

**MANAGING PERCEPTIONS THROUGH PROCESS VISIBILITY
TO IMPROVE ONLINE CUSTOMER OUTCOMES**

by

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Claudia Regina Macêdo da Costa, Ph. D.

University of Pittsburgh, 2005

Although electronic commerce technology often reduces overall costs, it also creates a discontinuity in the order fulfillment segment of the buying process: the fulfillment process becomes a “black box.” This discontinuity means that the customer does not have complete information of the purchase affecting customer perceptions of the transaction.

Information technology provides a variety of ways for firms to make this process more visible. Providing information about the fulfillment process is expected to increase perceived justice by reducing customer anxiety, enhancing the fairness of the transaction; and ultimately improving customer outcomes, mainly customer satisfaction, service satisfaction, word of mouth and repurchase intention.

The objective of this study is to analyze the role of process visibility in mitigating this discontinuity and its impact in customer outcomes. The research method is a scenario-based experiment and factors involved are fulfillment process visibility, the presence of fulfillment problems and compensation for fulfillment problems. Also customer prior experience with online retail channels is used as a control variable. The design is a between-subjects, incomplete 2x2x2, with an unbalanced number of participants and two missing cells. The participants were 153 undergraduate business students from an American northeast university.

The results show that process visibility by itself has a positive impact on customer outcomes. Compensation and online buying experience did not show a direct impact on customer

outcomes. Online buying experience moderates the impact of process visibility on service satisfaction and repurchase intention. Lastly procedural justice mediates the impact of process visibility on customer outcomes.

The major practical implication from this study is that process visibility should be taken in consideration in online designs. It is shown that process visibility alleviates the discontinuity introduced by computer mediation, making the customer more satisfied, and increasing customer outcomes.

The major theoretical implication is that it demonstrates how and why electronic commerce is different from traditional commerce. The discontinuity will also affect other behavioral aspects of electronic commerce, like trust, perceived risk, etc; and technical aspects, like business integration, web site design, etc. This research study opens a new path to be followed by electronic commerce researchers.

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Chapter 1

1.0 INTRODUCTION

*“As a rule, what is out of sight disturbs men's minds
more seriously than what they see.”*

Julius Caesar

Much has been said about information technology altering the configuration of our economy, and how its presence is growing in our lives. One example is the Internet. Initially, it was used for scientific purposes, and today it connects millions of people and it is changing our world in ways nobody could have predicted, especially regarding new business opportunities, transactions, and electronic commerce.

Firms cannot ignore the business implications of electronic commerce, otherwise they will risk losing valuable market share. Companies that discover how to better utilize its capabilities will have an advantage. As electronic commerce grows in importance each year, organizations, consumers, and academic researchers need to understand how to better use this new tool. Furthermore, electronic commerce created a need for IS researchers to understand online consumer behavior due to the close link between IS and market success (Straub and Watson 2001). Consequently, the need to study online consumer behavior becomes essential for the success of electronic commerce.

The impact of information technology can be seen in the speed that information is now being disseminated. In the past it would take weeks for a message to cross the Atlantic. Today it can be done in seconds. The volume of accessible information also changed; today the biggest problem is how to handle all the information we receive. At the same time, most business

principles stayed the same. The relationship with the customer still is an important factor for the company's success. The customer still pays attention to reputation, brand, loyalty and good service. What changed is how this relationship is cultivated through information technology. Although much has been changed, much stayed the same, so firms need to understand what is different and how this difference changes the way they do business.

Online consumers are not only traditional customers but also computer users, and the traditional retail store has been transformed from a physical location to a virtual one, using networks and information technology (Koufaris 2002). Previously, information technology was only in the background; but now it has moved to the foreground, between retailers and consumers. While the new role of information technology as a mediator between retailers and customers is now widely accepted, our understanding of this new relationship remains underdeveloped, especially with respect to the key area of customer service.

Information technology's mediating role between retailers and consumers is responsible for a key difference between traditional commerce and electronic commerce. Information technology has made it possible for customers to not be constrained by distance, it has given them the liberty of buying at their convenience, and it has lowered the overall search costs associated with buying. However that same technology has created a discontinuity in the buying process. In the online world, consumers see only what the retailer intentionally designs into the web site. If something is not deliberately thought out and deemed to be necessary, it is not there.

In traditional retail settings, customers enter a physical store and through the store layout, they find the specific item they wish to purchase. That item usually remains in their sight throughout the entire buying process. They see the product on the shelf, the price on the tag, and the available colors and sizes. After the choice the customer takes the product to the cashier, pays

it, and carries it home. In this process, the customer has all the necessary information the entire time. The information is even taken for granted, some customers do not even realize they have it.

On the other hand, in an online retail setting, customers must be given information about the product (picture, colors, specifications, price, availability, etc.) and how to purchase it. That is the buying process has to be made visible to them, and it is not automatic. While the ordering information is readily made available, the fulfillment process often remains hidden, i.e. thus the customer may not be aware of the details of the fulfillment process (e.g. whether the order was received, if the product must be backordered, how and when the product was shipped, its current status and location, etc.). Thus because of the computer mediated nature of the transaction, even though the customer is able to order something, the complete story is not available to them, making the order fulfillment process a “black box.”

The discontinuity in the buying process means that the customer does not have complete information about the purchase. That discontinuity affects customer perceptions of the transaction. Making the process visible is important because it levels the playing field. There are no problems of asymmetric information, everybody knows exactly what is going on, and the transaction is perceived as fair. Research across different contexts found that the concept of perceived justice or fairness could be helpful explaining people’s reactions to a variety of conflict situations (Tax, Brown and Chandrashekar, 1998 and Goodwin and Ross, 1992).

Perceived justice is concerned basically with the fairness of an outcome and the fairness of the process used to get to the outcome. The fairness of the process is based on the process itself and the interaction (manner and information) during the process. Not only is the process important, but also the parties’ interaction during the process. Providing information about the fulfillment process

has a direct impact on the procedural dimension of perceived justice; and ultimately enhances customer outcomes, like satisfaction, retention, and positive word of mouth.

Companies have discovered many new ways to interact with customers using information technology. Furthermore, information technology provides a variety of ways to make processes more visible and more specifically, the Internet has the capability of making process visibility feasible and cost efficient. In sum, while information technology introduces discontinuity and creates challenges for the retailer, it also provides instruments to solve this problem, however companies have to intentionally do that, it is not something automatic.

Prior electronic commerce studies have examined design techniques addressing the consequences of computer mediation in the buying process. Many studies looked at web site characteristics, like searches (Te'eni and Feldman 2001), information quality (Zhang, von Dran et al. 2001), delays (Galletta, Henry et al. 2004), and flaws (Shim, Shin et al. 2002; Everard and Galletta forthcoming). However these studies only looked at customer interaction during the ordering process and the fulfillment process was not included.

Companies have begun to experiment with mechanisms for increasing the visibility of the fulfillment process in electronic commerce; however these mechanisms have not been empirically investigated or systematically theorized (Shaw and Craighead 2003). The main question for this research is: how can information technology be used to reduce the consequences of this discontinuity in the fulfillment process? More specifically:

- (1) Does fulfillment process visibility increase online customer outcomes? and
- (2) How does the impact of fulfillment process visibility change when problems occur?

This dissertation begins by reviewing the literature related to process visibility, perceived justice, and customer outcomes. Based on this review, a research model is presented and tested that explains the impact of process visibility on online customer behavior. The model builds on a theoretical foundation of perceived justice. The methodology used to test this model is presented, and the results obtained in the empirical study are reported and analyzed. This dissertation concludes with a discussion about contributions and future directions for research.

Chapter 2

2.0 LITERATURE REVIEW

*“Treat your customers like lifetime partners.
A satisfied customer is the best business strategy of all.”*

Michael Leboeuf

2.1 ONLINE CUSTOMER SERVICE

The changes caused by electronic commerce brought a lot of advantages for consumers, making anytime, anyplace purchases a possibility. The use of information technology facilitates the communication between the supplier and the consumer and the gathering of information about price and quality. That same technology also created a computer-mediated relationship between the firm and the customer.

Electronic commerce evolved through the dot.com crash. The initial approach used by many Internet retailers was to increase market share by employing low prices to attract new customers (Reichheld and Schefter 2000), because it was believed that with the lowering of search costs, price would be the main criterion for customers. The traditional online path to profitability is: Automated Service Operations → Increased Efficiency and Productivity → Reduced Costs → Increased Profits (Rust and Kannan 2003). However, for this strategy to succeed in the long run, a company must retain customers to recover its acquisition costs, and if price is the main criterion, this model is very difficult to maintain.

Companies soon realized that electronic commerce was not capable of changing everything and it was not an answer for everything. Old business principles are still valid and the focus on customer relationship still is the one of the foremost for their sustainability. So, online retailers started to implement new models. An example is the model based on expanding revenues through enhancing service and building profitable customer relationships. This new online service path is: Enhanced Service Operations → Improved Customer Satisfaction and Retention → Increased Revenues → Increased Profits (Rust and Kannan 2003).

The online buying process for a typical online retailer is modeled as a two-step sequence. The first step is the ordering process, where the customer searches for the product, makes a selection and places an order; while the second is the fulfillment process, where the customer waits for the shipment, receives the product and ponders to keep or return the item. The determinants of customer satisfaction are different for the ordering and the fulfillment process. For the ordering process, the antecedents of customer satisfaction include: ease of ordering, product selection, product information, and website performance (Cao, Gruca et al. 2003). For the fulfillment process, the determinants include: on-time delivery, product representation, customer support, and order tracking (Cao, Gruca et al. 2003). This distinction is consistent with prior research in services, which found that the determinants of customer satisfaction are different for the ordering and fulfillment stages (Danaher and Mattsson 1994; Lemmink, de Ruyter et al. 1998).

Information technology allows customer service functions to be delivered over the Internet. Feinberg and Kadam (2002) studied the impact of 42 customer service attributes, and found that the attributes are related to customer satisfaction but their impact is not translated to sales and profit. They also found that not all attributes are important for customer satisfaction, thus some

implementation failures may be due to the design and use of features that do not have any effect on customer satisfaction.

Previous studies have indicated that how customers experience the order fulfillment process can have a substantial impact on customer satisfaction in online environments. Dell's experience studying customer retention shows that satisfaction with the fulfillment process is a key driver of customer loyalty (Reichheld and Schefter 2000). Although the fulfillment process is a key driver for customer retention, the ordering process is also important, first because it is where the customer is acquired, and second because a positive experience during the ordering process has a significant positive effect on satisfaction with the fulfillment process (Cao, Gruca et al. 2003).

In sum, customer service is still an important principle even in an online context. Companies have to understand how to improve and to cultivate that relationship if they want to be successful in the new business world. The next section reflects on the main customer outcome, customer satisfaction, and its implications.

2.2 CUSTOMER OUTCOMES

2.2.1 Customer Satisfaction

Customer satisfaction is essential for the survival of any business. In the craft-based economy, there was face-to-face interaction between artisans and their customers, in which the artisans could accept suggestions, thereby improving their products and creating new ones. The mass market changed that relationship with the introduction of intermediaries, but at least the face-to-face interaction between the retailer and the customer was preserved. Electronic commerce altered this relationship again because most of the interaction in electronic commerce is done

through information technology, with very little face-to-face interaction. Thus the challenge now is how to keep the customer satisfied with the whole online purchase experience. A portion of this challenge is encouraging web developers to be more focused on the customer experience, the other is for companies to understand how the changes brought by electronic commerce change the way they do business.

In the 1980s, customer satisfaction was considered a goal in and of itself, but in the 1990s its role changed. Companies and researchers realized that customer satisfaction is simply a means to an end (like customer retention), ultimately affecting profits. Firms now focus on the Satisfaction-Profit Chain (Attribute Performance → Customer Satisfaction → Customer Retention → Profit), rather than on customer satisfaction alone. The conceptual logic behind the satisfaction-profit chain is based on systems thinking: by improving attribute performance, customer satisfaction should increase; increased customer satisfaction should improve customer retention; and improved customer retention should lead to higher profits (Anderson and Mittal 2000). The marketing literature provides significant evidence in support of the links in the satisfaction-profit chain (Anderson, Fornell et al. 1994; Anderson, Fornell et al. 1997).

Customer satisfaction seems to be the key to customer retention (Anderson and Sullivan 1993); however, some practitioners and researchers have doubts about this direct link (Yi and La 2004). Even though empirical studies support this link (Zeithaml, Berry et al. 1996), some companies did not see the overall satisfaction increases translate to customer retention or profits. Anderson and Mittal (2000) posit that the problem for some anomalies found in the literature is not because the relationship between customer satisfaction and customer retention does not exist. Instead, they argue that the view of linear and symmetric links should be replaced with a view

where the links are nonlinear and asymmetric. Thus, it seems vital for companies to better understand these links to ultimately improve customer satisfaction.

Customer satisfaction has been defined in two basic ways: customer satisfaction as an outcome or customer satisfaction as a process (Parker and Mathews 2001). Some definitions assume that customer satisfaction is just an outcome resulting from the consumption experience:

“the summary psychological state resulting when the emotion surrounding disconfirmed expectations is coupled with the consumer’s prior feelings about the consumption experience” (Oliver 1981 p.27).

Others assume that customer satisfaction is a process, overlooking the entire consumption experience and emphasizing the perceptual, evaluative and psychological processes that combine to produce customer satisfaction (Yi 1990):

“the consumer’s response to the evaluation of the perceived discrepancy between prior expectations and the actual performance of the product as perceived after its consumption” (Tse and Wilton 1988 p. 204).

