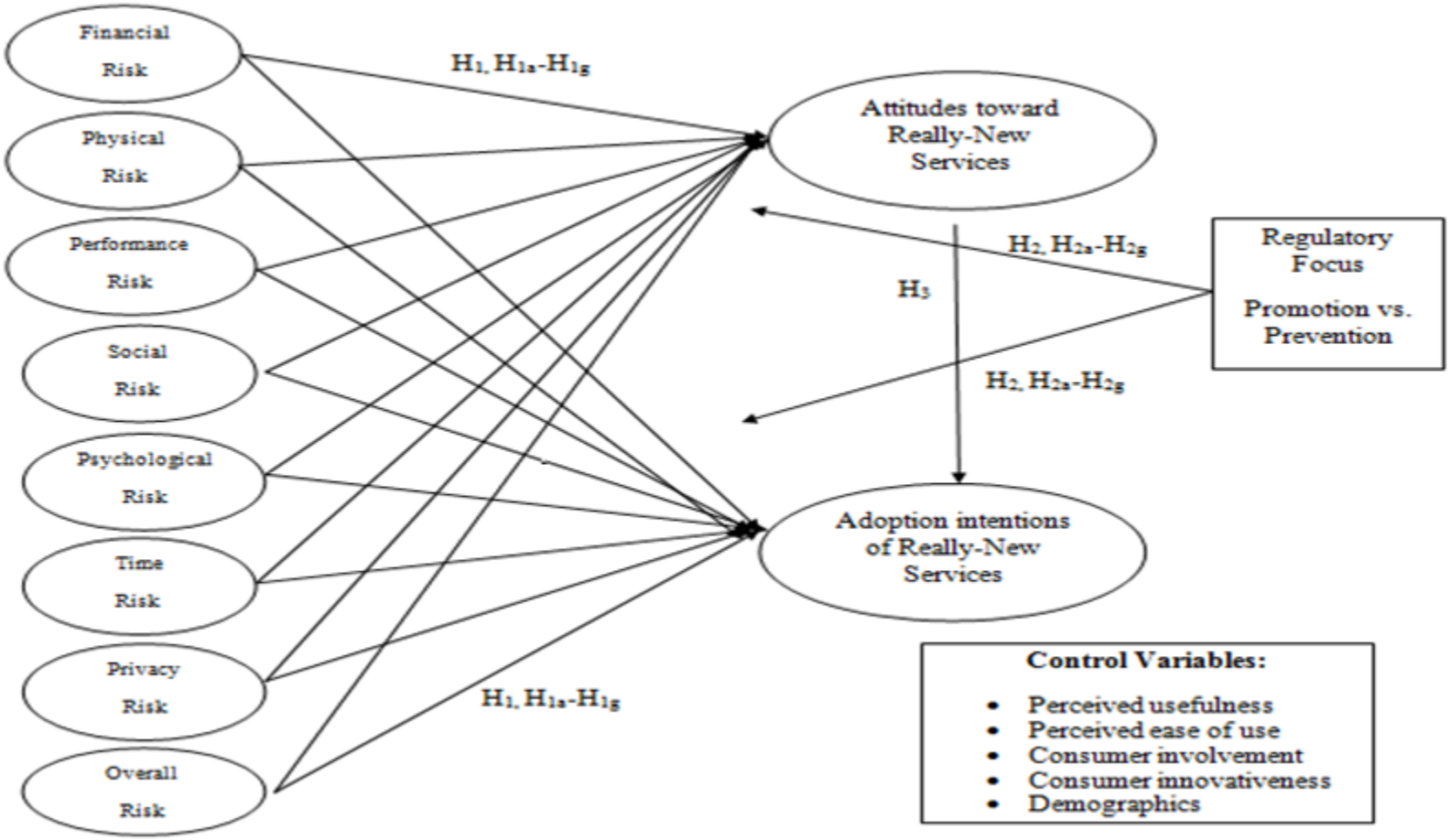
CONCEPTUAL FRAMEWORK

Proposed Research Model

Drawing upon the research discussed in the literature review, I propose a conceptual framework which is developed based on perceived risk theory, theory of reasoned action, technology acceptance model, and regulatory focus theory (Figure 1). This framework is developed to better understand consumer attitudes toward RNS as well as adoption intentions of RNS. Although perceived risk has been used in various studies in different areas, it has never been used as a multidimensional construct in the RNS context. Moreover, regulatory focus theory has not been used in this context to see how it affects the relationship between each component of perceived risk and consumer attitudes toward RNS.

This study hypothesizes that the seven facets of risk, namely, financial risk, performance risk, physical risk, social risk, psychological risk, time risk and privacy risk, contribute to the overall risk perceived by consumers for RNS. The effect of each dimension of perceived risk should be examined in order to thoroughly understand consumers' attitudes toward RNS and their adoption intentions. Also, consumers' regulatory focus should be taken into consideration since consumer characteristics are also influential on attitudes and adoption intentions. Each risk dimension and its proposed effect on the attitudes toward RNS and adoption intentions, and the moderating effect of regulatory focus are discussed in the following sections.

Figure 1: Proposed Research Model of Perceived Risk and Consumer Adoption of Really New Services (RNS)



Research Hypotheses

As mentioned earlier, perceived risk can be defined as the consumers' perception of lack of trust, and the potential negative effects of buying a product/service (Littler and Melanthiou, 2006). Researchers working on perceived risk theory identify perceived risk as the combination of various dimensions. It is argued that the predictive value of each component of perceived risk depends on the product/service class (Gemunden, 1985). Because the first objective of this study is to investigate the effects of dimensions of perceived risk on consumer attitudes toward RNS as well as adoption intentions, each dimension is defined and discussed below in terms of RNS context, along with various examples of service innovations.

Financial risk can be defined as the potential loss of money associated with the purchase (Jacoby and Kaplan, 1972). When consumers feel that monetary cost of adoption is not worth their investment, they may have unfavorable attitudes toward the innovation. Financial risk also includes the potential for financial loss due to fraud since most of the recently developed services have an online service component. For example, when consumers want to use Uber technologies -a transportation company- they must first sign up for Uber mobile app, then they must provide their credit card information which is retained on file. The credit card is charged every time the consumer orders an Uber ride. Here, there is financial risk since consumers may deal with the consequences of disclosing their financial information (e.g. fraud or being overcharged). As such, a high perceived financial risk may discourage consumers from adopting the RNS. Hence,

H_{1a} : Financial risk is negatively related to a) attitude toward RNS, b) adoption intentions of RNS.

Physical risk is the perception that products/services will be harmful to adopters (Jacoby and Kaplan, 1972). Consumers may be worried about their physical well-being and therefore avoid adopting the innovation. Previous research focused on the side effects that may be caused by using new products or new technologies, e.g. cell phone and radiation problems. However, most of the research on service innovations regarding perceived risk do not include the physical risk component. This study argues that low adoption intentions of RNS may also be a consequence of the physical risk that consumers perceive. Alternative accommodation options for travelers that are now popular include services such as Couchsurfing (a platform that brings together a traveler who wants to be a guest at a home and a homeowner who wants to host a traveler) or Workaway (a platform which allows travelers wanting to work voluntarily on projects or activities to contact with hosts) may provide examples of this type of perceived risk. Because travelers stay in the homes of people whom they have only met through the website of the service, being robbed or injured may be the potential risks that may dissuade consumers. Hence, we hypothesize that

H_{1b} : Physical risk is negatively related to a) attitude toward RNS, b) adoption intentions of RNS.

Performance risk, also called functional risk, is the potential loss due to product/service failure after purchase. Consumers may hesitate to adopt innovations because they may be uncertain that they will receive the desired benefits or the product/service will perform well. As mentioned before, Jacoby and Kaplan (1972) found out that performance risk contributes to overall perceived risk more than the other risk dimensions. Also, because most of the studies of really new innovations include

examples of really new products, performance risk is the type of risk which is used the most. However, service innovations should also be considered in terms of performance risk because of the heterogeneity characteristics of services (variation in performance). An example can be Zipcar, car sharing service, which is an alternative to car rentals, or Uber technologies. The condition and performance of cars may vary depending on the cars in Zipcar case or consumer satisfaction due to performance depends on the drivers in the case of Uber. Hence,

H_{1c}: Performance risk is negatively related to a) attitude toward RNS, b) adoption intentions of RNS.

Social risk is the potential loss of consumer's esteem, respect, and/or friendship that are offered by others (Laroche et al., 2004; Murray and Schlacter, 1990). Negative attitude of family, friends or colleagues toward the innovation may demotivate consumers to adopt the service innovations. Also, direct contact with the service employees may also negatively affect some consumers' attitudes. Mitchell and Greatotex (1993) and Murray and Schlacter (1990) indicate that social risk is more likely to occur with services because of the service encounter. An example for social risk may be the adoption of Netflix - a provider of streaming movies and TV series. Because Netflix is a low cost alternative to cable TV, consumers may not want to be viewed as being a low-income person. Another example may be the interactions with Lyft drivers – another alternative transportation service - that may be found too intrusive since drivers tend to have conversations and ask personal questions.

H_{1d}: Social risk is negatively related to a) attitude toward RNS, b) adoption intentions of RNS.