The study of customer satisfaction has evolved over decades of research. Initial customer satisfaction studies examined demographic or socio-psychological (age, education, income, race, marital status, personal competence) characteristics of consumers as antecedents of customer satisfaction, but overall the support for these relationships seems to be weak (Yi 1990). Other studies, however, have been more fruitful and promising, focusing on post-purchase evaluation of product performance and using cognitive processes to explain customer satisfaction (Yi 1990).

Another line of research is to find the determinants of customer satisfaction *per se*. The variables that have been found to have an effect on customer satisfaction include expectations, disconfirmation of expectations, perceived performance, affect and equity (Szymanski and Henard 2001). According to Tanner (1996), most researchers agree that the primary model of customer satisfaction is the expectation-disconfirmation model. The model describes a four-step process. First, customers form an *expectation* about a specific product or service before the purchase. Second, they use that product or service and form perceptions about its *performance*. After a while they assess its perceived performance against their original expectation and determine the degree of *confirmation* of their expectations. Expectations are either positively disconfirmed (performance exceeds expectations), confirmed (performance meets expectations), or negatively disconfirmed (performance is below expectations). Third, they form *satisfaction* based on their confirmation level and initial expectations. Finally, satisfied consumers form a *repurchase intention* (Oliver 1980; 1981). A point worth of consideration is the role of expectations. If expectations are low, the customer can still be satisfied even with a mediocre performance, or if the performance is priced low to reflect the mediocre quality (Storbacka, Strandvik et al. 1994).

2.2.2 Complaint and Recovery Process

The variables that are affected by customer satisfaction include complaining behavior, repurchase and word of mouth (Yi 1990). Process visibility is particularly important for the recovery process because it keeps the customer informed during a complaint situation.

Fornell and Wernerfelt (1987) affirm that all companies cannot achieve total customer satisfaction for all customers all the time due to a variety of causes including customers' desire for

variety. Because customer satisfaction cannot be always obtained, it is desirable to have a recovery process in place to answer customer complaints.

McCullough and Bharadwaj (1992) posed the question: would one that has experienced a service breakdown rate one's satisfaction as high as if no problem was encountered? They call this situation the *recovery paradox*. This paradox suggests that outstanding recovery performance when something goes wrong can result in customer satisfaction that is as high as, or even greater than what is obtained when nothing wrong happens. Although the recovery paradox has a certain face validity attached to it, research results are conflicting.

Maxham and Netemeyer (2002) argue that evidence for the recovery paradox is sparse and mixed; in their longitudinal study, the results suggest that while satisfactory recoveries can produce a "recovery paradox" after one failure, the effect is not there in subsequent failures. Hart, Heskett, and Sasser Jr. (1990) show that poor service recoveries actually makes things worse, resulting in a "double deviation" effect. Furthermore, although usually recovery efforts are only launched after a customer complains, Maxham and Netemeyer (2002) suggest that customers will respond even better to firms that proactively identify and successfully fix problems before those complaints take place.

Recovery is the return of an unsatisfied customer to a state of satisfaction after the outcome or the process received was less than expected by the customer (Bell and Zemke 1987). Some studies have shed some light on what constitutes an effective service recovery, Bell and Zemke (1987) proposed a "recipe for recovery": (1) Apology, (2) Urgent Reinstatement, (3) Empathy, (4) Symbolic Atonement, (5) Follow-up. They go further suggesting that the recovery depends upon the level of dissatisfaction felt by the customer. For "annoyed" customers, an apology and correction should be enough, however for the "victimized" customer to whole "recipe" should be

used. Bitner, Booms and Tetreault (1990) suggested the following key elements: (1) Acknowledgement, (2) Explanation, (3) Apology, (4) Compensation.

Kelley, Hoffman and Davis (1993) identified seven acceptable recovery strategies: (1) Discount, (2) Correction, (3) Management/employee intervention, (4) Correction Plus, (5) Replacement, (6) Apology, (7) Refund. In their study in a retail environment, discount, correction, manager/employee intervention and correction plus were more effective than replacement, apology and refund. Johnston (1995) found three key elements for service recovery: (1) Empathy, (2) Information, (3) Action.

In summary, there is some debate about what exactly constitutes an effective recovery strategy. Of the four studies cited, only Bitner, Booms and Tetreault (1990) did not recommend correction of the breakdown, suggesting either that compensation is more important or because in their scenarios correction was not possible. Bitner, Booms and Tetreault (1990) and Kelley, Hoffman and Davis (1993) found that compensation is an important part of recovery and empathy is not. However Johnston (1995) and Bell and Zemke (1987) found that empathy is important while compensation is not necessary, except for “victimized” customers. Only Johnson (1995) did not suggest that an apology was necessary and only Bell and Zemke (1987) suggested follow up.

Day, Grabicke, Schaetzle and Staubach (1981) cite nine possible actions of a dissatisfied customer: (1) do nothing, (2) boycott the product class, (3) boycott that brand, (4) boycott the seller, (5) privately complain, (6) seek redress from the seller, (7) seek redress from the manufacturer, (8) seek compensation from a third party, (9) complain.

Carpe Diem Consultant Inc.’s research shows that 85% to 95% of all dissatisfied customers will never complain about a servicing glitch but they will quietly take their business elsewhere, and more than 90% will never come back (Stiefbold 2003). The complaint handling process only

answers a maximum of 15% of a company's dissatisfied customers; the other 85% are still dissatisfied and the company does not even know it because for some reason the customers do not complain (Stiefbold 2003).

Handling customer complaints has become a strategic concern in electronic commerce, especially because the switching costs are very low (Cho, Im et al. 2003). Fornell and Wernefelt (1987) argue that well-done recoveries are important for increasing customer satisfaction, building customer loyalty and preventing customer switching behavior. Process visibility is expected to improve the service recovery and ultimately impact customer outcomes.

2.2.3 Customer Retention

Another consequence of customer satisfaction is customer retention or repurchase, which seems to be directly related to profitability. Companies can increase profitability from 25% to 85%, depending upon the industry (Reichheld and Sasser Jr. 1990), or as much as 100% (Buchanan and Gillies 1990). Mello (2002) stress that customer retention is often overlooked and that it can be a very expensive mistake, because once customers are lost, it is very difficult to gain them back and they may engage in negative word of mouth against the company. Fornell and Wernerfelt (1987) describe customer acquisition as an offensive marketing strategy and a concern with increasing customer retention as a defensive strategy. In their view, the fundamental objective of defensive marketing is to manage customer dissatisfaction and minimize its negative impacts.

Customer retention is particularly important for online stores because customer acquisition costs for pure Internet retailers are much higher than for retailers with physical stores (Hamblen 2000). The brick and mortar store has the advantage of physical presence. The corner grocery store has its neighbors as loyal customers just because of proximity since the costs to customers (e.g.,

search, transportation) of going to another store are too high. In the virtual realm, the use of information technology facilitates communication between the supplier and the consumer, thus decreasing the costs of searching for a product and increasing the possibility of switching stores. Sustained profitability of online retail operations is often affected by a firm's ability to generate repeat customers (Reichheld and Scheffer 2000). Hence, customer retention remains an important concern for retailers designing online sales channels.

Customer retention can be translated into profitability for a variety of reasons: (1) the cost of acquiring and serving new customers can be substantial, (2) long term customers are familiar with the buying process, thus cost less to serve, (3) satisfied customers are less price-sensitive, (4) long term customers tend to buy more, (5) long term customers tend to be satisfied with the relationship, making the perceived switch costs higher and complicating competitors market entry or share increase, (6) satisfied customers often refer new customers at virtually no cost (Buchanan and Gillies 1990).

Storbacka, Strandvik and Gronroos (1994) claim that customers have a "zone of tolerance". Thus, one unsatisfactory experience may not significantly affect overall satisfaction: (1) if the customer's overall perception of quality remains high, (2) if switching costs are high; or (3) if few satisfactory alternatives exist. In electronic commerce, because of low switch and search costs, the zone of tolerance could be narrower, thus making each customer experience even more important for customer retention.

Ferron (2000) affirms that information technology can improve customer retention and loyalty. He argues that the cost of serving small customers is sometimes larger than their economic value, but with information technology, especially the Internet, customer care can be automated at low cost, making it a powerful tool for building customer retention. Although there is the risk of

retaining a non-profitable customer, generally in online channels the cost of implementing an online retention strategy for one customer is virtually the same as implementing it for everybody. Process visibility is expected to improved customer retention through the improvement of customer service. Providing information about the process keeps the customer informed throughout the whole transaction.

2.3 PERCEIVED JUSTICE

The discontinuity in electronic commerce caused by the computer-mediation changes the fairness perception of the transaction. This discontinuity is expected to be mitigated by the provision of information about the transaction, and this impact is anticipated to be seen through perceived justice.

The concept of perceived justice offers a valuable framework for explaining customers' reactions to complaint situations (Blodgett, Hill et al. 1997). The literature in social psychology and organizational behavior suggests that people involved in conflicts use several factors for their evaluation of justice: the perceived fairness of the outcome (Adams 1965), the perceived fairness of the process used (Thibaut and Walker 1975), the perceived fairness of the interaction throughout the process (Bies and Shapiro 1987), and the perceived fairness of the explanation for the process or the outcome (Bies and Shapiro 1988; Greenberg 1990; Greenberg and McCarty 1990). These factors correspond to the dimensions studied in perceived justice (see Table 1). Tax, Brow and Chandrashekar (1998) cite three dimensions for justice: distributive justice, procedural justice, and interactional justice. More recently Colquitt et al (2001) divided interactional justice into interpersonal justice and informational justice.

A review by Colquitt et al (2001) reveals that in the beginning, the study of justice was primarily concerned with distributive justice using the frameworks of equity (Adams 1965), equality, and fairness (Leventhal 1976) to analyze the perceived fairness of outcomes. *Distributive* justice involves the provision of proportional outcomes in exchange for an unsatisfactory product or service (equity), equal outcomes (equality), and outcomes based on requirements regardless of contributions (need) (Tax, Brown et al. 1998). In a consumer complaint context, distributive justice focuses on the perceived fairness of the redress offered to consumer (Blodgett, Hill et al. 1997).

Colquitt et al (2001) acknowledged that Thibaut and Walker (1975) introduced process in the justice literature, but also stated that Leventhal and colleagues (Leventhal 1980; Leventhal, Karuza et al. 1980) extended it for nonlegal contexts. The importance of procedural justice relies on conflict resolution that stimulates relationship continuance, even when the outcomes are unsatisfactory (Folger 1987). *Procedural* justice involves freedom to communicate views on a decision process (process control), freedom to accept or reject an outcome (decision control), ease of engaging a process (accessibility), perceived time taken to complete the process (speed), and adaptability of procedures to individual circumstances (flexibility) (Tax, Brown et al. 1998).

Interactional justice involves giving a reason for failure (explanation), perceived veracity of information provided (honesty), courteous behavior (politeness), amount of energy to solve the problem (effort), and individual attention (empathy) (Tax, Brown et al. 1998). Recently a new understanding of interactional justice has emerged, *Interpersonal* justice aims to alter reactions to outcomes and *Informational* justice aims to alter reactions to the process, providing explanations needed to evaluate it (Colquitt, Conlon et al. 2001).

Table 1. Perceived Justice Definitions

Dimensions	Definitions (Tax, Brown et al. 1998)
Distributive Justice	It involves the provision of proportional outcomes in exchange for an unsatisfactory product or service (equity), equal outcomes (equality), and outcomes based on requirements regardless of contributions (need).
Procedural Justice	It involves freedom to communicate views on a decision process (process control), freedom to accept or reject an outcome (decision control), ease of engaging a process (accessibility), perceived time taken to complete the process (speed), and adaptability of procedures to individual circumstances (flexibility).
Interactional Justice	It involves perceived veracity of information provided (honesty), courteous behavior (politeness), amount of energy to solve the problem (effort), and individual attention (empathy).
Informational Justice	It involves giving a reason for failure (explanation), and reporting the status of the process (information).

Besides the effects of perceived justice dimensions, their interactions are also found to have an impact on customer outcomes. McCollough, Berry and Yadav (2000) suggest that distributive justice is a necessary but insufficient condition for procedural and interactional justice, with an unfair outcome, the procedures and interactions themselves could be seen as flawed. Colon and Murray (1996) found that providing explanations enhances customer satisfaction and willingness to buy if the explanation is accompanied by a coupon or other reimbursement. Tax, Brown and Chandrashekar (1998) found significant distributive-procedural and distributive-interactional justice interactions and argue that the value of outcomes can be compromised or enhanced by personal interactions and procedures.

Cho, Im and Hiltz (2003) suggest that procedural justice could be enhanced using technological support and that online customer satisfaction will increase if e-business provides technologically advanced services. Blodgett, Granbois and Walters (1993) found that perceived justice has a significant positive impact on word of mouth and repurchase intention. Maxham and

Netemeyer (2003) found evidence of the importance of perceived justice as a determinant of satisfaction, purchase intent and word of mouth and suggests that recovering well from failures could be a customer service strategic advantage.

Empirical studies support the idea that perceived justice has a direct impact on customer outcomes. So what can be done in the online context to modify customers' perceptions of fairness? Process visibility seems to be one answer. The discontinuity in the buying process introduced by computer-mediation changed the fairness perception of the transaction. Process visibility is expected to mitigate the impact of this discontinuity by keeping consumers informed about purchases and making it possible for companies to alter customers' perceptions of fairness before the transaction is finalized. Thus, process visibility gives the company the opportunity to change a potential negative transaction into a positive one and to transform the customer from dissatisfied to satisfied.

2.4 PROCESS VISIBILITY

Process visibility is a concept that was first used in Business Process Reengineering (BPR). A business process is a set of activities in a logical order with a desired result. In a company, the visibility of these activities makes it possible to monitor the process, and if a problem arises, it can be easily fixed to maintain the integrity of the process and quality of the result. Before the dissemination of information technology, processes were very visible, done mainly on paper by people on the company site. The use of information technology brought lower costs and higher efficiency, but the business processes are hidden in the systems and sometimes even the

manufacturing and logistics processes are done via outsourcing which further reduces the visibility of the related activities.