Psychological risk is the nervousness that arises from post-purchase emotions such as regret, disappointment, worry and frustration (Dholakia, 2001). It may also be described as a loss of self-image or self-concept as a result of innovation adoption (Murray and Schlacter, 1990). Also, unwanted anxiety or tension that is caused by new products/services may lead to resistance to innovations. Consumers who are reluctant to change their habits that are built by using old products/services, may want to avoid the anxiety due to trials and errors in the learning process. Stone and Gronhaug (1993) found out that psychological risk correlates with all other types of risk and plays an important mediating role. Thus, the examples that are given for other risk dimensions may also cause psychological risk, such as spending too much time on creating profile to use services or giving personal information to websites, therefore;

H_{1e}: Psychological risk is negatively related to a) attitude toward RNS, b) adoption intentions of RNS.

Time risk relates to the perception that the adoption and the use of the product/service will take too much time (e.g. Stone and Gronhaug, 1993). More specifically, consumers may think that they will spend too much time to learn how to use the innovation. Also, they may not be willing to devote time to solve problems caused by using the innovation. For example, a service innovation, Airbnb, which is an alternative accommodation service, allows travelers to rent a room, apartment or house. To use the service, consumers have to register and create their own online profiles. Every property is associated with a host whose profile includes recommendations by other users, reviews by previous guests and a response rating (Yu, 2011). Consumers have to review each option one by one and check the availability to decide where to stay. All these steps to

choose the accommodation may be perceived as more time consuming than making a reservation at a hotel. Thus,

H_{1f}: Time risk is negatively related to a) attitude toward RNS, b) adoption intentions of RNS.

Privacy risk is the potential loss of control over personal information (e.g. Featherman and Pavlou, 2003). Consumers may worry that their private data may be collected and used without their awareness. Also, they may receive unwanted emails. A service innovation example regarding privacy risk may be use of Cloud - an internet-based storage of documents, photos, contacts etc. Consumers may resist adopting this service to avoid possible consequences such as being hacked. Therefore, I hypothesize that

H_{1g}: Privacy risk is negatively related to a) attitude toward RNS, b) adoption intentions of RNS.

Examining the relationship between overall perceived risk, a combination of all dimensions, and attitudes and adoption intentions is also important to see if the service innovation as a whole is found risky. Because the intangibility of the service increases perceived risk, consumers may have doubts about the service innovation in general. Previous studies show that there is a negative relationship between overall perceived risk and attitudes as well as adoption intentions of service innovations (e.g. Hanafizadeh and Khedmatgozar, 2012; Chowdhury et al., 2014; Luo et al., 2010). Thus we hypothesize that;

H_1: Overall risk is negatively related to a) attitude toward RNS, b) adoption intentions of RNS.

The second objective of this study is to show that not all consumers are influenced by the perceived risk in the same way. Their personal characteristics may affect how they view various types of risk. Hence, regulatory focus is a construct identified in this study as affecting the relationships between perceived risks and attitudes as well as adoption intentions. The moderating effect of this construct will also allow us to see which types of perceived risk are more likely to be affected by regulatory focus.

Depending on consumers' regulatory focus – whether they are promotion-focused or prevention-focused - they may be more or less likely to incorporate risk into service innovations, and accordingly their attitudes and adoption intentions may differ.

H_2: The relationship between overall perceived risk and a) attitude toward RNS, and b) adoption intentions of RNS will be weaker (stronger) with the promotion-focus (prevention-focus) condition.

The effect of regulatory focus on the relationship between each type of risk and attitudes as well as adoption intentions will also be examined in this study. This will allow us to capture the influence of the moderator separately for each relationship.

Consumers who are promotion focused (vs. prevention focused) may be more (less) likely to exhibit higher (lower) adoption intentions although there is financial risk involved in the RNS. Because promotion focused consumers, as opposed to prevention focused consumers, are focused on achieving their goals instead of worrying about the possibility of losses, they may be less sensitive to the risk of losing money. Thus, we hypothesize that

H_{2a}: The relationship between financial risk and a) attitude toward RNS, and b) adoption intentions of RNS will be weaker (stronger) with the promotion-focus (prevention-focus) condition.

Regulatory focus may also be influential in terms of physical risk. Promotion-focused consumers may exhibit less risky bias than prevention focused consumers although they think that there may be a risk of physical harm. Prevention-focused consumers may be more worried about the threats to human life such as accidents, theft or unsafe physical conditions that are associated with using the service. Hence,

H_{2b}: The relationship between physical risk and a) attitude toward RNS, and b) adoption intentions of RNS will be weaker (stronger) with the promotion-focus (prevention-focus) condition.

Promotion-focused consumers may handle performance uncertainty regarding RNS better than prevention-focused consumers. Hence, they may take the performance risk in order to reach their goal through the use of RNS. On the other hand, prevention-focused consumers may postpone adopting the service innovation until they are sure that the service will meet their performance expectations.

H_{2c}: The relationship between performance risk and a) attitude toward RNS, and b) adoption intentions of RNS will be weaker (stronger) with the promotion-focus (prevention-focus) condition.

Regulatory focus may also show how consumers handle social risk differently. Again, promotion-focused consumers may be more willing to take the risk of loss of self-esteem or friendship offered by others since they are more focused on attaining their

goals as opposed to prevention-focused consumers who want to prefer stability in their lives, in this case, a stable self- image or stable relationships with their friends.

H_{2d}: The relationship between social risk and a) attitude toward RNS, and b) adoption intentions of RNS will be weaker (stronger) with the promotion-focus (prevention-focus) condition.

Likewise, the risk of frustration, regret or disappointment may not affect promotion focused consumers in the same way as they affect prevention focused consumers. We expect that promotion focused consumers may be more willing to adopt the innovation despite the possibility of psychological risk.

H_{2e}: The relationship between psychological risk and a) attitude toward RNS, and b) adoption intentions of RNS will be weaker (stronger) with the promotion-focus (prevention-focus) condition.

The perception that using a RNS will take too much time may not influence promotion-focused consumers as negatively as it affects prevention-focused consumers. Prevention-focused consumers may be more reluctant to adopt RNS due to the possibility of time loss. On the other hand, promotion-focused consumers may be more willing to take the time risk in order to reach their goals. Hence,

H_{2f}: The relationship between time risk and a) attitude toward RNS, and b) adoption intentions of RNS will be weaker (stronger) with the promotion-focus (prevention-focus) condition.

Privacy risk may also be more of a concern for prevention-focused consumers than for promotion focused consumers. Although the loss of personal information is an important risk for people in general, promotion-focused consumers may focus more on

the benefits that the innovation will bring as opposed to the risks involved. However, prevention-focused consumers may be more concerned about having control over their personal information as opposed to the benefits the service brings to their lives.

H_{2g}: The relationship between privacy risk and a) attitude toward RNS, and b) adoption intentions of RNS will be weaker (stronger) with the promotion-focus (prevention-focus) condition.

As discussed above, in this study, we show the effect of regulatory focus on the relationships between each type of risk (financial, physical, performance, social, psychological, time and privacy) and attitudes toward RNS and adoption intentions. We also aim to show the positive relationship between the attitudes toward RNS and the adoption intentions.

According to Theory of Reasoned Action, behavior is determined by attitudes and subjective norms (Ajzen and Fishbein, 1980). The relationship between attitudes of consumers and their behavioral intentions has been widely examined and supported (Kim and Hunter, 1993). In innovation adoption literature, researchers mostly found out that consumers who have favorable attitudes toward innovations are more likely to adopt them. Some examples similar to this study context include the study conducted by Lee (2008) that examined the influence of perceived risk on adoption intentions of internet banking and another study conducted by Lee (2012) that investigated the effects of various factors including risk averseness on consumers' intention to use electronic toll collecting system. Both studies indicated that attitude toward a service innovation positively influences the intention to adopt it. Here, we also hypothesize that consumer

attitude toward RNS has a positive relationship with consumers' adoption intentions of RNS.

H_3: Attitude toward RNS is positively related to adoption intention of RNS.

CHAPTER 4

METHODOLOGY

This chapter discusses the methodology of this study. The chapter includes the research design that was used to test the hypotheses, operationalization of the variables, measurement scales, proposed sample characteristics, data collection procedures as well as statistical techniques that were conducted to analyze the data.

Procedure

Pretest

To test the hypotheses, we conducted a pre-test and two studies in which data were collected via Amazon Turk. Online questionnaires that were created using Qualtrics were distributed. The objective of the pretest is to determine which services are perceived to be really new and therefore qualified to be used in the study. RNS were determined through the use of a rating scale that is designed to elicit the newness of an innovation. The respondents were first asked to read the definitions of incrementally new and really new services. They rated each service innovation on a Likert scale. The scale was balanced with (1) being incrementally new and (7) being really new, as (4) being neither incrementally new nor really new. Respondents also had a 'don't know' option in case they had never heard about the innovation. We retained the services with the highest newness scores (really-new services) and lowest newness scores (incrementally new services).

Study 1

Study 1 tests the hypotheses H_1, H_{1a} through H_{1g} and H_3, which show the relationships between perceived risks and attitudes toward RNS and adoption intentions of RNS. The respondents answered the questions according to the RNS retained from the pretest. They also answered the same questions according to the incrementally new services (INS). This allowed us to see the differences between RNS and INC in terms of perceived risk. Different versions of the questionnaires were used, each dealing with one pair of services (RNS and INS) in order to minimize respondent fatigue (Laroche et al., 2004). To reduce the effects that might be caused by pairing, same RNS services were paired with different INC. For example, while in one questionnaire Uber was paired with Moneygram, in another questionnaire it was paired with Google Wallet.