Another concept related to process visibility is process transparency. Electronic commerce transparency was first discussed by Phillips and Meeker (2000) and it is composed of four dimensions: price transparency, availability transparency, supplier transparency and product transparency. Lee and Park (2003) added a fifth dimension: process transparency, where online customers have access to product information, pricing, availability, order status, etc.

However the concept of process visibility goes even further. Not only does a customer have access to the process information but also has the ability to detect and correct an error, or cancel the transaction. Thus process visibility means that the user has knowledge about the processes information and the potential to interact with these processes; thus visibility is composed of two dimensions: “ability to see” and “ability to interact” (Yang, Mason et al. 2001).

Yang and Vandenbosch (1998) show the importance of visibility with a framework that helps to identify strategic information systems opportunities. For them, organizations can improve their competitive advantage by increasing or decreasing the visibility of their processes to offer value to the customers. Making processes visible invites customer participation, empowers customers and facilitates self-fulfillment (Yang, Mason et al. 2001). The challenge is to discover the right level of visibility for each business process. In the case of customer satisfaction, the value added for the customer could come from making the fulfillment process more visible. Yang and Vandenbosch (1998) cite FedEx as providing value by making the progress of customers’ packages visible through the Internet.

Following the literature (see Table 2), process visibility is defined as the degree to which customers are allowed to see and act upon the information about their own transaction processes.

Processes with no visibility are comparable to a closed black box, where one sees what goes in and what goes out, but what happens inside is unknown. Low visibility processes are like a closed transparent box, where the customer makes an order and receives it, knowing only what happens and when, but not being able to do anything. High visibility processes are like an open transparent box, where one sees all the steps in the process and moreover is able to change things around. In the electronic commerce context, low visibility could mean that online customers have access to fulfillment information, such as order status, shipments, backorders, substitute products, delivery, etc. High visibility could mean that besides access to the information, customers also cancel an order, return or exchange an item, rearrange a delivery, etc. everything done through the web site.

Table 2. Visibility Definitions

Source	Definition
(Heskett and Anthony 1992)	“Transaction visibility means transactions open to the customer: the customer can see the detailed logic of the transaction and may manipulate specific variables to control the transaction process.”
(Yang 2000)	“Transaction Visibility can be defined as the degree to which the detailed logic of transactions is open to view and subject to manipulation of customers.”
(Yang and Vandebosch 1998)	“Visible outcomes are those that the customer directly perceives.” (...) “We can identify two moves within this category (making visible): 1) direct connection to end-customers (...) and 2) direct access to the internal resources of outcome-providers.”
(Yang and Mason 1998)	“Visible processes are those that the customer directly perceives and which the customer is able to interact.” (...) “Visibility is also related to accountability in the sense of ‘seeing’ objects and comparing them along predetermined metrics.”
(Yang, Mason et al. 2001)	“Visibility means that the information user has information about the information processes and the potential to interact with them.”

An anecdotal example that suggests the importance of process visibility is found in Cho, Im and Hiltz (2003): “I ordered clothes from an online store, but I haven’t received any response after I ordered the product. I emailed the salesperson there, but I received no response after 3-4 days. I also called the customer service center, but it took a long time to be connected. Then, I realized that the product was out of stock and would be shipped later. If I had known this earlier, I would have canceled it and gotten it from another store.”

Making the process visible through the provision of information has an impact on customer outcomes. Enhancing the level of predictability (knowing what event will occur and when) has been found to decrease stress and increase satisfaction (Langer 1983). Shaw and Craighead (2003) suggest that customers who are kept informed are more likely to be impressed and satisfied. Maister (1985) reported that when customers are waiting, uncertainty and lack of knowledge make the wait seem longer, having a negative impact on the experience. Langer and Saegert (1977) found that unpleasantness of a high-density condition, such as shopping at a crowded supermarket, could be significantly reduced by giving shoppers information about the behavioral effects of crowding before their exposure to it.

To illustrate the potential impact of process visibility, consider these scenarios. First, imagine a customer in an online store, where she finds the product that she wanted at a reasonable price and in stock. She orders it and expects for the delivery between three and seven days. Two weeks pass, during which she does not hear from the company. The next day the package arrives, but she is very dissatisfied with the company and tells that to all her friends.

Now imagine that on that same day, another customer finds the same product with the same price in another store. She orders it and also expects the delivery between three and seven days. Later that day, she receives an email informing that due to high demand, the product is one week

backordered and that she may cancel the order if she wishes. She does not cancel the order and one week later she receives another email saying that the order was fulfilled and the package was shipped. Two weeks after the order, the package arrives and she is very satisfied with the purchase and tells that to all her friends.

What is the difference between these two scenarios? They ordered the product on the same day and received it on the same day, so why such different reactions? Why, even with the problem in the order and the delay, was the second customer satisfied? The answer could be process visibility. The computer-mediated discontinuity was mitigated by process visibility by keeping the customer informed about all the important steps in her order. Thus, the company managed her perception about the order and its fulfillment, making the transaction feel fair, giving her a superior recovery performance, and ultimately keeping or even increasing customer satisfaction. It is this intuition – combined with the explanatory power of the perceived justice theories which form the foundation for the following model of process visibility and its impacts on online customer outcomes.

Chapter 3

3.0 RESEARCH MODEL AND HYPOTHESES

*“The great tragedy of science –
the slaying of a beautiful hypothesis by an ugly fact.”*

T. H. Huxley

This research focuses on the consequences of process visibility on customer outcomes. Process visibility is defined as the degree to which customers are allowed to see and act upon the information about their own transaction processes. Process visibility is represented by the features that make the status of order fulfillment processes visible to customers. Customer outcomes are represented in this study by customer satisfaction, service satisfaction, repurchase intention, and word of mouth. Process visibility seems to affect these variables in the same way because all are tied with customer attitudes towards the retailer.

A key aspect of managing customer expectations of online order fulfillment involves managing the duration and the perception of time between placement of the order and delivery of the product. Bell and Zemke (1987) state that satisfaction with a service is based on expectations regarding both the process and the outcome. Thus to guarantee customer satisfaction, both the outcome and the process have to meet expectations. Katz, Larson and Larson (1991) suggest that service wait can be controlled either by operations management or perception management. Taylor (1994) notes that since operations management is fallible, an interest in managing perceptions has developed: “if you cannot control the actual wait duration, then control the customer’s perception of it”.

If the order fulfillment process is more visible, with features that anticipate problems and keep customers informed without them asking, this will mitigate the impact of waits and ultimately lead to higher satisfaction. Bell and Zemke (1987) argue that highlighting features of a service (e.g. providing an “On time” sticker on a package, makes visible what otherwise would be taken for granted. Process visibility also serves to inform customers and anticipate problems, showing that the company is proactive and that it cares about the customer after the sale.

In sum, process visibility can be used (1) to manage customer perceptions of a problem, (2) to create and shape customer expectations about fulfillment, (3) to show that a firm is proactive and (4) to demonstrate that it is interested in keeping customers informed and has nothing to hide. Together these suggest that process visibility is in customer satisfaction, service satisfaction, word of mouth, and repurchase intention.

H₁: Process visibility will positively impact customer outcomes (customer satisfaction, service satisfaction, word of mouth, and repurchase intention).

If the customer encounter deviates from expectations, it is noticed and remembered. If it is less than expected, the customer is annoyed; if it is more than expected, the customer is pleased (Bell and Zemke 1987). Adopting an information processing perspective, Oliver and Winer (1987) claim that experiences stored in short and long term memories are processed and used to form expectations for the next experience.

Online buying experience is defined as the degree that the customer is familiar with the process of online buying. Thus, unlike novices, customers who are used to buying goods on the Internet, have high levels of online buying experience and will have many prior ordering and

fulfillment examples from which to draw. Their expectations are likely to be better formed, thus it will be more difficult to surprise them with a new feature or benefit, making them harder to please.

H₂. Online Buying Experience will negatively impact customer outcomes (customer satisfaction, service satisfaction, word of mouth, and repurchase intention)

Vatanasombut, Stylianou and Igarria (2004) discovered that online customer retention is influenced by the users' sophistication level. They found that novice and sophisticated users have different concerns and different causes for termination. Anderson and Mittal (2000) classified goods' attributes in two groups: satisfaction-maintaining, and satisfaction-enhancing attributes. Satisfaction-maintaining attributes are taken for granted and are likely to exhibit negative asymmetry (i.e. the impact of negative performance is greater than positive performance) and diminishing returns in their impact on customer satisfaction. Satisfaction-enhancing attributes are unanticipated and cause delight, thus likely to have positive asymmetry (i.e. the effect of positive performance is greater than negative performance) and increasing returns on customer satisfaction.

It is predicted that for novice customers, process visibility is a satisfaction-enhancing attribute while for experienced customers, process visibility is a satisfaction-maintaining attribute. Thus for novice customers, process visibility is expected to exhibit positive asymmetry while for experienced customers, process visibility is anticipated to display negative asymmetry. In other words, novice customers will be delighted by process visibility, but sophisticated customers will take it for granted.

H₃. Process visibility will have a greater positive impact on customer outcomes (customer satisfaction, service satisfaction, word of mouth, and repurchase intention) for novice customers than for experienced customers.

The following hypotheses are all defined in the context of a problem occurring. The presence of a problem indicates that a retailer has violated customers' expectations. However by using process visibility to update and manage customers' expectations, a retailer has a chance to recover from the failure before the final assessment of satisfaction. Thus, if problems arise, the presence of process visibility will improve the handling of the problem by keeping customers informed and showing that the retailer is trying to fix the problem, which in turn will increase customer outcomes. In sum, process visibility is important for customer outcomes, but is even more important if something goes wrong.

H₄: If a problem arises, process visibility will have a greater positive impact on customer outcomes (customer satisfaction, service satisfaction, word of mouth, and repurchase intention) than would be in the absence of problem.

When problems occur, compensation can also be a strategy for managing the customer perception of the fulfillment process. Compensation is defined as a reparation provided in response to an inequity caused by failure (Smith, Bolton et al. 1999). Bitner, Booms and Tetreault (1990) find that compensation can turn an unsatisfying customer experience into a memorable and satisfactory one. In their study, failures followed by compensation were remembered by customers as very satisfying experiences. Kelley, Hoffman and Davis (1993) found that when compensation was used after a failure, the customer retention rate was 86% and when compensation followed a problem correction, customer retention increased to 90%. Thus when a failure occurs, it is expected that compensation increases customer outcomes because it shows that the company is

trying to address the inequity caused by the failure, compensating the customer for their inconvenience.

H₅. When a problem arises, compensation will positively impact customer outcomes (customer satisfaction, service satisfaction, word of mouth, and repurchase intention).

Following research in the organizational sciences, perceived justice is considered to be socially constructed, i.e. an act is perceived to be fair if meets the expectations of most individuals on the basis of past experience (Colquitt, Conlon et al. 2001). The different dimensions of perceived justice were found to influence customer outcomes in various marketing studies (Bitner, Booms et al. 1990; Goodwin and Ross 1992; Blodgett, Hill et al. 1997; Tax, Brown et al. 1998).

Compensation is expected to shape the fairness perception of the outcome (i.e. distributive justice) and process visibility is expected to impact the fairness perception of the process (i.e. procedural justice), the fairness perception of the interaction (i.e. interactional justice), and the fairness of the explanations given about the process and the outcome (i.e. informational justice).

Smith, Bolton and Wagner (1999) and Tax, Brown and Chandrashekar (1998) found a positive effect of interactional justice on customer satisfaction. Furthermore, Bitner, Booms and Tetreault (1990) report that interactional justice had a positive impact on overall satisfaction with a firm. Blodgett, Hill and Tax (1997) found in their study that interactional justice was positively related to repurchase intent and word of mouth.

Informational justice, as part of interactional justice, includes explanations the company may offer for the problem encountered (Colquitt, Conlon et al. 2001). Process visibility, that provides timely, helpful, and accurate information about the fulfillment process, is expected to be

associated with greater perception of informational justice. Perceiving a fair information exchange (i.e. informational justice) in turn increases customer outcomes.

H₆. In the presence of problems, informational justice will mediate the impact of process visibility on customer outcomes (customer satisfaction, service satisfaction, word of mouth, and repurchase intention).

Interpersonal justice is also a part of interactional justice. It reflects the degree to which people are treated with politeness, dignity and respect (Colquitt, Conlon et al. 2001). Although online transactions rarely involve interpersonal interaction, process visibility gives the company the opportunity to be proactive, and the customer is likely to view a proactive effort as a demonstration of honesty and forthrightness, as well as a show of respect and politeness (Smith, Bolton et al. 1999). It is this feeling of a fair interaction (i.e. interactional justice) which in turn increases customer outcomes.

H₇. In the presence of problems, interactional justice will mediate the impact of process visibility on customer outcomes (customer satisfaction, service satisfaction, word of mouth, and repurchase intention).

Maxham and Netemeyer (2003) found that procedural justice affected satisfaction, overall satisfaction and word of mouth. Smith, Bolton and Wagner (1999) and Tax, Brown and Chandrashekar (1998) found a positive effect of procedural justice on satisfaction. Process visibility makes the recovery process visible and highlights the company's process for handling problems. The timely problem discovery and effort to solve it demonstrate that the recovery process is fair and the company has a system to anticipate possible problems and automatically

initiate recovery even before customer complaints. It is this feeling of a fair process (i.e. procedural justice) which in turn increases customer outcomes.