The questionnaires were divided into four parts. The first part includef the questions regarding each type of perceived risk. The second part dealt with the attitudes and adoption intentions. The third part included questions on control variables. The fourth part was included to gather general demographic information about each participant.

Study 2

Study 2 tests the hypotheses H_2, H_{2a} through H_{2g} and H_3 which show the effect of regulatory focus on the relationships between perceived risks and attitudes as well as adoption intentions. The respondents received the same list of RNS and INS and the same questions as in Study 1. In this study, we primed regulatory focus by asking participants in the promotion (prevention) focus condition to take a few minutes to think about their past hopes, aspirations, and dreams (duties, obligations, and responsibilities), and then

write a short paragraph about two of these past hopes, aspirations, and dreams (duties, obligations, and responsibilities). Next, they took a few minutes to think about their current hopes, aspirations, and dreams (duties, obligations, and responsibilities). Then, they wrote a short paragraph about two of these current hopes, aspirations, and dreams (duties, obligations, and responsibilities). This priming was consistent with previous research (Lee and Aaker 2004; Yoon et al. 2012). We also validated the stimuli for regulatory focus by including the regulatory focus scale developed by Higgins et al. (2001) (Yoon et al., 2012).

Measures

We utilized measures from the previous studies that have already been demonstrated as valid and reliable. We adapted the scales to fit the context of our study. The pretest instrument was adapted from Min et al. (2006). For the perceived risk dimensions as well as overall perceived risk, we adapted the scales used in Stone and Gronhaug (1993), Featherman and Pavlou (2003) and Dholakia (2001). Three to five items were employed to measure each risk dimensions. For attitudes toward RNS and adoption intentions of RNS, we used the scales that are used in Dabholkar and Bagozzi's (2002) study. Consumer involvement, consumer innovativeness as well as perceived usefulness and perceived ease of use from TAM were included as control variables. Seven-point Likert or semantic differential scales were used for each measure. Demographic variables included gender, age, education and income. All the scales that were used in the studies can be found in the Appendix.

Sample

The sample size for the pretest was approximately 100 respondents. For Study 1 & 2, the sample size was approximately 450 and 900 respectively. This sample size was important to fulfill the requirements of Structural Equation Modeling (SEM) which was the statistical technique used in this study. We reached the respondents through Amazon Turk. Each respondent received $0.50-$1 for completing the questionnaire.

Statistical Analyses

Structural Equation Modeling (SEM) with Maximum Likelihood was conducted using MPlus (Muthen and Muthen, 2010). SEM with ML is appropriate for this study because it allows for simultaneous estimation for all parameters and equations, which permits more efficient estimation of complicated models (Iacobucci et al., 2007). Also, with the use of SEM, direct and indirect effects of the relationships among latent constructs can be assessed while controlling for measurement errors (Kline, 2010).

Psychometric properties for each research variable were measured using Cronbach's alpha and a first-order confirmatory factor analysis (CFA). Because the research model is theory-driven and not exploratory, CFA, rather than exploratory factor analysis (EFA) was utilized to measure the ability of each item to tap the latent variable.

The hypothesized relationships between latent constructs were tested by examining the significance of each structural path coefficient. The model fit of both measurement and structural models were evaluated with the use of fit measures including chi-square statistics, the Goodness of Fit Index (GFI), Comparative Fit Index (CFI), Normed Fit Index (NFI), Standardized Root Mean Square Residual (SRMR) and Root Mean Square Error of Approximation (RMSEA).

CHAPTER 5

DATA ANALYSES AND RESULTS

Pretest

The pretest includes 27 new services (as shown in Appendix). These new services were determined by asking experts in the marketing area. One hundred nine respondents rated each service from a scale of one (1) to seven (7) ; (1) being incrementally new and (7) being really new, as (4) being neither incrementally new nor really new. The scale had a 'don't know' option as well. Demographics of the pretest are shown in Table 3. The mean scores of each service are shown in Table 4. The services which were not known by at least 90 of the 109 respondents were excluded. The really-new and incrementally new services used in the following studies were determined according to their mean scores. Three services – Netflix, Airbnb and Uber - which had the highest mean scores were selected as really-new services, and three services – Moneygram, Google Wallet, Amazon Prime - which had the lowest mean scores were selected as incrementally-new services. In the next two studies, one really-new service was paired with one incrementally-new service. Hence, there are nine pairs, which are as follows: Netflix-Moneygram, Netflix-Google Wallet, Netflix-Amazon Prime, Airbnb-Moneygram, Airbnb-Google Wallet, Airbnb-Amazon Prime, Uber-Moneygram, Uber-Google Wallet and Uber-Amazon Prime. A paired-sample t-test is conducted for each of the pair to see if there are significant mean differences between the services. The results show that there are significant mean differences within each pair (Table 5).

Table 3: Demographics of the Pretest

Gender		**Frequency**	**Percentage**
	Male	72	66.1
	Female	37	33.9
	Total	**109**	**100**
Age			
	15-24	4	3.7
	25-34	45	41.3
	35-44	33	30.3
	45-54	19	17.4
	55-64	6	5.5
	65+	2	1.8
	Total	**109**	**100**
Education			
	High School	6	5.5
	Some College	25	22.9
	College	65	59.6
	Master's	9	8.3
	Professional	3	2.8
	Other	1	.9
	Total	**109**	**100**
Occupation			
	Working full-time	71	65.1
	Working part-time	24	22.0
	Carer of home, family etc.	2	1.8
	Student	4	3.7
	Temporarily unemployed	4	3.7
	Retired	2	1.8
	Other permanently unemployed	2	1.8
	Total	**109**	**100**
Marital Status			
	Single	63	57.8
	Married	35	32.1

	Widowed	2	1.8
	Divorced	8	7.3
	Separated	1	.9
	Total	**109**	**100**
Annual Income			
	Less than 25,000	37	33.9
	25,001-50,000	37	33.9
	50,001-75,000	19	17.4
	75,001-100,000	11	10.1
	100,001-125,000	5	4.6
	Total	**109**	**100**

Table 4: Mean Scores of the Services

Service	**Mean**	**Sample Size**
Netflix	4.64	109
Airbnb	4.59	106
Uber	4.57	108
Skype	4.36	108
Paypal	4.35	109
Amazon	4.15	107
Google	4.04	108
Dropbox	4	96
Snapchat	3.98	105
Cloud	3.84	98
Facebook	3.83	109
Facetime	3.83	92
Instagram	3.77	106

Pandora	3.75	104
Amazon Prime	3.64	107
Google Wallet	3.25	103
Moneygram	2.95	92

Table 5: Paired Sample T-Test Results

Really-New and Incrementally-New Service Pairs	**Significance**
Netflix - Moneygram	0.000*
Netflix - Google Wallet	0.000*
Netflix - Amazon Prime	0.000*
Airbnb - Moneygram	0.000*
Airbnb - Google Wallet	0.000*
Airbnb - Amazon Prime	0.000*
Uber - Moneygram	0.000*
Uber - Google Wallet	0.000*
Uber - Amazon Prime	0.002**

*significant at 0.001 level

** significant at 0.05 level

Study 1

Study 1 was conducted to test the hypotheses H_1, H_{1a} through H_{1g} and H_3, which show the relationships between perceived risks and attitudes toward RNS and adoption intentions of RNS. The respondents were asked to answer the questions according to one really-new and one incrementally-new service (as shown in Table 5). Each of 9 groups includes 50-55 respondents. Thus, a total of 469 respondents completed the survey. The demographics of Study 1 are shown in Table 6. This method was used to eliminate the respondent fatigue as well as any order effects. Although all hypotheses in this study are developed with respect to really-new services, incrementally-new services are included in the study as well to compare the findings. The data for really-new services (Uber, Airbnb and Netflix) were pooled for the analyses. Likewise, the data for incrementally-new services (Moneygram, Amazon Prime and Google Wallet) were pooled and the same analyses were conducted.

As a manipulation check, pretest question was also included in the study. Hence, respondents were asked to rate each service from a scale of one (1) to seven (7) ; (1) being incrementally new and (7) being really new, as (4) being neither incrementally new nor really new. The results confirm the difference between 'the newness' of services. More specifically, the results show that the overall mean score of really-new services for Study 1 is 4.3 while the overall mean score for incrementally-new services is 3.8, and they are significantly different from each other ($p< 0.05$).

Table 6: Demographics of Study 1

TABLE 6:			
Gender		**Frequency**	**Percentage**
	Male	220	46.1
	Female	249	53.9
	Total	**469**	**100**
Age			
	15-24	49	10.1
	25-34	194	41.2
	35-44	123	26.5
	45-54	63	13.4
	55-64	29	6.2
	65+	11	2.6
	Total	**469**	**100**
Education			
	High School	50	10.8
	Some College	125	26.8
	College	214	45.4
	Master's	59	12.9
	Professional	8	1.8
	Other	13	2.4
	Total	**469**	**100**
Occupation			
	Working full-time	298	63.9
	Working part-time	67	14.4
	Carer of home, family etc.	49	9.5
	Student	17	3.6
	Temporarily unemployed	16	3.1
	Retired	11	2.6
	Other permanently unemployed	11	2.8
	Total	**469**	**100**
Marital Status			
	Single	204	43.6

	Married	213	45.1
	Widowed	6	1.3
	Divorced	40	8.8
	Separated	6	1.3
	Total	**469**	**100**
Annual Income			
	Less than 25,000	122	26
	25,001-50,000	146	31.1
	50,001-75,000	122	26
	75,001-100,000	51	10.9
	100,001-125,000	28	6
	Total	**469**	**100**

Measurement Model:

Prior to testing the structural model with the hypothesized relationships, psychometric properties for each latent construct were measured by using Cronbach's alpha and a first-order confirmatory factor analysis (CFA). Also, during the evaluation of the measurement model, convergent validity, discriminant validity, and model fit were assessed.