H₈. In the presence of problems, procedural justice will mediate the impact of process visibility on customer outcomes (customer satisfaction, service satisfaction, word of mouth, and repurchase intention).

The presence of a problem will maximize the effect of online buying experience on process visibility. The process visibility that was taken for granted by experienced customers will be appreciated because it will keep them informed during the recovery process, and making the transaction seem fair. Thus increasing perceived justice and ultimately customer outcomes; and for novice customers, perceived justice will be increased even further.

H₉. In the presence of a problem, process visibility will have a greater positive impact on perceived justice (procedural justice, interactional justice, and informational justice for novice customers than for experienced customers).

Colon and Murray (1996) found in their study that compensation, in the form of coupons, was positively related to satisfaction and repurchase intent. Kelley, Hoffman and Davis (1993) report that compensation had a positive effect on repurchase intent. Compensation that alleviates the inconvenience caused by the problem is expected to be associated with greater perception of distributive justice. Smith, Bolton and Wagner (1999) and Tax, Brown and Chandrashekar (1998) found a positive effect of distributive justice on satisfaction. Maxham and Netemeyer (2003) found that distributive justice had the greatest impact on overall satisfaction, purchase intent

and word of mouth. Compensation leads to the feeling of a fair outcome (i.e. distributive justice) which in turn increases customer outcomes.

H₁₀. In the presence of problems, distributive justice will mediate the impact of compensation on customer outcomes (customer satisfaction, service satisfaction, word of mouth, and repurchase intention).

Together these hypotheses characterize the role that process visibility and compensation are expected to play in changing customer outcomes (customer satisfaction, service satisfaction, repurchase intention, and word of mouth) and the mediation effect of perceived justice on these relationships (see Figure 1).

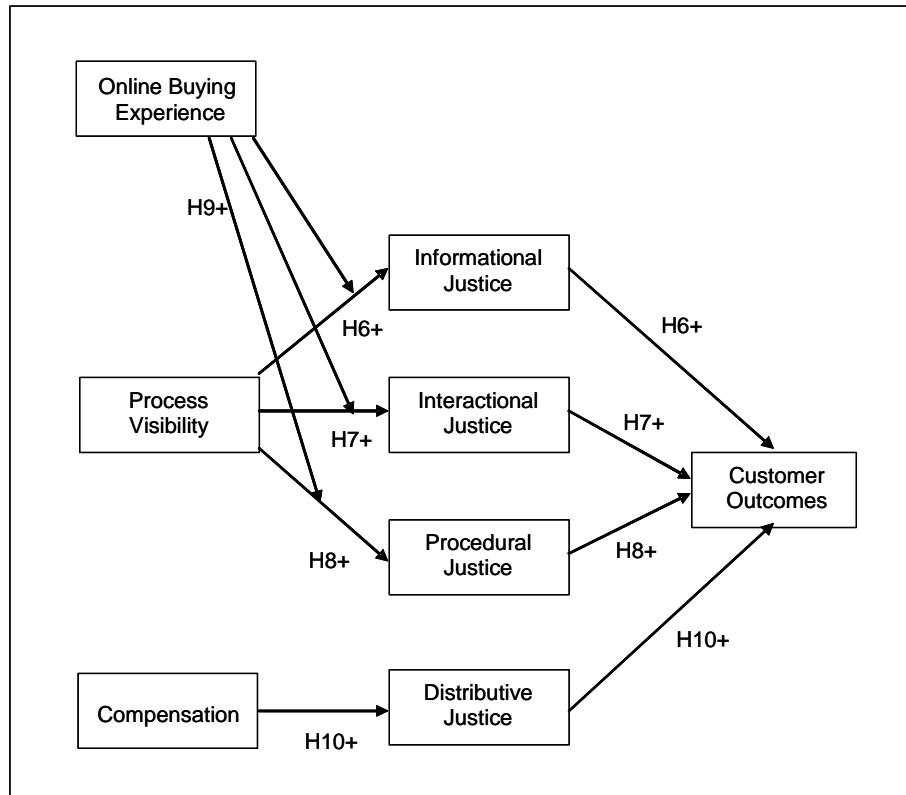


Figure 1. Perceived Justice mediation in the presence of problems

Chapter 4

4.0 RESEARCH METHODOLOGY

*“Why think?
Why not try the experiment?”*
John Hunter

4.1 METHOD

Because of the difficulty of finding customers with comparable real failure experiences and to control for possible extraneous variables, a scenario-based experiment was chosen. Scenarios are often used in marketing research to investigate service failures and complaints (Gilly and Hansen 1985; Goodwin and Ross 1992; Johnston and Fern 1999). Scenarios can be used to re-enact past events or rare and safety-critical events (Knight and Jefsioutine 2002). The use of scenarios avoids the expense and ethical considerations related to studying actual service failures, and reduces response bias due to imperfect recall (McCollough, Berry et al. 2000). Scenarios also provide control over otherwise unmanageable variables, and facilitate the compression of time by summarizing events that might otherwise unfold over days or weeks (Bitner 1990).

4.2 DESIGN

This experiment considers the interaction of: process visibility (Y, N), fulfillment problem (Y, N), and compensation (Y, N). However, only six scenarios are part of the design because compensation is manipulated only when failures occur. Scenarios vary with respect to fulfillment process visibility (i.e. information received by the customer about the status of a placed, but not yet received order), the presence of a fulfillment problem (i.e. unexpected delayed delivery of the product), and the presence of compensation (i.e. waiver of shipping charges if delay occurs). Each participant only sees one scenario to avoid the impact that expectations from other scenarios would have on subject's answers. In sum, a between-subjects, incomplete and unbalanced 2x2x2 design with two cells missing was used.

The dependent variables are customer outcomes, more specifically customer satisfaction, service satisfaction, repurchase intention and positive word of mouth. The other variables measured were distributive justice, procedural justice, interactional justice, informational justice, confirmation of expectations, attribution of blame and customer online buying experience. These variables were assessed with a multiple item survey measure. Lastly, demographic data, like age, gender and income, were collected.

4.3 MANIPULATIONS

To minimize the influence of extraneous variables, all scenarios (see Appendix D) described the same situation, the fulfillment of an online order:

“You notice in a news article a very positive review of an interesting new book. You see an online ad for BookSelection.com bookstore and decide to check it out. You go to BookSelection.com’s web site for the first time, and you find the book at a reasonable price. After you check other online bookstores you find out that BookSelection.com has the best price. Even better, the website indicates that the book is in stock and it can be delivered to you within 3-5 days by regular mail.

You decide to order the book. You put the book in the cart and go to the checkout page. You fill in the checkout form and select regular mail. You submit your order by clicking on the “Place Order” button and you are brought back to the BookSelection.com’s home page.”

This baseline scenario was modified in each of the conditions to manipulate fulfillment problem, process visibility and compensation. The depicted situation was chosen because it is where the discontinuity of electronic commerce is strongest. The purchase in question was a leisure book. The reasoning behind that choice was to use a problem that would not have harmful consequences to the customer, avoiding the introduction of urgency and the magnification of the problem. The issue explored was the expectation of delivery time instead of the need of having the good delivered at the promised date.

4.3.1 Manipulation of Process Visibility

Process visibility is defined as the degree to which the customer is allowed to see information about the fulfillment process. The process visibility manipulation was implemented by telling the subject that an email about the order status was sent, and listing the relevant information present in the communication. An actual email was not shown because of concerns with the size of the instrument. An example of that manipulation is:

“You immediately receive an email indicating that the order has been received and it will be processed. You go about your life. Two days later, you receive an email saying that due to high demand the book is backordered and it should be shipped in six days. Six days later, you receive another email saying that the package was shipped.”

In the scenarios with lack of process visibility, the manipulation was implemented as:

“You don't see any information about the status of your order. You go about your life. Nine days pass and you still don't receive anything about your order status.”

4.3.2 Manipulation of Fulfillment Problem

A fulfillment problem is defined as something that violates the expectations of the consumer about order fulfillment, i.e. a failure in the buying process occurs. The problem manipulation was implemented with a delay in the delivery because delays are common problems that are not caused by the customer. Furthermore, the company can discover and fix the problem

without the help of the customer, making it possible for the company to be proactive and show that it has the customer's best interest in mind.

The customer's expectation in the baseline scenario is to receive the book within 3-5 days. In the case of a fulfillment problem, subjects were told: *"The next day, ten days after ordering, the book arrives."* Otherwise, in the no fulfillment problem treatment, *"Two days later, five days after ordering the book, you receive it."*

4.3.3 Manipulation of Compensation

Compensation is defined as a symbolic atonement in response to a failure. The compensation manipulation was implemented by upgrading the shipping option and not charging shipping and handling costs in the case of a fulfillment problem, specifically a delay in the promised delivery time. Compensation can be done with a variety of mechanisms, like coupons for a future purchase, a discount on the current order, an extra product, etc. This particular type of manipulation was chosen because it gives adequate reparation to a small problem and the customer does not have to do anything extra, i.e. it would be with no strings attached as opposed to a coupon that requires a new purchase. Plus there is some empirical evidence (Jupiter 2002) that consumers (at least 53%) are willing to wait a little longer for their order if they do not have to pay shipping and handling fees.

The subjects with compensation would see the following sample information:

"Six days later, you receive another email saying that the package was shipped, the shipping was upgraded, and that you won't be charged at all for shipping and handling"

In the scenarios with no compensation, no such text was included.

4.4 PARTICIPANTS

Participants were selected among undergraduate and graduate students from a large American northeastern university. One concern with student subjects is the lack of life experience, however for this particular research they seem to be an appropriate population because it is important for the subjects to have some experience with the Internet. Otherwise it would be difficult for them to visualize the scenarios. Historically, those who are 18-29 are among the most wired demographic group since the introduction of the Internet, and reaching 83% of group penetration in August 2003 (Madden and Rainie 2003). Plus this university offers Internet access to all students and many are required to use it for classes. Finally, because a scenario-based experiment was used, the classroom academic setting was not a concern.

4.5 PROCEDURE

Data collection was done with a paper-and-pencil instrument applied in the participants' classrooms with permission of the instructor. A paper based setting was used to administer the survey to students in their classes, eliminating the need to take them to a computer lab.

In accordance with the between-subjects experimental design, only one scenario was presented to each participant. The questionnaires were distributed in order (scenario 1, 2, 3, 4, 5 and 6) to achieve random assignment, to prevent clusters and to balance the numbers of subjects in each condition.

To ensure that participation was voluntary, no cash incentive or extra credit was offered and the recruitment of participants was done ten minutes before the end of the class so they could leave if they wish. Furthermore, candy was distributed as a token of appreciation for hearing the request for participation, not for answering the questionnaire.

4.6 INSTRUMENT

This research utilized a single instrument divided into three sections (see appendices A, B, and C for samples of the instrument utilized in the pilot studies and appendix D for the instrument used in the main study). The first section was the scenario describing the order fulfillment experience.

The second section included Likert scales to evaluate the subject's reactions to the proposed scenario (customer outcomes, perceived justice). Additionally, it also included the questions related to manipulation checks to verify that the treatments were accurately perceived and worked as expected.

The third section contained Likert scale items to assess the customer online buying experience. The last section also included questions identifying demographic characteristics of participants that were asked in order to control for unanticipated effects that variables such as income, age and gender might have on the results. To protect anonymity, no personal information (name, email, or ID number) was collected.

Except for the manipulation checks, the items were randomly listed within each section (customer outcomes, perceived justice and online buying experience) to avoid systematic order and cluster answering effects.

4.7 MEASURES

The questionnaire was developed using measures found in the literature (See Table 3 for a summary of the measures). The items were adapted from several scales developed by researchers in marketing and organizational justice (Posthuma, Dworkin et al. 2000; Bhattacharjee 2001; Colquitt 2001; Maxham 2001; Maxham and Netemeyer 2002; Anderson and Srinivasan 2003; Maxham and Netemeyer 2003). The items are measured using a 7-point Likert scale that are anchored as 1=“Strongly Disagree” to 7=“Strongly Agree”, unless otherwise noted.

Customer online buying experience is used as a control variable according to the previous experience participants had with online buying. Two measures were used to assess experience, an objective one, asking how many purchases they’ve done in the last six months; and a subjective one using a Likert scale measure. The subjective online buying experience measure was based on the measure general web experience from Everard (2003), with 15 items, 7-point Likert scale, and alpha of 0.78. The scale items are: (a) I often purchase products or services on the Internet, (b) I am knowledgeable about Internet buying, (c) I feel lost when I buy something on the Internet (Reverse coded), and (d) I have accounts with various online retailers. For the objective online buying experience measure, the question is: How many times have you bought products/services on the Internet in the last 6 months?

Four customer outcomes are measured in this study: customer satisfaction, service satisfaction, repurchase intention, and positive word of mouth. The customer satisfaction measure is borrowed from Anderson and Srinivasan (2003), with 7-point Likert scale, and it was adapted from the scale developed by Oliver (1980) with alpha of 0.89. The scale items are: (a) I am satisfied with my decision to purchase from BookSelection.com, (b) My choice to purchase from

BookSelection.com was a wise one, (c) I think I did the right thing by buying from BookSelection.com, and (d) Overall, I'm satisfied with my experience with BookSelection.com.

The service satisfaction measure is adapted from Maxham (2001), with 7-point Likert scale and alpha of 0.94. The scale items are: (a) I am satisfied with BookSelection.com's service, (b) In my opinion, BookSelection.com provides a satisfactory service, (c) I am satisfied with the quality of BookSelection.com's service, and (d) As a whole, I am NOT satisfied with BookSelection.com's service (reverse coded).

The repurchase intention is also adapted from Maxham (2001) with 7-point Likert scale and alpha of 0.93. The scale items are: (a) The next time I want to buy a book I intend to use BookSelection.com's service, (b) I will continue using BookSelection.com's service to buy books, (c) How likely are you to buy your next book from BookSelection.com? (1="Very Unlikely" to 7="Very Likely"), and (d) The next time I purchase a book, I will NOT use BookSelection.com's service (reverse coded).

The positive word of mouth measure is also adapted from Maxham (2001) with 7-point Likert scale and alpha of 0.93. The scale items are: (a) How likely are you to spread positive word of mouth about BookSelection.com? (1="Very Unlikely" to 7="Very Likely"), (b) I would recommend BookSelection.com bookstore to my friends, (c) Given my experience with BookSelection.com bookstore, I would NOT recommend their service to my friends. (reverse coded), and (d) If my friends were looking for an online bookstore, I would tell them to try BookSelection.com bookstore.

Perceived justice is formed by four dimensions: distributive justice, procedural justice, interactional justice, and informational justice. The distributive justice measure is closely adapted from Maxham and Netemeyer (2003), no alpha reported. The scale items are: (a)

BookSelection.com effort to fix the problem resulted in an acceptable outcome for me, (b) The final outcome I received from BookSelection.com was fair, given the time and hassle, (c) Given the inconvenience caused by the delay, the outcome I received from BookSelection.com was fair, (d) The service recovery outcome that I received in response to the problem was more than fair, and (e) My final outcome from BookSelection.com was reasonable, given the problem seriousness.

The procedural justice measure is also closely adapted from Maxham and Netemeyer (2003), no alpha reported. The scale items are: (a) Despite the hassle caused by the delay in my order, BookSelection.com responded fairly and quickly, (b) I feel BookSelection.com responded in a timely fashion to the problem, (c) I believe BookSelection.com has fair policies and practices to handle problems, (d) With respect to its policies and procedures, BookSelection.com handled the problem in a fair manner, and (e) I feel that BookSelection.com procedures were free of prejudice.

The interactional procedure measure is adapted from Posthuma, Dworkin, and Swift (2000), Colquitt (2001) and Maxham and Netemeyer (2003). The scale items are: (a) BookSelection.com treated me with kindness and consideration, (b) BookSelection.com treated me with dignity and respect, (c) BookSelection.com treated me in a courteous manner, (d) BookSelection.com showed a real interest in trying to be fair, and (e) BookSelection.com took steps to deal with me in a truthful manner.

The informational justice measure is adapted from Posthuma, Dworkin, and Swift (2000), Colquitt (2001) and Maxham and Netemeyer (2003). The scale items are: (a) BookSelection.com has been candid in its communications with me, (b) BookSelection.com has communicated details in a timely manner, (c) BookSelection.com offered reasonable explanations about the problem, (d) BookSelection.com provided specific information about my problem, and (e) BookSelection.com gave me accurate information about my problem.

The confirmation of expectations measure is adapted from Bhattacharjee (2001), 3 items, 7-point Likert scale and alpha of 0.86. The scale items are: (a) My encounter with BookSelection.com was worse than I anticipated (reverse coded), (b) My experience with BookSelection.com was better than I expected, (c) BookSelection.com's level of service was better than what I expected, and (d) Overall, most of my expectations about buying from BookSelection.com were confirmed.

The attribution of blame measure is closely adapted from Maxham and Netemeyer (2002), alpha of at least 0.83. The scale items are: (a) BookSelection.com was responsible for the delay in my order, (b) The delay in my order was all BookSelection.com's fault, and (c) I blame BookSelection.com for the delay in my order.

Table 3. Study Measures

Measure	Source (All 7-point Likert scale)
Customer Satisfaction	(Anderson and Srinivasan 2003), alpha of 0.89 and adapted from Oliver (1980).
Service Satisfaction	(Maxham 2001) and alpha of 0.94.
Online Buying Experience	Based on General Web Experience from (Everard 2003), and alpha of 0.78
Repurchase Intention	(Maxham 2001) and alpha of 0.93.
Positive Word of Mouth	(Maxham 2001) and alpha of 0.93.
Confirmation of Expectations	(Bhattacharjee 2001) and alpha of 0.86.
Attribution of Blame	(Maxham and Netemeyer 2002) and alpha of at least 0.83.
Distributive Justice	(Maxham and Netemeyer 2003) and no alpha reported.
Procedural Justice	(Maxham and Netemeyer 2003) and no alpha reported.
Interactional Justice	(Posthuma, Dworkin et al. 2000; Colquitt, Conlon et al. 2001; Maxham and Netemeyer 2003)
Informational Justice	(Posthuma, Dworkin et al. 2000; Colquitt, Conlon et al. 2001; Maxham and Netemeyer 2003)

Chapter 5

5.0 PILOT STUDIES

*“No one who cannot rejoice in the discovery of his own mistakes
deserves to be called a scholar.”*

Donald Foster

Overall, four pilot studies were conducted (for sample questionnaires, see Appendices A, B, C, and D). The pilot studies were conducted from January to March 2005. The pilots provided a preliminary opportunity to run through the steps of the experiment. Therefore, the focus was the general administration of the instrument, the scenario applicability, ability of subjects to understand the wording of the instructions and items, and general direction of the findings (as opposed to statistical significance of the results). Additionally, the studies indicated several modifications that were incorporated into the main study.

5.1. PILOT RESULTS

The research framework evolved throughout the pilot studies. Throughout the process, new factors and new variables were included to better explain the impact that process visibility has on customer outcomes. The pilot studies started with two manipulations, process visibility and delay/problem, a third manipulation, compensation was added for the third and fourth pilot as well as the experiment. The pilot studies also started with a smaller framework, analyzing the impact of

process visibility, fulfillment problem and online buying experience, and by the third pilot compensation was added to expand the research. Furthermore, manipulations checks showed that the subjects did not perceive the desired manipulations, thus changes in scenarios and measures were made through the pilots.

As a result of parallel development of the conceptual model, the set of measured independent variables also grew. It started with online buying experience and attribution of blame; and in the second pilot, need for cognition and preference for predictability was added. However, in the third pilot, need for cognition and preference for predictability were replaced by perceived justice (distributive justice, procedural justice, interactional justice and informational justice) to reflect the change of research focus. Also included was confirmation of expectations (difference between expectation and actual delivery) to provide alternative explanation.

The survey instrument used in the experiment was composed of scales with two or more items that measured independent, dependent, and control variables. Most of the scales were adapted from previous studies. Table 4 shows the reliabilities found in the pilot studies, reported in terms of Cronbach's alpha and the numbers of item in each scale. Factor analysis was not possible due to the small samples.

Table 4. Pilot Studies Reliability Analysis

Alpha (# of Items)	Pilot 1	Pilot 2	Pilot 3	Pilot 4
Online Buying Experience	0.85 (6)	0.85 (5)	0.90 (4)	0.87 (4)
Customer Satisfaction	0.89 (6)	0.89 (6)	0.94 (4)	0.96 (4)
Service Satisfaction	0.95 (4)	0.90 (4)	0.95 (4)	0.93 (4)
Repurchase Intention	0.90 (4)	0.97 (4)	0.96 (4)	0.94 (4)
Positive Word of Mouth	0.95 (4)	0.96 (4)	0.91 (4)	0.87 (4)
Process Visibility Manipulation	0.92 (4)	0.90 (4)	0.84 (2)	0.87 (4)
Delay Problem Manipulation	0.93 (4)	----- (2)	----- (2)	----- (2)
Compensation Manipulation			0.89 (4)	0.98 (3)
Need for Cognition		0.71 (4)		
Preference for Predictability		0.76 (5)		
Confirmation of Expectations		0.91 (4)	0.87 (4)	0.85 (4)
Attribution of Blame	----- (1)	----- (1)	0.80 (3)	0.76 (3)
Distributive Justice			0.91 (5)	0.93 (5)
Procedural Justice			0.85 (5)	0.93 (5)
Interactional Justice			0.88 (5)	0.94 (5)
Informational Justice			0.89 (5)	0.95 (5)

5.2 PILOT 1

A between-subjects, 2x2 complete design, with four scenarios, was used and the manipulated factors were fulfillment problem (Y, N) and process visibility (Y, N). The dependent variables measured were customer satisfaction, service satisfaction, positive word of mouth and repurchase intention. The independent variables measured were online buying experience, and attribution of blame.

5.2.1 Data Description

The first pilot was conducted with 14 undergraduate students enrolled in an honors English class. The reliabilities of all the measures were above 0.85 (see Table 4). The measure online buying experience varied as expected in the data (see Table 5).

Table 5 and Table 6 present the characteristics of data used in the analysis for the first pilot.

Table 5. Data Description of Continuous Variables for Pilot 1

Variable	N	Mean	Std. Dev.	Skewness	Kurtosis
Online Buying Experience	14	4.58	1.19	-0.20	-1.46
Customer Satisfaction	14	4.46	1.33	-0.25	-1.69
Service Satisfaction	14	4.32	1.60	-0.16	-1.34
Repurchase Intention	14	4.07	1.28	0.33	0.11
Positive Word of Mouth	14	4.12	1.50	-0.09	-1.08
Age	14	20.86	2.07	1.01	0.78

Table 6. Data Description of Categorical Variables for Pilot 1

Variable	N	Item	Frequency	Percent
Gender	14			
		Male	1	7.1%
		Female	13	92.9%
Spending	14			
		Under \$100	3	21.4%
		\$100 – \$299	7	50%
		\$300 – \$599	3	21.4%
		\$600 – \$999	1	7.1%
		Over \$1000	0	0%

5.2.2 Manipulation Checks

Manipulation checks were included in the instrument to examine if the desired manipulations were being perceived. For process visibility, the items were: “*I had enough*

information about my order” and *“I felt that I knew what was going on with my order.”* A high score means that the subject perceived the process visibility manipulation. For fulfillment problem, the items were: *“My order’s fulfillment and delivery took the time I initially expected”* and *“The book arrived later than I had initially expected.”* A high score means that the subject perceived the fulfillment problem manipulation.

The manipulation check for fulfillment problem was significant ($p \leq 0.001$); however a problem emerged with the manipulation check for process visibility. Subjects perceived process visibility higher in the scenario of no process visibility and no problem than any other scenario, i.e. the subjects believed that they had process visibility when they did not (See Table 7 for results).

Table 7. Manipulation Checks for Pilot 1

VARIABLE	CONDITION	N	MEAN	STD. DEV	F	SIG.
Check for Problem	No Problem	7	2.00	0.91	83.54	0.000
	Problem	7	6.21	0.81		
VARIABLE	CONDITION	N	MEAN	STD. DEV	F	SIG.
Check for Visibility	No Visibility	8	3.75	2.24	1.410	0.258
	Visibility	6	4.92	0.97		

To correct the process visibility perception, the process visibility manipulation was strengthened with scenario modifications aimed at making the lack of process visibility more salient. That was accomplished with breaking the scenarios into paragraphs and introducing the sentence, *“Two/ Nine days pass and you don’t hear anything from the company”*, for the condition of no process visibility.

As for the process visibility manipulation check items themselves, it was assessed that they had ambiguous words like “enough” and “feel” that were eliminated (*“I had enough information about my order”* became *“I didn’t receive any information about my order status”* and *“I felt that*

I knew what was going on with my order” became “I knew what was going on with my order”), and also new items were included (“I was aware of the details of my order” and “I was informed about all aspects of my order”).

5.2.3 Design Assessment

Because it was established that there was a problem with the process visibility manipulation, only the assessment of the initial data direction was done. Besides, the sample size was small, so no statistical significance was expected. However, even with a small sample size, some relationships were significant. For the fulfillment problem manipulation, the F tests were significant for customer satisfaction ($p \leq 0.001$), service satisfaction ($p \leq 0.001$), and word of mouth ($p \leq 0.001$). Finally, based on feedback from the proposal presentation, new measures were included to investigate confirmation of expectations, attribution of blame, need for cognition and preference for predictability.

5.2.4 Summary of Changes

1. Scenarios were changed to make lack of process visibility more salient.
2. Items for the process visibility manipulation check were changed and new ones were also included.
3. New measures were introduced, namely confirmation of expectations, attribution of blame, need for cognition and preference for predictability.

5.3 PILOT 2

As in the first pilot study, a between-subjects, 2x2 complete design, with four scenarios, was used and the manipulated factors were fulfillment problem (Y, N) and process visibility (Y, N). The dependent variables measured were again customer satisfaction, service satisfaction, positive word of mouth and repurchase intention. The independent variable measured were online buying experience, confirmation of expectations, attribution of blame, need for cognition and preference for predictability.

5.3.1 Data Description

The second pilot was conducted with 26 graduate students enrolled in the MBA program. The reliabilities of the measures were above 0.8, except for need for cognition and preference for predictability (see Table 4); however, deleting some items from these measures improved the reliabilities to above 0.7. The measures online buying experience (see Table 8) and number of purchases (see Table 9) varied as expected in the data.

Table 8 and Table 9 present the characteristics of data used in the analysis of the second pilot.