Convergent validity was assessed by the 1) significance of the loadings between observed variables and their corresponding latent constructs as well as size of the factor loadings, 2) the reliability of each of the measurement scales which were measured by Cronbach's alpha and Composite Reliability (CR), and 3) the average variance extracted (AVE) by each construct (Hu et al., 2004). First, as shown in Table 7, the results of the assessment of convergent validity showed that all observed variables were loaded onto their corresponding latent construct. Also, all standardized factor loadings exceeded .5 which is a rule of thumb for the loadings, and most of them are higher than the ideal

value of .7 (Hair et al., 2010). This shows that the items of the constructs shared a high proportion of variance in common.

Next, the reliability analysis on each of the measurement scales showed that Cronbach's alphas of all scales are greater than 0.70, which is an indicator of internal consistency. The composite reliability of each construct also exceeded the suggested acceptable benchmark of above 0.70 (Hair et al., 2010). Finally, all AVE values which were computed as the total of all squared standardized factor loadings divided by the number of items, were well above recommended 0.50 level. All these results suggested an adequate convergence for the measurement model (Table 7).

Discriminant validity showed the extent to which a construct is distinct from other constructs. To assess discriminant validity, the amount of variance captured by the construct and the shared variance with other constructs are compared using a correlation matrix. If the levels of square root of the average variance extracted (AVE) for each construct are greater than the correlation between that construct and other constructs, it provides evidence for discriminant validity (Fornell and Larcker, 1981). In Table 8, AVEs are reported in the diagonal elements in bold. The comparison between the diagonal and non-diagonal elements shows that AVEs for any respective construct is greater than the correlations shown below them. This suggests that there is no multicollinearity problem and that the discriminant validity is achieved.

The fourteen-factor CFA model was examined using Mplus. The model including dependent, independent and control variables exhibited an adequate fit with the data ($\chi 2$ = 4597.747, d.f. = 1504; CFI = .896; TLI = 0.886; SRMR = .066; RMSEA = 0.067). The RMSEA and the SRMR were both stronger than the recommended cutoffs of less than

0.10 (Brown and Cudeck, 1993) and less than 0.08 (Hu and Bentler, 1999). CFI and TLI values for these statistics range between 0.0 and 1.0 with values closer to 1.0 indicating good fit. Although, a value of CFI ≥0.90 is recognized as indicative of good fit (Hu and Bentler, 1999), our CFI and TLI results are close to 0.90, showing an adequate fit. Overall, the results of CFA measurement model show that the items are reliable and measure their respective constructs, and the measurement model is consistent with the data.

Table 7: Summary of Measurement Model Statistics for Really-New Services

Construct	Item	Std*	SE*	t-value	Cronbach's Alpha	Composite Reliability	AVE
Dependent Variables							
Attitudes toward RNS	Att1	0.87	0.01	47.48	0.88	0.88	0.72
	Att2	0.77	0.02	27.67			
	Att3	0.90	0.01	56.65			
Adoption Intention of RNS	Int1	0.94	0.01	97.07	0.96	0.94	0.85
	Int2	0.96	0.00	116.03			
	Int3	0.86	0.01	52.50			
Independent Variables							
Overall Perceived Risk	Ove1	0.85	0.01	46.61	0.95	0.94	0.73
	Ove 2	0.81	0.02	35.67			
	Ove 3	0.87	0.01	54.44			
	Ove 4	0.86	0.01	50.54			
	Ove 5	0.85	0.01	46.68			
	Ove 6	0.89	0.01	59.62			
Financial Risk	Fin1	0.79	0.02	29.32	0.82	0.83	0.56
	Fin2	0.56	0.04	12.24			
	Fin3	0.83	0.02	34.36			
	Fin4	0.78	0.02	28.49			
Physical Risk	Phy1	0.86	0.01	46.41	0.92	0.91	0.78
	Phy 2	0.91	0.01	65.18			
	Phy 3	0.87	0.01	47.77			
Performance	Per1	0.89	0.01	58.47	0.92	0.96	0.76

Risk							
	Per2	0.88	0.01	54.53			
	Per3	0.87	0.01	52.49			
	Per4	0.84	0.02	42.62			
Social Risk	Soc1	0.76	0.02	27.41	0.87	0.89	0.68
	Soc2	0.89	0.01	52.75			
	Soc3	0.87	0.01	44.71			
	Soc4	0.77	0.02	27.48			
Psychological Risk	Psy1	0.90	0.01	71.52	0.94	0.94	0.82
	Psy2	0.93	0.00	101.74			
	Psy3	0.89	0.01	67.57			
	Psy4	0.87	0.01	55.94			
Time Risk	Time1	0.84	0.02	43.31	0.89	0.91	0.78
	Time2	0.93	0.01	83.263			
	Time3	0.87	0.01	51.17			
Privacy Risk	Pri1	0.88	0.01	50.76	0.89	0.89	0.68
	Pri2	0.91	0.01	62.30			
	Pri3	0.84	0.02	39.80			
	Pri4	0.65	0.03	17.09			
Control Variables							
Consumer innovativeness	Inn1	0.73	0.03	19.78	0.82	0.82	0.48
	Inn2	0.60	0.04	13.20			
	Inn3	0.65	0.04	15.38			
	Inn4	0.77	0.03	22.63			
	Inn5	0.69	0.04	17.61			
Consumer involvement	Inv1	0.92	0.01	94.33	0.97	0.95	0.79
	Inv2	0.68	0.03	20.29			
	Inv3	0.93	0.00	105.85			
	Inv4	0.94	0.00	114.87			
	Inv5	0.93	0.00	100.79			
Perceived usefulness	PU1	0.77	0.04	16.81	0.91	0.87	0.59
	PU2	0.72	0.04	14.84			
	PU3	0.84	0.02	36.19			
	PU4	0.70	0.05	14.14			
	PU5	0.78	0.04	19.45			
Perceived ease of use	PE1	0.88	0.01	60.05	0.95	0.95	0.79
	PE1	0.91	0.01	72.67			
	PE1	0.90	0.01	65.79			
	PE1	0.88	0.01	59.30			

	PE1	0.86	0.01	48.86			
*Std refers to standardized coefficient **SE refers to standard error All coefficients are significant at ρ <0.01							

Table 8: Correlation Matrix for Really-New Services

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Att	**0.85**													
2. Int	0.69	**0.92**												
3. Ove	-.56	-.56	**0.85**											
4. Fin	-.56	-.53	.73	**0.75**										
5. Phy	-.43	-.44	.77	.57	**0.88**									
6. Per	-.57	-.53	.75	.73	.66	**0.87**								
7. Soc	-.32	-.25	.66	.58	.58	.56	**0.82**							
8. Psy	-.52	-.49	.85	.60	.76	.70	.70	**0.90**						
9. Time	-.41	-.39	.79	.66	.66	.67	.76	.78	**0.88**					
10. Pri	-.36	-.35	.73	.68	.60	.63	.50	.58	.62	**0.82**				
11. Inn	-.01	-.90	.10	.03	.06	.09	.02	.10	.04	.03	**0.69**			
12. Inv	.58	.76	-.45	-0.45	-.38	-.50	-.14	-.38	-.28	-.34	-.00	**0.89**		
13. PU	.56	.58	-.44	-.48	-.27	-.46	-.15	-.38	-.33	-.31	-.01	.64	**0.76**	
14. PE	.59	.60	-.63	-.57	-.50	-.59	-.49	-.58	-.63	-.44	-01	.50	.53	**0.88**

Note: Att =Attitude toward RNS, Int = Adoption Intention of RNS, Ove = Overall Risk, Fin = Financial Risk, Phy = Physical Risk, Per = Performance Risk, Soc = Social Risk, Psy = Pscyhological Risk, Time = Time Risk, Pri = Privacy Risk, Inn = Innovativeness, Inv = Involvement, PU = Perceived Usefulness, PE = Perceived Ease of Use

Structural Model

After examining the CFA model, the structural model is evaluated and the significance of each path coefficient in the structural model is examined to test the hypotheses H_1, H_{1a} through H_{1g}, and H_3. The overall model fit measures indicated acceptable agreement with the covariance in the data ($\chi 2$ =4597.747, d.f. = 1504; CFI =

0.896; TLI = 0.886; SRMR = .066 and RMSEA = 0.067). The results of the hypothesis testing H_1 , H_{1a} –H_{1g}, H_2 appear in Table 9.