Table 8. Data Description of Continuous Variables for Pilot 2

Variable	N	Mean	Std. Dev.	Skewness	Kurtosis
Online Buying Experience	26	5.81	1.15	-1.39	1.45
Attribution of Blame	26	5.12	2.05	-1.02	-0.20
Confirmation of Expectations	26	3.58	1.53	0.18	-1.55
Need for Cognition	26	5.45	0.80	-0.48	0.49
Preference for Predictability	26	4.44	0.97	-0.03	-0.46
Customer Satisfaction	26	4.29	1.46	-0.04	-0.89
Service Satisfaction	26	4.34	1.60	0.09	-1.44
Repurchase Intention	26	4.21	1.77	-0.15	-1.43
Positive Word of Mouth	26	4.10	1.63	-0.02	-1.27
Age	26	29.00	5.00	1.36	3.16

Table 9. Data Description of Categorical Variables for Pilot 2

Variable	N	Item	Frequency	Percent
Gender	26			
		Male	19	73.1%
		Female	7	26.9%
Spending	26			
		Under \$100	3	11.5%
		\$100 – \$199	1	3.8%
		\$200 – \$399	4	15.4%
		\$400 – \$599	6	23.1%
		\$600 – \$799	3	11.5%
		\$800 – \$999	2	7.7%
		Over \$1000	7	26.9%
Number of Buys				
		None	1	3.8%
		1 to 5	4	15.4%
		6 to 10	14	53.8%
		11 to 15	3	11.5%
		16 to 20	0	0%
		21 to 25	0	0%
		More than 25	4	15.4%

5.3.2 Manipulation Checks

As in the first pilot, manipulation checks were included. For process visibility, the items were changed based on the first pilot results and became: “*I didn’t receive any information about my order,*” “*I was aware of the details of my order,*” “*I was informed about all aspects of my order,*” and “*I knew what’s going on with my order.*” For the condition with a fulfillment problem, the items stayed the same.

Table 10. Manipulation Checks for Pilot 2

VARIABLE	CONDITION	N	MEAN	STD. DEV	F	SIG.
Check for Problem	No Problem	12	2.04	1.36	100.14	0.000
	Problem	14	6.39	0.84		
VARIABLE	CONDITION	N	MEAN	STD. DEV	F	SIG.
Check for Visibility	No Visibility	13	2.29	1.09	49.55	0.000
	Visibility	13	5.29	1.08		

As expected, based on the first pilot study, the subjects perceived a significant difference among the presence and absence of a fulfillment problem ($p \leq 0.001$), and after the changes made on the scenarios to highlight the lack of visibility, the subjects also perceived a significant difference between the presence and absence of process visibility ($p \leq 0.001$) (See Table 10 for results).

5.3.3 Design Assessment

As expected due to the small sample used in the analysis, the hypotheses were not supported. The dependent variables were all in the expected direction on both manipulations, but the F test was significant only for the fulfillment problem manipulation; customer satisfaction

($p \leq 0.01$), service satisfaction ($p \leq 0.01$), repurchase intention ($p \leq 0.01$), and word of mouth ($p \leq 0.01$). For the process visibility manipulation, only word of mouth was significant ($p \leq 0.05$).

At this point, several changes were made to the experimental materials to reflect the change of the focus to perceived justice and to extend the research with compensation. Changes were made in the scenarios and compensation was added to the design. As a consequence of compensation being included as a third manipulation, four new scenarios should have been added, however based on compensation's definition as an exchange for some loss, only two new scenarios were added. Furthermore, perceived justice (distributive, procedural, interactional and informational) was added as basis for explaining the link between process visibility and customer outcomes and the measures of need for cognition and preference for predictability were dropped because of concerns about the size of the instrument. To keep the survey to a manageable size, some other items were dropped after content and reliability analysis.

Another change was made related to the time frame of the scenario. It was recognized that different time units (days and weeks) were being used in different versions of the scenario. To increase uniformity, the scenarios were modified to use only days.

5.3.4 Summary of Changes

1. More details were added to the scenarios.
2. Compensation was included to the design.
3. Two new scenarios were added to incorporate compensation
4. Perceived justice dimensions (distributive, procedural, interactional and informational) were added as basis for explaining the link between process visibility and customer outcomes.

5. Need for cognition and preference for predictability were dropped.
6. Items were dropped from the measures online buying experience, customer satisfaction, and perceived process visibility (manipulation check).
7. The time unit in the scenarios were modified to use only days.

5.4 PILOT 3

A between-subjects, 2x2x2 incomplete design, with six scenarios, and two missing cells was used and the manipulated factors were fulfillment problem (Y, N), process visibility (Y, N) and compensation (Y, N). The dependent variables measured were again customer satisfaction, service satisfaction, positive word of mouth and repurchase intention. The independent variable measured were online buying experience, confirmation of expectations, attribution of blame, distributive justice, procedural justice, interactional justice and informational justice.

5.4.1 Data Description

The third pilot was conducted with 28 undergraduate students enrolled in an organizational behavior class. Overall, the reliabilities were above 0.83, except attribution of blame with 0.8 (see Table 3). The measures online buying experience and number of purchases varied as expected in the data (see Table 11).

Table 11 and Table 12 present the characteristics of data used in the analysis for the third pilot.

Table 11. Data Description of Continuous Variables for Pilot 3

Variable	N	Mean	Std. Dev.	Skewness	Kurtosis
Online Buying Experience	28	4.76	1.55	-0.65	-0.59
Customer Satisfaction	28	4.56	1.62	-0.11	-1.16
Service Satisfaction	28	4.44	1.70	-0.05	-1.29
Repurchase Intention	28	4.38	1.73	-0.21	-0.96
Positive Word of Mouth	28	4.33	1.59	-0.10	-1.28
Confirmation of Expectations	28	4.02	1.39	0.06	-1.25
Attribution of Blame	18	5.07	1.13	0.12	-0.88
Distributive Justice	18	3.98	1.17	-0.43	-1.03
Procedural Justice	18	4.32	1.12	-0.50	-0.15
Interactional Justice	18	4.12	1.15	-0.51	-0.41
Informational Justice	18	3.42	1.35	-0.15	-0.88
Age	28	20.36	1.57	1.83	4.19
Number of Buys	28	4.46	5.94	3.24	12.76

Table 12. Data Description of Categorical Variables for Pilot 3

Variable	N	Item	Frequency	Percent
Gender	28			
		Male	19	67.9%
		Female	9	32.1%
Spending	28			
		Under \$100	5	17.9%
		\$100 – \$199	13	46.4%
		\$200 – \$399	7	25%
		\$400 – \$599	2	7.1%
		\$600 – \$799	0	0%
		\$800 – \$999	1	3.6%
		Over \$1000	0	0%

5.4.2 Manipulation Checks

Again some problems with manipulations were encountered (see Table 13). As expected from the first and second pilots, the manipulation check for fulfillment problem was significant ($p \leq 0.001$). However, surprisingly neither the manipulation check for process visibility, nor the manipulation check for compensation was significant. While the manipulation check for compensation did not seem to work, customer satisfaction, service satisfaction, repurchase intention, word of mouth, and distributive justice all increased significantly with compensation. This suggested that while the items for the compensation manipulation check did not capture the manipulation, the subjects perceived compensation to have been provided.

Table 13. Manipulation Checks for Pilot 3

VARIABLE	CONDITION	N	MEAN	STD. DEV	F	SIG.
Check for Problem	No Problem	10	2.05	1.23	85.82	0.000
	Problem	18	5.97	0.98		
VARIABLE	CONDITION	N	MEAN	STD. DEV	F	SIG.
Check for Visibility	No Visibility	15	3.60	1.53	3.95	0.058
	Visibility	13	4.81	1.69		
VARIABLE	CONDITION	N	MEAN	STD. DEV	F	SIG.
Check for Compensation	No Compensation	19	2.39	1.41	0.01	0.915
	Compensation	9	2.33	1.37		

To correct these problems, manipulation checks for fulfillment problem and process visibility were moved to the beginning of the questionnaire and items for the compensation manipulation check were left at the end of survey.

As for the compensation manipulation check items themselves, it was assessed that the items were not capturing the subjects perceptions (*"I received monetary compensation from*

BookSelection.com,” “Besides the book, I got something extra from BookSelection.com,” “BookSelection.com gave me a bonus in my order,” and “I received additional compensation from BookSelection.com”), therefore new items were included (“I received an upgrade in my shipping option from standard to priority mailing,” “I was refunded my initial charges of shipping and handling,” and “I was compensated by the delay by Book Selection.com”).

Another problem was the manipulation of process visibility. As in pilot 1, subjects without fulfillment problems thought that they had all the necessary information. To address that, the scenarios were changed again to make the lack of visibility even more salient. Also a small change was also made to simplify one fulfillment problem manipulation check item (“*My order’s fulfillment and delivery took the time I initially expected*” became “*My order’s delivery took the time I initially expected*”).

5.4.3 Design Assessment

For fulfillment problem main effects, all dependent variables were significantly different for the manipulation. For compensation main effects, the dependent variables were all in the expected direction and the F tests were significant: customer satisfaction ($p \leq 0.01$), service satisfaction ($p \leq 0.01$), repurchase intention ($p \leq 0.001$), and word of mouth ($p \leq 0.001$). Due to the problems in the process visibility manipulation, the effects of process visibility and interactions were not considered. Also, to reduce the ceiling effect in the best case scenario, the number of days to the delivery (i.e. the initial expectation) was increased.

5.4.4 Summary of Changes

1. Manipulation checks for fulfillment problem and process visibility were moved to the beginning of the questionnaire.
2. Items for the compensation manipulation check were changed and left at end of survey.
3. Scenarios were changed to make the lack of visibility more salient.
4. Initial number of days to the delivery estimate was increased.

5.5 PILOT 4

As in the third pilot study, a between-subjects, 2x2x2 incomplete design with six scenarios and two missing cells was used and the manipulated factors were fulfillment problem (Y, N), process visibility (Y, N) and compensation (Y, N). The dependent variables measured were again customer satisfaction, service satisfaction, positive word of mouth and repurchase intention. The independent variables measured were online buying experience, confirmation of expectations, attribution of blame, distributive justice, procedural justice, interactional justice and informational justice.

5.5.1 Data Description

The fourth pilot was conducted with 18 undergraduate students enrolled in an accounting class. Overall, the reliabilities were above 0.85, except attribution of blame of 0.76 (see Table 4). The measures online buying experience and number of purchases varied as expected in the data (see Table 14).

Table 14 and Table 15 present the characteristics of data used in the analysis for the fourth pilot.

Table 14. Data Description of Continuous Variables for Pilot 4

Variable	N	Mean	Std. Dev.	Skewness	Kurtosis
Online Buying Experience	18	4.81	1.68	-0.75	1.04
Customer Satisfaction	18	5.04	1.45	-1.53	2.60
Service Satisfaction	18	4.81	1.53	-1.02	0.88
Repurchase Intention	18	4.79	1.60	-1.17	0.43
Positive Word of Mouth	18	4.85	1.32	-0.98	0.22
Confirmation of Expectations	18	4.06	1.35	0.03	-0.84
Attribution of Blame	12	3.72	1.43	-0.42	-0.67
Distributive Justice	12	4.37	1.45	-0.71	-0.34
Procedural Justice	12	4.32	1.53	-0.57	-0.48
Interactional Justice	12	4.15	1.66	-0.94	-0.31
Informational Justice	12	3.77	1.80	-0.34	-1.23
Age	18	22.50	8.17	3.76	14.95
Number of Buys	18	10.11	17.21	3.50	13.37

Table 15. Data Description of Categorical Variables for Pilot 4

Variable	N	Item	Frequency	Percent
Gender	18			
		Male	10	55.6%
		Female	8	44.4%
Spending	18			
		Under \$100	1	5.6%
		\$100 – \$199	6	33.3%
		\$200 – \$399	4	22.2%
		\$400 – \$599	1	5.6%
		\$600 – \$799	3	16.7%
		\$800 – \$999	1	5.6%
		Over \$1000	2	11.1%

5.5.2 Manipulation Checks

As expected from the previous pilot studies, the subjects perceived a significant difference among the presence and absence of fulfillment problem ($p \leq 0.001$), and after the changes made on the scenarios to highlight the lack of visibility and the manipulation check items, the subjects perceived a significant difference between the presence and absence of process visibility ($p \leq 0.001$). Also, after the changes made on the manipulation check items, the subjects perceived a significant difference between the presence and absence of compensation ($p \leq 0.001$) (see Table 16 for results).

Table 16. Manipulation Checks for Pilot 4

VARIABLE	CONDITION	N	MEAN	STD. DEV	F	SIG.
Check for Problem	No Problem	6	2.58	2.20	19.55	0.000
	Problem	12	6.00	1.13		
VARIABLE	CONDITION	N	MEAN	STD. DEV	F	SIG.
Check for Visibility	No Visibility	9	2.31	1.03	42.72	0.000
	Visibility	9	5.36	0.95		
VARIABLE	CONDITION	N	MEAN	STD. DEV	F	SIG.
Check for Compensation	No Compensation	12	2.03	1.44	28.57	0.000
	Compensation	6	5.67	1.17		

5.5.3 Design Assessment

Even though the sample size was small, most main effects and some of the interactions were statistically significant, suggesting a strong effect size.

For the fulfillment problem manipulation, F tests for all dependent variables were significant (customer satisfaction ($p \leq 0.01$), service satisfaction ($p \leq 0.01$), repurchase intention ($p \leq 0.01$), word of mouth ($p \leq 0.01$)). For process visibility and compensation manipulations, F

tests for customer satisfaction ($p \leq 0.05$), service satisfaction ($p \leq 0.05$) and repurchase intention ($p \leq 0.05$) were significant. For the interaction between Process Visibility * Problem, F tests for customer satisfaction ($p \leq 0.05$) and service satisfaction ($p \leq 0.05$) were significant. Distributive justice ($p \leq 0.01$) was significantly related to both compensation and process visibility. Interactional justice ($p \leq 0.05$) and informational justice ($p \leq 0.01$) were significantly associated with process visibility.

Based on this analysis of 18 responses, it was decided that the experiment was ready for final application. Because no changes were made to the instrument or scenarios, the fourth pilot data was incorporated into the experiment dataset.