Table 9: Hypotheses Testing For Study 1

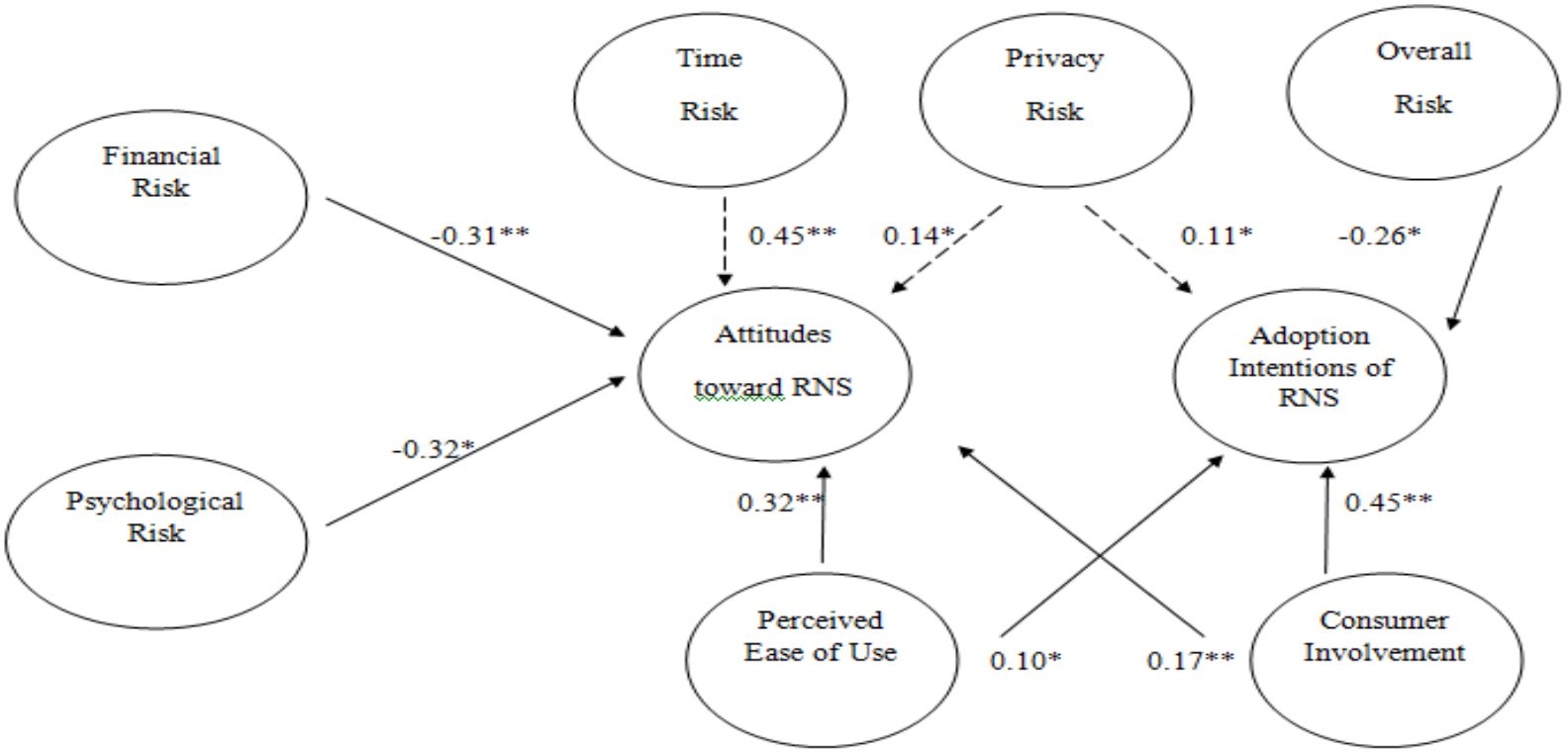
Constructs	Direction	Constructs	Standardized Estimate	SE	t-value	p	Hypotheses	Conclusion
Attitude	<--------	Overall risk	-0.19	0.14	-1.36	0.17	1a	Not supported
Attitude	<--------	Financial risk	-0.31	0.11	-2.85	0.00	1aa	**Supported**
Attitude	<--------	Physical risk	0.07	0.08	0.94	0.34	1ba	Not supported
Attitude	<--------	Performance risk	-0.14	0.08	-1.71	0.08	1ca	Not supported
Attitude	<--------	Social risk	0.03	0.08	0.39	0.69	1da	Not supported
Attitude	<--------	Psychological risk	-0.32	0.13	-2.40	0.01	1ea	**Supported**
Attitude	<--------	Time risk	0.45	0.12	3.55	0.00	1fa	Not Supported*
Attitude	<--------	Privacy risk	0.14	0.06	2.35	0.01	1ga	Not Supported*
Intention	<--------	Overall risk	-0.26	0.10	-2.46	0.01	1b	**Supported**
Intention	<--------	Financial risk	-0.15	0.08	-1.80	0.07	1ab	Not supported
Intention	<--------	Physical risk	0.00	0.06	0.03	0.96	1bb	Not supported
Intention	<--------	Performance risk	0.10	0.06	1.73	0.08	1cb	Not supported
Intention	<--------	Social risk	0.10	0.06	1.63	0.10	1db	Not supported
Intention	<--------	Psychological risk	-0.01	0.10	-0.15	0.87	1eb	Not supported
Intention	<--------	Time risk	0.08	0.10	0.83	0.40	1fb	Not supported
Intention	<--------	Privacy risk	0.11	0.04	2.27	0.02	1gb	Not supported
Intention	<--------	Attitude	0.33	0.05	5.98	0.00	3	**Supported**

*In the opposite direction

As shown in Table 9, the results of hypotheses testing indicate that there are statistically significant relationships between attitudes toward RNS and financial risk, psychological risk, time risk, and privacy risk. However, only the relationships between attitudes and financial risk and psychological risk are in the predicted negative direction. Also, there is a significant relationship between adoption intentions and overall risk as well as privacy risk. Again, only overall risk is in the predicted negative direction. In addition, the results show that adoption intentions are fully mediated by attitudes when there is financial and psychological risk.

Control variables including, consumer innovativeness, consumer involvement, perceived usefulness, perceived ease of use and perceived ease of use are also included in the analysis. As recommended by Kock (2011), control variables are included in the study as the independent variables with direct links to the dependent variables (attitudes and adoption intention). When there are multiple control variables that are added to multiple dependent variables, average path coefficients and model fit indices are artificially reduced (Kock, 2011). This may explain the relatively lower fit indices of the study. The results show that for really new services, perceived ease of use and involvement have positive relationships with attitudes and adoption intentions. Demographics have no effect on neither attitudes nor adoption intentions. Hence, they are excluded from the further analyses. Figure 2 shows only the statistically significant paths of the conceptual model.

Figure 2: Significant Paths for Really-New Services



Notes: **path significant at .01 level, * path significant at .05 level, dashed lines show the significant path coefficients that are not in the expected direction

Further analyses are also conducted to see the differences between really-new services and incrementally-new services. The incrementally-new services data also show convergent and discriminant validity. The data were analyzed the same way using Mplus. The overall model fit measures indicated acceptable agreement with the covariance in the data ($\chi 2$ =4135.423, d.f. = 1504; CFI = 0.911; TLI = 0.902; SRMR = .058 and RMSEA = 0.067). The results show that only financial risk has a negative statistically significant relationship with attitudes toward incrementally new services. Also, only privacy risk and performance risk have a significant relationship with adoption intentions of incrementally new services. However, only performance risk is in the expected negative direction. Table 10 shows the comparison between the path coefficients between really-new services model and incrementally new services model.

Table 10: Comparison of Structural Model Results

Construct	Direction	Construct	**Really-New Services**	**Incrementally-New Services**
Attitude	<---------	Overall risk	-0.19	-0.02
Attitude	<---------	Financial risk	-0.31**	-0.17**
Attitude	<---------	Physical risk	0.07	0.06
Attitude	<---------	Performance risk	-0.14	-0.11
Attitude	<---------	Social risk	0.03	0.00
Attitude	<---------	Psychological risk	-0.32*	-0.16
Attitude	<---------	Time risk	0.45**	0.17
Attitude	<---------	Privacy risk	0.14*	0.04
Intention	<---------	Overall risk	-0.26*	-0.14
Intention	<---------	Financial risk	-0.15	0.01
Intention	<---------	Physical risk	-0.01	0.00
Intention	<---------	Performance risk	0.10	-0.10*
Intention	<---------	Social risk	0.10	-0.01
Intention	<---------	Psychological risk	-0.01	0.00
Intention	<---------	Time risk	0.08	0.13

Intention	<---------	Privacy risk	0.11*	0.12*
Intention	<---------	Attitude	0.33**	0.31**
* coefficients are significant at ρ <0.05 **coefficients are significant at ρ <0.01				

Study 2

Study 2 tests the hypotheses H_2, H_{2a} through H_{2g} and H_3 which show the effect of regulatory focus on the relationships between perceived risks and attitudes as well as adoption intentions. The respondents receive the same list of RNS and INS (nine pairs) and the same questions as in Study 1. In this study, respondents were primed either with promotion or prevention focus for each service pair. Hence, there were 18 groups, each including 50 respondents. This method is used again as in Study 1 to reduce respondent fatigue and to make sure that there are no order effects. The demographics of Study 2 are shown in Table 11.

The pretest question is also included in the study 2 as a manipulation check. Hence, respondents were asked to rate each service from a scale of one (1) to seven (7); (1) being incrementally new and (7) being really new, as (4) being neither incrementally new nor really new. The results confirm the difference between 'the newness' of services. More specifically, the results show that the overall mean score of really-new services for Study 1 is 4.3 while the overall mean score for incrementally-new services is 3.9, and they are significantly different from each other ($p< 0.05$).