Chapter 6

6.0 DATA ANALYSIS AND RESULTS

*“Errors using inadequate data are much less
than those using no data at all.”*

Charles Babbage

The main study was conducted in March 2005 in a large American northeastern university. As in the last pilot study, a between-subjects, 2x2x2 incomplete design with six scenarios and two missing cells was used. The manipulated factors were fulfillment problem (Y, N), process visibility (Y, N) and compensation (Y, N). The dependent variables measured were customer satisfaction, service satisfaction, positive word of mouth, and repurchase intention. The independent variable measured were online buying experience, confirmation of expectations, attribution of blame, distributive justice, procedural justice, interactional justice and informational justice.

6.1 DATA DESCRIPTION

The experiment was conducted with 153 undergraduates enrolled in five business classes. The classes were chosen based on the willingness of the instructors to allow the research to be performed. As in the pilots, participation in the study was voluntary and candy was distributed among all students, whether they participated or not. From the five classes, only 20 declined participation, and five had already participated in a previous class, thus the response rate was 88%.

Online buying experience was measured in two ways: an objective measure, asking how many times they made an online purchase in the last six months and a subjective measure, with items to assess their perceived online buying experience. An analysis was done to compare the objective self-reported measure number of measures and the perceived measure online buying experience. The first descriptive analysis of the measures showed high skewness and kurtosis for the number of purchase measure (see Table 17). Further analysis detected that two subjects had very high numbers of purchase (75, 100) relative to the sample (see Box Plot on Figure 2), with more than three standard deviations from the mean. Thus it was concluded that the presence of these two outliers were affecting the distribution.

Table 17. Descriptive Analysis of Online Buying Experience and Number of Purchase

Original	Mean	SD	Skewness	Kurtosis
Online Buying Experience	5.16	1.57	-0.85	-0.04
Number of Purchases	7.97	11.42	5.06	34.43
After Outliers Removal	Mean	SD	Skewness	Kurtosis
Online Buying Experience	5.14	1.57	-0.84	-0.05
Number of Purchases	6.92	6.68	1.64	2.32

After the removal of the outliers, the online buying experience measure is slightly skewed to the right and number of purchases measure is slightly skewed to the left, suggesting that the subjects' perceptions are biased (see histograms in Figure 3). Pearson's correlation coefficient is 0.56 ($p \leq 0.001$), and Spearman's rho is 0.70 ($p \leq 0.001$) (see Table 19 for all correlations). The measures are correlated suggesting that they are related but not identical measures. The objective variable number of purchases was chosen for the final covariate analysis, as it better represents the customer's real online buying experience.

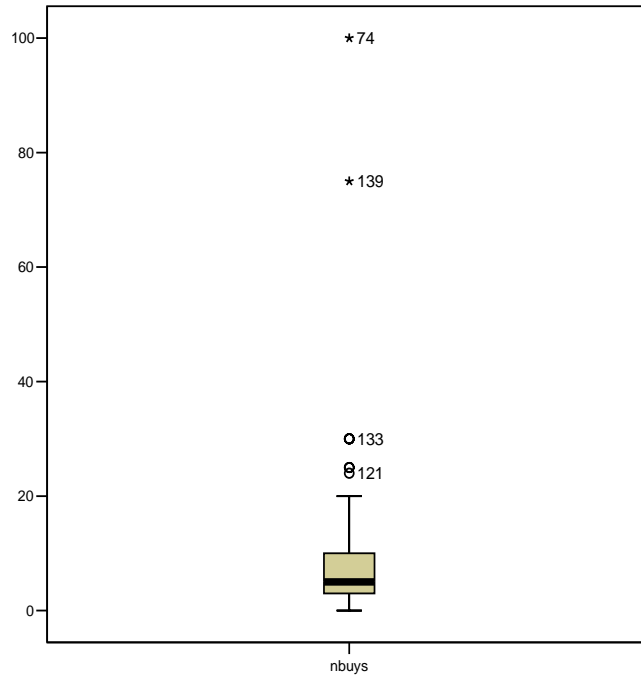


Figure 2. Boxplot for Number of Purchases

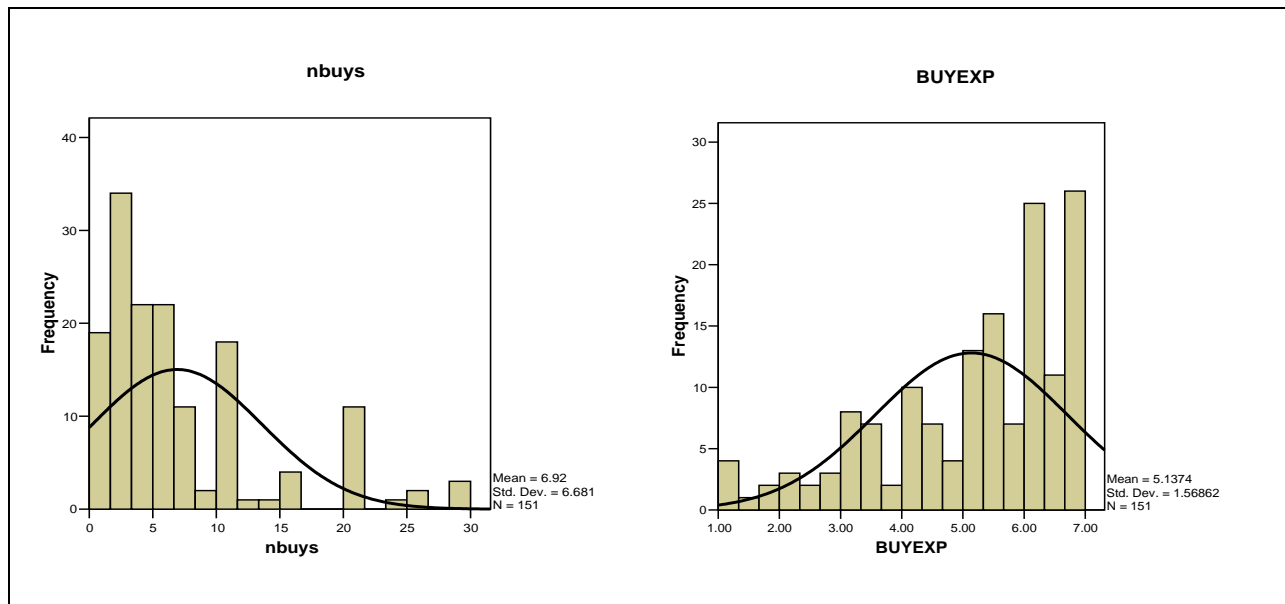


Figure 3. Histograms for the Measures Number of Purchases and Online Buying Experience

Other potential control variables are gender and spending (income available for spending). As can be seen on the correlation table (Table 19), there no significant correlation between gender and any other variable. As expected, spending is significantly ($p \leq 0.05$) correlated to number of purchases (Pearson coefficient = 0.17), but not significantly correlated with any of the dependent variables. A chi-square analysis was also conducted and none were significant (see Table 18 for results). Thus, it is concluded that no significant effect results from these variables.

Table 18. Pearson Chi-Square for Potential Control Variables

	Pearson Chi-Square	Degrees of Freedom	Significance
Process Visibility * Gender	0.53	1	0.465
Process Visibility * Spending	4.76	6	0.575
Fulfillment Problem * Gender	0.84	1	0.358
Fulfillment Problem * Spending	2.88	6	0.824
Compensation * Gender	0.43	1	0.513
Compensation * Spending	10.06	6	0.122

Table 20 and Table 21 present the characteristics of data used in the analysis for the main study. As these statistics show, there is enough variability in each construct.

Table 19. Correlation Table

Correlation Table	1	2	3	4	5	6	7
1. Online Buying Experience	1						
2. Numbers of Purchases	0.56 ^{***}	1					
3. Customer Satisfaction	0.15	0.09	1				
4. Service Satisfaction	0.11	0.10	0.94 ^{***}	1			
5. Repurchase Intention	0.16 [*]	0.09	0.94 ^{***}	0.92 ^{***}	1		
6. Positive Word of Mouth	0.17 [*]	0.09	0.94 ^{***}	0.93 ^{***}	0.95 ^{***}	1	
7. Confirmation of Expectations	0.12	0.02	0.82 ^{***}	0.85 ^{***}	0.81 ^{***}	0.85 ^{***}	1
8. Distributive Justice	0.07	0.16	0.78 ^{***}	0.80 ^{***}	0.78 ^{***}	0.79 ^{***}	0.65 ^{***}
9. Procedural Justice	0.07	0.16	0.77 ^{***}	0.81 ^{***}	0.74 ^{***}	0.78 ^{***}	0.67 ^{***}
10. Interactional Justice	0.06	0.18	0.70 ^{***}	0.78 ^{***}	0.70 ^{***}	0.73 ^{***}	0.66 ^{***}
11. Informational Justice	0.03	0.14	0.62 ^{***}	0.72 ^{***}	0.63 ^{***}	0.68 ^{***}	0.61 ^{***}
12. Attribution of Blame	0.08	0.07	-0.24 [*]	-0.30 ^{***}	-0.26 ^{***}	-0.32 ^{***}	-0.28 ^{***}
13. Gender	0.03	-0.01	0.05	0.07	0.03	0.03	0.06
14. Spending	0.10	0.17 [*]	-0.01	-0.01	-0.02	-0.01	-0.05
	8	9	10	11	12	13	14
8. Distributive Justice	1						
9. Procedural Justice	0.90 ^{***}	1					
10. Interactional Justice	0.83 ^{***}	0.91 ^{***}	1				
11. Informational Justice	0.68 ^{***}	0.78 ^{***}	0.84 ^{***}	1			
12. Attribution of Blame	-0.21 [*]	-0.21 [*]	-0.28 ^{***}	-0.35 ^{***}	1		
13. Gender	0.17	0.13	0.13	0.04	-0.03	1	
14. Spending	-0.04	-0.15	-0.19	-0.22 [*]	0.01	-0.08	1

***. Correlation is significant at level 0.01

*. Correlation is significant at level 0.05

Table 20. Data Description of Continuous Variables for Main Study

Variable	N	Mean	Std. Dev.	Skewness	Kurtosis
Online Buying Experience	151	5.14	1.57	-0.84	-0.05
Customer Satisfaction	151	4.25	1.62	-0.32	-0.77
Service Satisfaction	151	4.13	1.68	-0.20	-1.03
Repurchase Intention	151	4.15	1.67	-0.25	-1.04
Positive Word of Mouth	151	4.08	1.61	-0.13	-1.08
Confirmation of Expectations	151	3.70	1.39	0.22	-0.53
Attribution of Blame	100	4.16	1.47	-0.06	-0.49
Distributive Justice	100	4.05	1.42	-0.06	-0.49
Procedural Justice	100	4.14	1.41	-0.20	-0.94
Interactional Justice	100	3.96	1.56	-0.15	-0.83
Informational Justice	100	3.63	1.77	0.10	-1.22
Age	151	21.34	4.89	4.83	25.96
Number of Buys	151	6.92	6.68	1.64	2.32

Table 21. Data Description of Categorical Variables for Main Study

Variable	N	Item	Frequency	Percent
Gender	151			
		Male	76	50.3%
		Female	75	49.7%
Spending	151			
		Under \$100	29	19.2%
		\$100 – \$199	49	32.5%
		\$200 – \$399	36	23.8%
		\$400 – \$599	17	11.3%
		\$600 – \$799	13	8.6%
		\$800 – \$999	5	3.3%
		Over \$1000	2	1.3%

6.2 MANIPULATION CHECKS

Items to capture fulfillment problem, process visibility and compensation manipulation perceptions were included in the survey. A MANOVA was run to test the manipulations; each manipulation check was included as dependent variable and the corresponding manipulation (fulfillment problem, process visibility and compensation) as fixed factors. The F test for each manipulation check was significant ($p \leq 0.001$ in all cases) only for the corresponding fixed factor, thus it was concluded that all manipulations had the desired effect (see Table 22 for results).

Table 22. Manipulation Checks for Main Study

VARIABLE	CONDITION	N	MEAN	STD. DEV	F	SIG.
Check for Problem	No Problem	51	2.78	1.73	156.48	0.000
	Problem	102	6.04	1.12		
VARIABLE	CONDITION	N	MEAN	STD. DEV	F	SIG.
Check for Visibility	No Visibility	78	2.03	0.95	520.26	0.000
	Visibility	75	5.63	0.98		
VARIABLE	CONDITION	N	MEAN	STD. DEV	F	SIG.
Check for Compensation	No Compensation	107	2.01	1.29	158.07	0.000
	Compensation	46	5.51	1.42		

6.3 MEASURES ANALYSIS

The instrument used in the experiment included multi-item scales that measured independent, dependent and control variables. Most of the scales were adapted from previous studies. This section shows the reliabilities found in the experiment, reported in terms of Cronbach's alpha (Cronbach 1951). Overall the reliability measures found in the study were very high (see Table 23), only three are below 0.90: Online Buying Experience(0.88), Confirmation of Expectations (0.84) and Attribution of Blame (0.77), however they still are above the 0.7 threshold recommended by Nunnally (1978).

Also reported are the Cronbach's alpha measures for the cases where the deletion of an item improves the scale reliability; means, standard deviations and number of items. None of the scales was reduced, because the improvements in the scale were not meaningful.

Table 23. Reliability Analysis for Main Study

Scale	Alpha	Alpha (if deleted)	Mean	Standard Deviation	N of Items
Process Visibility Manipulation	0.95		3.80	0.22	4
Fulfillment Problem Manipulation	----		4.96	0.11	2
Compensation Manipulation	0.96		3.06	0.08	3
Online Buying Experience	0.88		5.16	1.57	4
Customer Satisfaction	0.95		4.23	0.03	4
Service Satisfaction	0.95		4.11	0.20	4
Repurchase Intention	0.94		4.13	0.11	4
Positive Word of Mouth	0.92	0.92 (1)	4.07	0.23	4
Confirmation of Expectations	0.84	0.86 (1)	3.68	0.49	4
Attribution of Blame	0.77	0.84 (1)	4.16	0.28	3
Distributive Justice	0.93		4.03	0.20	5
Procedural Justice	0.90	0.93 (5)	4.13	0.47	5
Interactional Justice	0.95		3.94	0.11	5
Informational Justice	0.95		3.63	0.13	5

Factor analysis was applied to assess validity of the measures (Nunnally 1978). Exploratory factor analysis (principal components method) using Varimax rotation was used. However, for customer outcome variables (customer satisfaction, service satisfaction, repurchase intention, and word of mouth) only one factor is given from the factor analysis instead of four, and for perceived justice only two factors were given instead of four (see Table 24 and Table 25 for loadings).