Table 11: Demographics of Study 2

Gender		**Frequency**	**Percentage**
	Male	414	45.8
	Female	486	54.2
	Total	**900**	**100**
Age			
	15-24	94	10.4
	25-34	381	42.3
	35-44	192	21.3
	45-54	137	15.2
	55-64	66	7.5
	65+	30	3.3
	Total	**900**	**100**
Education			
	High School	82	9
	Some College	235	26.1
	College	424	47.1
	Master's	117	13
	Professional	32	3.5
	Other	10	1
	Total	**900**	**100**
Occupation			
	Working full-time	500	55.5
	Working part-time	162	18
	Carer of home, family etc.	112	12.4
	Student	47	5.2
	Temporarily unemployed	30	3.4
	Retired	26	2.9
	Other permanently unemployed	23	2.6
	Total	**900**	**100**
Marital Status			
	Single	390	43.6
	Married	405	45.5

	Widowed	11	1.4
	Divorced	67	7.6
	Separated	17	1.9
	Total	**900**	**100**
Annual Income			
	Less than 25,000	235	26.1
	25,001-50,000	325	36.1
	50,001-75,000	190	21.2
	75,001-100,000	114	12.6
	100,001-125,000	36	4
	Total	**900**	**100**

The data for really-new services (Uber, Airbnb and Netflix) with promotion-focus and prevention-focus were pooled separately for the analyses. Each data set has approximately 450 respondents. Each data set is examined in terms of convergent and discriminant validity and is proved to be eligible to conduct structural equation modeling. The overall model fit measures indicated acceptable agreement with the covariance in the promotion-focus data set ($\chi 2$ =4414.104, d.f. = 1504; CFI = 0.890; TLI = 0.870; SRMR = .058 and RMSEA = 0.066) as well as prevention focus data set ($\chi 2$ =4110.922, d.f. = 1504; CFI = 0.914; TLI = 0.906; SRMR = .07 and RMSEA = 0.078). Table 12 shows the comparison of priming effects. The results indicate that priming promotion or prevention-focus makes a difference in terms of overall risk and performance risk. While promotion-focus attenuates the effects of performance risk and overall risk on the attitudes toward RNS, prevention-focus intensifies the effects of the same risks on the attitudes. In addition, the effect of attitudes on adoption intentions are found to be statistically significant for both conditions.

Table 12: Hypotheses Testing for Study 2

Construct	Direction	Construct	No priming n=469	Promotion-focused n=447	Prevention-focused n=448	Hypotheses	Conclusion
Attitude	<---------	Overall risk	-0.19	-0.02	-0.34*	2a	**Supported**
Attitude	<---------	Financial risk	-0.31**	-0.23	-0.13	2aa	Not supported
Attitude	<---------	Physical risk	0.07	0.26**	0.06	2ba	Not supported
Attitude	<---------	Performance risk	-0.14	-0.1	-0.22**	2ca	**Supported**
Attitude	<---------	Social risk	0.03	-0.33**	0.02	2da	Not supported
Attitude	<---------	Psychological risk	-0.32*	-0.01	-0.08	2ea	Not supported
Attitude	<---------	Time risk	0.45**	-0.03	0.18*	2fa	Not supported
Attitude	<---------	Privacy risk	0.14*	0.13	0.05	2ga	Not supported
Intention	<---------	Overall risk	-0.26*	-0.37**	-0.26*	2b	Not supported
Intention	<---------	Financial risk	-0.15	-0.17*	-0.05	2ab	Not supported
Intention	<---------	Physical risk	-0.01	0.1	-0.01	2bb	Not supported
Intention	<---------	Performance risk	0.10	0.12*	0.11	2cb	Not supported
Intention	<---------	Social risk	0.10	0.09	0.09	2db	Not supported
Intention	<---------	Psychological risk	-0.01	-0.09	-0.02	2eb	Not supported
Intention	<---------	Time risk	0.08	0.01	0.04	2fb	Not supported
Intention	<---------	Privacy risk	0.11*	0.27**	0.14*	2gb	Not supported
Intention	<---------	Attitude	0.33**	0.27**	0.32**	3	**Supported**

**path significant at .01 level, * path significant at .05 level

Likewise, the data for incrementally-new services (Moneygram, Amazon Prime and Google Wallet) for promotion-focus and prevention-focus were pooled separately. Although hypotheses of Study 2 were related to really-new services, the data of incrementally-new services were also analyzed to compare the results with really-new services. Structural equation modeling was conducted to the each data set and the results are compared. Table 13 compares the results of four conditions (Really-new service-promotion, really-new service prevention, incrementally-new service promotion and incrementally-new service prevention). The results show that unlike really-new services, promotion-focus attenuates the effect of financial risk on the attitudes toward INS,

whereas prevention-focus intensifies the effect of financial risk on the attitudes. Moreover, promotion-focus attenuates the effect of overall risk on the adoption intentions of INS and prevention-focus intensifies the effect of overall risk on the adoption intentions. Again, the effect of attitudes on adoption intentions is statistically significant for both conditions.

Table 13: Comparison of Structural Model Results of Really-New and Incrementally-New Services for Regulatory Focus Conditions

Construct	**Direction**	**Construct**	**Really-New**		**Incrementally-New**	
			Promotion	**Prevention**	**Promotion**	**Prevention**
			n=447	**n=448**	**n=361**	**n=324**
Attitude	<---------	Overall risk	-0.02	-0.34*	0.09	0.03
Attitude	<---------	Financial risk	-0.23	-0.13	-0.06	-0.17**
Attitude	<---------	Physical risk	0.26**	0.06	0.16	-0.14
Attitude	<---------	Performance risk	-0.1	-0.22**	-0.11	-0.08
Attitude	<---------	Social risk	-0.33**	0.02	-0.08	0.14
Attitude	<---------	Psychological risk	-0.01	-0.08	-0.13	-0.09
Attitude	<---------	Time risk	-0.03	0.18*	-0.07	0.01
Attitude	<---------	Privacy risk	0.13	0.05	-0.01	-0.08
Intention	<---------	Overall risk	-0.37**	-0.26*	-0.22	-0.29**
Intention	<---------	Financial risk	-0.17*	-0.05	-0.15**	-0.08
Intention	<---------	Physical risk	0.10	-0.01	-0.06	0.17
Intention	<---------	Performance risk	0.12*	0.11	0.12	0.02
Intention	<---------	Social risk	0.09	0.09	0.06	-0.05
Intention	<---------	Psychological risk	-0.09	-0.02	0.07	0.17
Intention	<---------	Time risk	0.01	0.04	0.08	-0.01
Intention	<---------	Privacy risk	0.27**	0.14*	0.10	0.14*
Intention	<---------	Attitude	0.27**	0.32**	0.48**	0.33**

**path significant at .01 level, * path significant at .05 level

CHAPTER 6

DISCUSSION

This study examined the influence of various types of perceived risk on the attitudes toward really-new services and on the adoption intentions of really-new services. The study accomplished three main objectives. First, most of the research in the innovation literature was product-focused. This study focused solely on service innovations to show the differences in terms of perceived risk, attitudes and adoption intentions. Second, there was limited research examining perceived risk as a multidimensional construct. Instead of using perceived risk as a unidimensional construct as in most of the innovation studies, this study included seven different types of perceived risk as well as an overall risk construct to see the individual effects of specific risks as well as the effect of overall perceived risk on the attitudes and adoption intentions. Third, consumer characteristics that affect the relationship between perceived risks and attitudes and adoption intentions have not been included in most of the innovation studies. Derived from Regulatory Focus Theory, this study showed the effect of promotion-focus vs. prevention focus on the relationships between each type of perceived risk and attitudes as well as adoption intentions. Although hypotheses were developed to see the influence of perceived risk in really-new services context, data on incrementally-new services was also collected and analyzed to see the key differences between really-new and incrementally-new services regarding perceived risk, attitudes and adoption intentions.

One pretest and two studies were conducted to test the hypotheses of the study. The pretest allowed us to find out which services are perceived as really-new and which services are perceived as incrementally-new. Three really-new (Netflix, Airbnb and Uber) and three incrementally-new services (Moneygram, Google Wallet and Amazon Prime) were included in the next two studies. To eliminate respondent fatigue, one really-new and one incrementally-new service were paired and the questionnaires were developed accordingly. Also, to eliminate the effect of pairing, each really-new service was paired with each incrementally-new service. Hence, for Study 1, nine different versions of the questionnaire were developed including nine pairs of services (Netflix-Moneygram, Netflix-Google Wallet, Netflix-Amazon Prime, Airbnb-Moneygram, Airbnb-Google Wallet, Airbnb-Amazon Prime, Uber-Moneygram, Uber-Google Wallet and Uber-Amazon Prime). For Study 2, each pair included one of the two priming conditions – promotion focus or prevention focus. Hence, eighteen different versions of questionnaires were developed for Study 2.

Discussion on Study 1 results

Study 1 was conducted to test the hypotheses H_1, H_{1a} through H_{1g} and H_3, which show the relationships between perceived risks and attitudes toward RNS and adoption intentions of RNS. The results of the confirmatory factor analyses, assessment of model fit as well as the evaluation of convergent and discriminate validity showed that the data is eligible to conduct Structural Equation Modeling (SEM). Findings of SEM, in which the hypothesized relationships were tested, showed that, for really-new services, financial risk and psychological risk are negatively related to attitudes, and only overall risk is

negatively related to adoption intentions. Also, time risk and privacy risk are found to be positively related to attitudes and adoption intentions.

These findings point out important insights. First, this study showed that it is important to break overall risk down to specific types of risks to see the effect of each type of risk on attitudes and adoption intentions. For really new services, two risks - financial risk and psychological risk - stand out among the other types of risks. Financial risk is defined as the potential loss of money associated with the purchase (Jacoby and Kaplan, 1972). The findings show that when consumers feel that monetary cost of adoption is not worth their investment, they have unfavorable attitudes toward the really-new services. Financial risk also includes the potential for financial loss due to fraud. Because all really-new services included in the study have an app and/or website that one has to sign and provide your credit/debit card information to use that service, it is expected for consumers to perceive financial risk when they use or consider to use these services.

Next, psychological risk is the nervousness that arises from post-purchase emotions such as regret, disappointment, worry and frustration (Dholakia, 2001). An unwanted anxiety or tension that is caused by new services may lead to resistance to service innovations. Hence, Study 1 shows that psychological risk also affects the attitudes negatively. Especially, consumers who are reluctant to change their habits that are built by using old services, may want to avoid the anxiety due to trials and errors in the learning process. Even the consumers who are already using the service may feel anxiety or tension every time they use that service, and this may lead to unfavorable attitudes. Stone and Gronhaug (1993) found out that psychological risk correlates with all

other types of risk and plays an important mediating role. This may explain the important role of psychological risk on attitudes. Although this study did not test the model using psychological risk as a mediator, future studies may include psychological risk as a mediator between attitudes and other types of risks to see if other risks are related to attitudes through psychological risk. However, these two risks are found not to affect adoption intentions negatively. When it comes to adoption intentions, people consider the risk of the service in general. Hence, if the service as a whole is found risky, they have low adoption intentions. This is also an important finding of this study, in that it shows really-new services, consumers evaluate the combined effect of all types of risk when they consider adopting the service.

The findings also clearly indicate that the other types of risks – physical risk, performance risk, social risk – do not have a negative effect on attitudes as well as adoption intentions for really-new services. Surprisingly, time risk and privacy risk are found to be positively related to attitudes as well as adoption intentions. Although this result is contradictory, it may mean that people have favorable attitudes and high adoption intentions for really-new services regardless of high time and privacy risk. Consumers may expect really-new services to be time consuming or to require too much time to learn how to use them. Similarly, they may also expect that really-new services have the risk of potential loss of control over personal information (e.g. Featherman and Pavlou, 2003). However, these expectations do not negatively affect their attitudes toward these services or they do not hold themselves back from adopting these services although they perceive time and privacy risk.

Another finding of the study is the link between attitudes and adoption intentions. This finding is not surprising since many other studies in the innovation adoption literature show the mediating effect of attitudes on adoption intentions (Kim and Hunter, 1993; Lee, 2008; Lee, 2012). This study also showed that there is a full mediation between financial risk and adoption intentions and psychological risk and adoption intentions through attitudes. Hence, these two risks first affect the attitudes negatively and then attitudes lead to low adoption intentions. However, this study also indicated that attitudes do not mediate the relationship between overall risk and adoption intentions. Overall risk has a direct link to adoption intentions of really-new services. More specifically, high overall risk directly lowers the adoption intentions.

This study included many control variables such as demographics, consumer involvement, consumer innovativeness, and two variables of Technology Acceptance Model- perceived ease of use and perceived usefulness - to make sure that no other factors have an effect on the proposed model. The results showed that demographics, consumer innovativeness and perceived usefulness have no effect on attitudes and adoption intentions. However, consumer involvement and perceived ease of use are positively related to both attitudes and adoption intentions in the really-new services context. This is also an important finding of this study, showing that these two variables should be taken into consideration while testing attitudes and adoption intentions in this context. Future studies should definitely include these variables as control variables. Moreover, these variables may also be included in the models as moderators, and their effect on the relationships between the types of perceived risks and attitudes as well as adoption intentions may be examined.

We conducted further analyses for Study 1 to see the differences between really-new and incrementally-new services. The same model was tested using structural equation modeling with incrementally-new services data set. This allowed us to compare and contrast the findings for really-new and incrementally-new services. The main similarity is that financial risk has also a negative relationship with the attitudes toward incrementally-new services just like in really-new services context. Again, there is a full mediation between financial risk, attitudes and adoption intentions. Financial risk affects the attitudes negatively, and attitudes, in turn, lower the adoption intentions. However, this time, psychological risk did not show any negative effect on attitudes. This finding shows that people either do not feel anxious or nervous about using incrementally-new services, or although they feel nervous, this does not affect their attitudes toward these services. Hence, psychological risk is found out as the key difference between really-new and incrementally new services regarding the attitudes.

Furthermore, performance risk is found to be negatively related to adoption intentions of incrementally-new services, whereas overall risk was the only influential factor on adoption intentions for really-new services. This finding shows that people evaluate the service as a whole when they consider adopting the really-new services. On the other hand, they consider only performance risk when they consider adopting incrementally new services. It is important to point out that incrementally-new services are the refinements of existing services that are used by majority of consumers (Min et al., 2006). Hence, people may be reluctant to switch to another service if they are not sure about the performance of the service. However, really-new services are new-to-the-world services, which create a new market, rely on new technology, and require customer

learning (Urban, Weinberg and Hauser, 1996). Hence, consumers may consider all sorts of risks combined when they consider adopting really-new services. This may be a plausible explanation on why overall risk, instead of any other specific types of risks, is influential on adoption intentions of really-new services.

Again, just like in really-new services context, attitudes have a positive relationship with adoptions intentions of incrementally-new services. In addition, similar to the findings of the really-new services, privacy risk is positively related to adoption intentions. This finding also shows that consumers expect to have privacy risk when they adopt incrementally-new services since they share their personal information including the payment information. However, privacy risk does not lead to lower adoption intentions. The only difference is that time risk has no relationship with attitudes and adoption intentions in the incrementally-new services context. This finding indicates that consumers do not expect these services to be as time-consuming as really-new services.

Discussion on Study 2 results

Study 2 was developed to test the hypotheses H_2, H_{2a} through H_{2g} and H_3 which show the effect of regulatory focus on the relationships between perceived risks and attitudes as well as adoption intentions. The respondents received the same list of RNS and INS and the same questions as in Study 1. In this study, we primed regulatory focus by using a technique which was consistent with previous research (Lee and Aaker 2004; Yoon et al. 2012). Respondents were assigned to either promotion-focus or prevention-focus conditions. Because individuals' regulatory focus affects their decision making, we aimed to put the respondents either in a promotion-focus mindset in which they remember their hopes, aspirations and dreams, or in a prevention-focus mindset in which

they think about their duties, obligations and responsibilities (Herzenstein et al., 2007, p.252; Crowe and Higgins, 1997). Our goal was to show that when people are in a promotion-focus mindset, the effect of each type of risk on the attitudes and adoption intentions is attenuated. On the other hand, when people are in a prevention-focus mindset, the effect of each type of risk on the attitudes and adoption intentions is intensified.

The main result of Study 2 is that priming promotion or prevention focus does not affect each risk in the same way. The effect of specific types of risk is attenuated when people are primed with promotion focus, and the effect of certain types of risk is intensified when primed with prevention focus. The results of Study 2 clearly showed that priming promotion-focus has no effect for overall risk on the attitudes, whereas priming prevention-focus intensifies the effect of overall risk on attitudes. This shows that when people are in prevention-focus mindset, they evaluate the service as a whole and if they think that the service is risky in general, they develop unfavorable attitudes. Similarly, performance risk has no effect on attitudes in promotion-focus condition, but has a statistically significant effect on attitudes toward really-new services when in prevention-focus condition. This may be an area that should be further explored for future research as to why overall risk and performance risk are the only influential factors on attitudes when people are in prevention-focus mindset. Furthermore, as in the previous study, the effect of attitudes on adoption intentions is found to be statistically significant for both conditions. Hence, again, both risks have no direct effect on adoption intentions but have negative effects through attitudes.

We also conducted the same analysis for incrementally-new data set to compare and contrast the results with really-new services. For incrementally-new services, promotion-focus condition mitigated the negative effect of financial risk, and prevention-focus condition increased the negative effect of financial risk on attitudes. Also, promotion-focus condition decreased the negative effect of overall risk, and prevention-focus condition increased the negative effect of overall risk on adoption intentions. Hence, the results of really-new services and incrementally-new services were different when people are primed with two types of regulatory focus. This shows that really-new services should be examined separately from incrementally-new services especially when consumer characteristics are used as moderators.

Limitations and Future Research

The main limitation of this study is that we combined the data for three really-new services and conducted analyses on the pooled data set. These services (Uber, Airbnb and Netflix) are all from different industries. Although we wanted to see the big picture regarding really-new services, the same analyses can be conducted for each individual service to see the differences between the industries in terms of perceived risk, attitudes and adoption intentions. Another limitation is using only three really-new services. Due to time and budget constraints, we could only include limited number of services to our study. Future research can use more really-new services to have more generalizability. The same limitations also apply to our analyses for incrementally-new services.

The other limitation is using Amazon Turk to reach respondents. Although Amazon Turk is a widely used platform, there are also problems documented with collecting data using Amazon Turk workers. For example, workers of Amazon Turk may

use technology more than the general population (because of the type of work that they do). Hence, our results might have been affected since all the services we used in this study have a technology component.

Having a comprehensive framework is also a limitation of this study. Because we had many independent, dependent and control variables, structural equation modeling was the best way to test the entire framework. However, future research can take the parts of the same framework and conduct different types of analyses such ANOVA, ANCOVA etc. For example, because financial risk and psychological risk were found to be the only risks that are negatively related to attitudes, another framework can be developed by using solely these two types of risks. This may also be a good extension of this study to validate the results. Furthermore, because perceived ease of use and consumer involvement are found to be positively related to attitudes and adoption intentions, they may be included in the framework as independent variables or moderators.

Another suggestion for future research is to use overall risk as a second-order construct to see to what extent each type of risk contributes to overall risk. This study had a separate scale for overall risk. Due to sample size limitations of this study, the model was not identified when a second-order overall risk was included in the model. Hence, using a larger sample size or excluding some of the constructs that were included in this study may solve this issue.

The final limitation and a suggestion for future research concerns with regulatory focus priming. In the second study, respondents were primed with a method which was consistent with the previous studies. However, priming may not work well for the questionnaires that are relatively long. The effect of priming might diminish due to the

time spent for the questionnaire. Hence, future research can use a short version of our questionnaire to see if the results change. Moreover, other consumer characteristics such as self-construal can also be included in the framework or respondents can be primed accordingly to see how different consumer characteristics affect the relationships between the types of perceived risk and attitudes as well as adoption intentions.

Managerial Implications

Our findings imply that firms offering really-new services and incrementally-new services should consider specific types of risks before they develop their marketing strategies. As shown in this study, not all the types of risks affect consumers' attitudes and adoption intentions in the same way. Firms offering really-new services should develop strategies which aim to lower the perception of financial risk as well as psychological risk. They should also know that because the service is new-to-the world, consumers consider it as a whole and evaluate the overall risk. On the other hand, firms offering incrementally-new services should develop strategies to lower the perceived performance risk. Because incrementally-new services are developed by modifying the services that are already being used by many consumers, firms can position these services with respect to the improved performance.

Both for really-new services and incrementally-new services, perceived ease of use and consumer involvement are key factors that positively affect the attitudes as well as adoption intentions. Firms can emphasize the easiness to use these services in their promotion efforts. They should also put effort to increase consumer involvement by emphasizing the significant role of the service in their lives.

This study also shows that promotion-focused and prevent-focused consumers perceive and react to new services differently. Hence, marketing managers can use regulatory focus as an effective segmentation tool for both really-new and incrementally-new service promotions. Framing communication by inducing promotion focus can lower the overall risk and shift the focus to positive outcomes of the service innovations.

Overall, the findings of our study suggest that the awareness of the risks associated with the new services as well as consumer characteristics that are influential on the attitudes and adoption intentions can lead to the development of certain targeting and advertising strategies and facilitate the receptiveness of the consumers to service innovations.

APPENDICES

Appendix A

Pretest

Please evaluate whether each of the following services was a *really new service* or an *incrementally new service* at the time of its initial commercial introduction. Note that:

•A *really new service*, or basic innovation, creates a new market, relies on new technology, and requires customer learning.

•An *incrementally new service*, or modification, is designed to satisfy a felt market need and uses existing technology or refinement of it.

On a scale of 1 to 7, with 1 (one) being incrementally new service, 4 (four) being neither incrementally new nor really new service and 7 (seven) being really new service, how would you describe each service below?

	Incremental			Neither incremental nor really new			Really New	
Uber	1	2	3	4	5	6	7	Don't know
Airbnb	1	2	3	4	5	6	7	Don't know
PayPal	1	2	3	4	5	6	7	Don't know
Netflix	1	2	3	4	5	6	7	Don't know
Alibaba	1	2	3	4	5	6	7	Don't know
Skype	1	2	3	4	5	6	7	Don't know
Society One	1	2	3	4	5	6	7	Don't know
Udemy	1	2	3	4	5	6	7	Don't know
Khan Academy	1	2	3	4	5	6	7	Don't know
Whats app	1	2	3	4	5	6	7	Don't know
Snapchat	1	2	3	4	5	6	7	Don't know
Amazon Mechanical Turk	1	2	3	4	5	6	7	Don't know
Dropbox	1	2	3	4	5	6	7	Don't know
Cloud	1	2	3	4	5	6	7	Don't know

Pandora	1	2	3	4	5	6	7	Don’t know
Facetime	1	2	3	4	5	6	7	Don’t know
Moneygram	1	2	3	4	5	6	7	Don’t know
Couchsurfing	1	2	3	4	5	6	7	Don’t know
Workaway	1	2	3	4	5	6	7	Don’t know
Zipcar	1	2	3	4	5	6	7	Don’t know

Appendix B

Table 14: Constructs and Measures

Construct	Domain	Operationalization
Dependent Variables		
Attitudes toward RNS	Dabholkar and Bagozzi (2002)	1. Good-bad 2. Pleasant -unpleasant 3. Harmful-beneficial 4. Favorable-unfavorable
Adoption Intention of RNS	Dabholkar and Bagozzi (2002)	1. Unlikely-likely 2. Improbably-probable 3. Impossible-possible 4. Uncertain-certain 5. Definitely would not use - definitely would use
Independent variables		
Overall Perceived Risk	Stone and Gronhaug (1993), Featherman and Pavlou (2003), Dholakia (2001)	1. On the whole, considering all sorts of factors combined, signing up for this service is risky. 2. Using this service exposes me to an overall risk. 3. This service is dangerous to use. 4. Using this service causes me to be concerned with experiencing some kind of loss. 5. All things considered, I think I would be making a mistake by using this service. 6. When all is said and done, I really feel that using this service poses problems for me that I just don't need.
Financial Risk	Stone and Gronhaug (1993), Featherman and Pavlou (2003), Dholakia (2001)	1. Using this service would be a bad way to spend my money. 2. Using this service subjects my checking account to potential fraud. 3. The financial investment I would make for this service would not be wise. 4. I would be concerned that I may not get my money's worth from this service.
Physical Risk	Stone and Gronhaug (1993), Dholakia (2001)	1. Using this service exposes me to potential physical risks. 2. Using this service may cause injuries. 3. I have concerns about whether this service could lead to uncomfortable physical effects.
Performance Risk	Stone and Gronhaug (1993), Featherman and Pavlou (2003), Dholakia (2001)	1. I would be concerned that this service might not perform well. 2. I would worry about how reliable this service would be. 3. I would be afraid that this service would not provide me with the level of benefits that I expected it to. 4. Considering the expected level of performance of this service, for me to sign up for this service would be risky.
Social Risk	Stone and Gronhaug (1993), Featherman and Pavlou (2003), Dholakia (2001)	1. My friends' and relatives' opinions about me using this service would cause me feel concern. 2. This service negatively affects the way others think of me.

		3. Using this service would lead to a social loss for me because my friends and relatives would think less highly of me. 4. This service does not fit in well with my self-image.
Psychological Risk	Stone and Gronhaug (1993), Featherman and Pavlou (2003), Dholakia (2001)	1. When I thought about using this service, I would experienc 2. unnecessary tension. 3. The thought of using this service would make me feel uncomfortable. 4. The thought of using this service would give me a feeling o unwanted anxiety. 5. I would worry a lot while using this service.
Time Risk	Stone and Gronhaug (1993), Featherman and Pavlou (2003), Dholakia (2001)	1. The chances that I lose time due to having to switch to this service are high. 2. Using this service would lead to a loss of convenience for me because I would have to waste a lot of time fixing my errors. 3. This service could create time pressures on me that I don't need. 4. Using this service would lead to an inefficient use of my time.
Privacy Risk	Stone and Gronhaug (1993), Featherman and Pavlou (2003), Dholakia (2001)	1. This service might cause me to lose control over the privacy of my payment information. 2. Using this service would lead to a loss of privacy for me because my personal information would be used without my knowledge. 3. Internet hackers (criminals) might take control of my checking account if I used this service. 4. Using this service increases the possibility of unwanted emails.
Moderator		
Regulatory focus	Higgins et al. (2001)	<u>Prevention focus</u> 1. Growing up, would you ever ``cross the line'' by doing things that your parents would not tolerate? 2. Did you get on your parents' nerves often when you were growing up? 3. How often did you obey rules and regulations that were established by your parents? 4. Growing up, did you ever act in ways that your parents thought were objectionable? 5. Not being careful enough has gotten me into trouble at times <u>Promotion focus</u> 6. Compared to most people, are you typically unable to get what you want out of life? 7. How often have you accomplished things that got you ``psyched'' to work even harder?

		8. Do you often do well at different things that you try? 9. When it comes to achieving things that are important to me, I find that I don't perform as well as I ideally would like to do. 10. I feel like I have made progress toward being successful in my life. 11. I have found very few hobbies or activities in my life that capture my interest or motivate me to put effort into them.
Control variables		
Consumer innovativeness	Baumgartner and Steenkamp (1996)	1. I would rather stick with a service I usually buy than try something I am not very sure of. 2. I think of myself as a brand-loyal customer. 3. When I go to a restaurant, I feel safer ordering dishes I am familiar with. 4. If I like a service, I rarely switch from it just to try 5. something different. 6. I am very cautious about trying new or different products.
Consumer involvement	Zaichkowsky (1985)	1. Important-unimportant 2. Of no concern-of concern to me 3. Means a lot to me- Means nothing to me 4. Matters to me-Does not matter 5. Significant-Insignificant
Perceived usefulness	Kulviwat et al. (2007)	1. This service helps me be more effective. 2. This service helps me be more productive. 3. This service saves me time to use it. 4. This service requires the fewest steps to accomplish what I wanted to do with it. 5. This service makes the task I wanted to accomplish easier to get done.
Perceived ease of use	Kulviwat et al. (2007)	1. This service is easy to use. 2. I learn to use this service quickly. 3. This service is simple to use. 4. I easily remember how to use this service. 5. It is easy to learn to use this service.

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