Table 24. Factor Analysis for Customer Outcomes

Customer Outcomes Items	Factor 1
Customer Satisfaction 1	0.939
Repurchase Intention 1	0.933
Positive Word of Mouth 2	0.927
Customer Satisfaction 3	0.926
Customer Satisfaction 2	0.922
Repurchase Intention 4	0.916
Repurchase Intention 2	0.915
Service Satisfaction 4	0.911
Service Satisfaction 1	0.911
Service Satisfaction 2	0.910
Customer Satisfaction 4	0.897
Positive Word of Mouth 4	0.894
Service Satisfaction 3	0.894
Positive Word of Mouth 3	0.887
Repurchase Intention 3	0.849
Positive Word of Mouth 1	0.814

Table 25. Factor Analysis for Perceived Justice

Perceived Justice Items	Factor 1	Factor 2
Distributive Justice 2	0.863	
Distributive Justice 3	0.829	
Distributive Justice 1	0.805	
Distributive Justice 4	0.784	
Procedural Justice 3	0.763	0.518
Procedural Justice 1	0.759	0.443
Distributive Justice 5	0.745	0.419
Interactional Justice 4	0.732	0.506
Procedural Justice 4	0.714	0.471
Interactional Justice 1	0.701	0.546
Procedural Justice 2	0.680	0.572
Procedural Justice 5	0.570	
Informational Justice 4		0.895
Informational Justice 5		0.880
Informational Justice 3		0.869
Informational Justice 1		0.798
Interactional Justice 5	0.459	0.777
Informational Justice 2	0.433	0.734
Interactional Justice 2	0.606	0.657
Interactional Justice 3	0.615	0.637

These results are the product of high correlation between the items. To solve that dilemma the logic of construct validation was followed and a more appropriate procedure was used, namely to compare the correlations of all items and scale averages. The scale formed by averaging its items need to be correlated more strongly with its items than with items in other scales (Carmines and Zeller 1979). The correlation analysis between scales and items demonstrates that the original scales have adequate validity for further analysis (see Table 26 and Table 27). In each row, correlations are higher for the proper scale.

Table 26. Validity for Customer Outcomes

Customer Outcomes Items / Scales	Customer Satisfaction	Service Satisfaction	Repurchase Intention	Positive Word of Mouth
Customer Satisfaction 1	0.95	0.90	0.90	0.91
Customer Satisfaction 2	0.94	0.88	0.90	0.88
Customer Satisfaction 3	0.95	0.89	0.89	0.88
Customer Satisfaction 4	0.92	0.87	0.85	0.86
Service Satisfaction 1	0.88	0.94	0.86	0.87
Service Satisfaction 2	0.87	0.94	0.86	0.87
Service Satisfaction 3	0.86	0.94	0.84	0.85
Service Satisfaction 4	0.89	0.92	0.86	0.89
Repurchase Intention 1	0.91	0.88	0.94	0.90
Repurchase Intention 2	0.89	0.86	0.94	0.87
Repurchase Intention 3	0.80	0.78	0.89	0.84
Repurchase Intention 4	0.88	0.87	0.93	0.90
Positive Word of Mouth 1	0.77	0.74	0.82	0.85
Positive Word of Mouth 2	0.89	0.89	0.90	0.94
Positive Word of Mouth 3	0.84	0.86	0.86	0.91
Positive Word of Mouth 4	0.87	0.86	0.85	0.91

Table 27. Validity for Perceived Justice

Perceived Justice Items / Scales	Distributive Justice	Procedural Justice	Interactional Justice	Informational Justice
Distributive Justice 1	0.84	0.71	0.65	0.49
Distributive Justice 2	0.91	0.86	0.80	0.61
Distributive Justice 3	0.93	0.84	0.80	0.65
Distributive Justice 4	0.87	0.78	0.66	0.61
Distributive Justice 5	0.87	0.79	0.77	0.66
Procedural Justice 1	0.83	0.91	0.80	0.69
Procedural Justice 2	0.80	0.90	0.83	0.77
Procedural Justice 3	0.85	0.93	0.87	0.75
Procedural Justice 4	0.81	0.85	0.81	0.68
Procedural Justice 5	0.54	0.67	0.55	0.43
Interactional Justice 1	0.79	0.86	0.92	0.73
Interactional Justice 2	0.74	0.84	0.94	0.78
Interactional Justice 3	0.75	0.82	0.93	0.77
Interactional Justice 4	0.82	0.86	0.88	0.72
Interactional Justice 5	0.69	0.77	0.90	0.84
Informational Justice 1	0.55	0.68	0.70	0.87
Informational Justice 2	0.67	0.74	0.74	0.87
Informational Justice 3	0.65	0.73	0.80	0.94
Informational Justice 4	0.59	0.69	0.76	0.93
Informational Justice 5	0.65	0.72	0.84	0.94

6.4 TEST OF HYPOTHESES

It was hypothesized that each customer outcome (customer satisfaction, service satisfaction, repurchase intention, and word of mouth) is affected by process visibility (H_1), online buying experience (H_2), and compensation (H_5) and two interactions: between process visibility and online buying experience (H_3), and process visibility and problem (H_4). The analysis was done using MANOVA (see Table 36), with customer satisfaction, service satisfaction, word of mouth, and repurchase intention as dependent variables; fulfillment problem, process visibility and compensation as fixed factors; and online buying experience as a covariate. A custom factorial design was run with all the main effects and only three two way interactions: process visibility * problem, process visibility * online buying experience, and process visibility * compensation. Because the design has unbalanced cell sizes and missing cells, type IV sum of squares was used (Speed, Hocking et al. 1978).

To test the impact of process visibility on customer outcomes, the F test for process visibility for each dependent variable (see means in Table 28, Table 29, Table 30, and Table 31) was checked and all were significant: customer satisfaction ($F=14.98$, $p \leq 0.001$), service satisfaction ($F=19.22$, $p \leq 0.001$), repurchase intention ($F=9.68$, $p \leq 0.01$), and word of mouth ($F=21.16$, $p \leq 0.001$), thus H_1 was supported.

To test H_2 , the F test for online buying experience was checked for each dependent variable and none was significant: customer satisfaction ($F=0.14$, $p > 0.05$), service satisfaction ($F=0.18$, $p > 0.05$), repurchase intention ($F=0.16$, $p > 0.05$), and word of mouth ($F=0.03$, $p > 0.05$), thus H_2 was not supported.

The hypothesized effect of compensation on customer outcomes was tested checking the F test for compensation for each dependent variable (see means in Table 32, Table 33, Table 34, and Table 35). Only service satisfaction ($F=3.31, p \leq 0.1$) and word of mouth ($F=3.40, p \leq 0.1$) were marginally significant, the others: customer satisfaction ($F=2.07, p > 0.05$), and repurchase intention ($F=2.48, p > 0.05$) were not significant, thus H_5 was not supported.

The theorized impact of the interaction of process visibility and online buying experience was tested by examining the results of the F test for the interaction process visibility*online buying experience for each dependent variable (see Figure 4, Figure 5, Figure 6 and Figure 7). Only service satisfaction ($F=4.44, p \leq 0.05$), and repurchase intention ($F=4.87, p \leq 0.05$) were significant, the others: customer satisfaction ($F=1.93, p > 0.05$) and word of mouth ($F=2.43, p > 0.05$) were not significant, thus H_3 was partially supported. As predicted, in the case of no process visibility customer outcomes are higher for novices, however in the case of process visibility it is the expert that has higher customer outcomes. Thus, it seems that the impact of process visibility is bigger for experienced customers.

To test H_4 , the F test for the interaction process visibility * problem was checked for each dependent variable (see Figure 8, Figure 9, Figure 10, and Figure 11) and none was significant: customer satisfaction ($F=0.75, p > 0.05$), service satisfaction ($F=0.34, p > 0.05$), repurchase intention ($F=0.52, p > 0.05$), and word of mouth ($F=2.11, p > 0.05$), thus H_4 was not supported.

Table 28. Customer Satisfaction Means for Process Visibility*Fulfillment Problem

		Fulfillment Problem***	
		No	Yes
Process*** Visibility	Customer Satisfaction		
	No	4.19	3.07
	Yes	6.19	4.50

*($p \leq 0.05$), ***($p \leq 0.001$)

Table 29. Service Satisfaction Means for Process Visibility*Fulfillment Problem

		Fulfillment Problem***	
		No	Yes
Process*** Visibility	Service Satisfaction		
	No	4.02	2.78
	Yes	6.18	4.56

*($p \leq 0.05$), ***($p \leq 0.001$)

Table 30. Repurchase Intention Means for Process Visibility*Fulfillment Problem

		Fulfillment Problem***	
		No	Yes
Process* Visibility	Repurchase Intention		
	No	4.02	3.00
	Yes	6.04	4.47

*($p \leq 0.05$), ***($p \leq 0.001$)

Table 31. Word of Mouth Means for Process Visibility*Fulfillment Problem

		Fulfillment Problem***	
		No	Yes
Process*** Visibility	Word of Mouth		
	No	3.84	2.91
	Yes	6.04	4.43

*($p \leq 0.05$), ***($p \leq 0.001$)

Table 32. Customer Satisfaction Means for Process Visibility*Compensation

		Compensation	
		No	Yes
Process*** Visibility	Customer Satisfaction		
	No	2.83	3.42
	Yes	4.40	4.61

*($p \leq 0.05$), ***($p \leq 0.001$)

Table 33. Service Satisfaction Means for Process Visibility*Compensation

		Compensation	
		No	Yes
Process*** Visibility	Service Satisfaction		
	No	2.52	3.17
	Yes	4.38	4.73

*($p \leq 0.05$), ***($p \leq 0.001$)

Table 34. Repurchase Intention Means for Process Visibility*Compensation

		Compensation	
		No	Yes
Process*** Visibility	Repurchase Intention		
	No	2.71	3.42
	Yes	4.34	4.59

*($p \leq 0.05$), ***($p \leq 0.001$)

Table 35. Word of Mouth Means for Process Visibility*Compensation

		Compensation	
		No	Yes
Process*** Visibility	Word of Mouth		
	No	2.69	3.21
	Yes	4.19	4.66

*($p \leq 0.05$), ***($p \leq 0.001$)

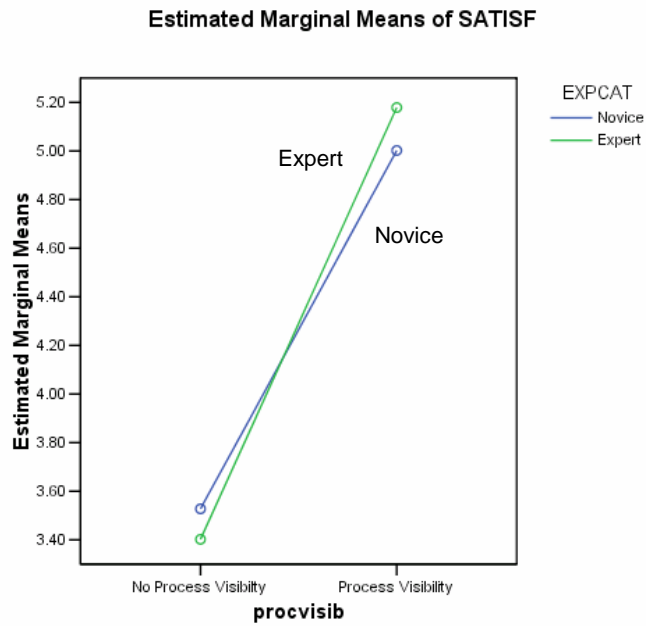


Figure 4. Customer Satisfaction on Process Visibility * Online Buying Experience

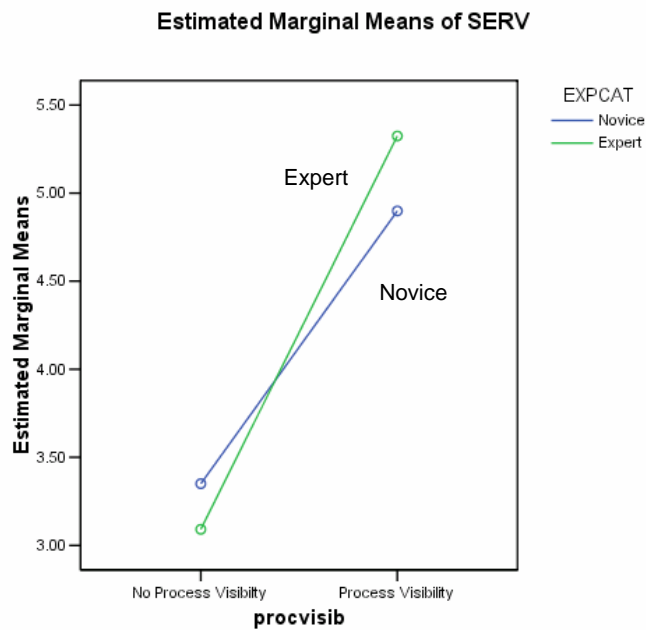


Figure 5. Service Satisfaction on Process Visibility * Online Buying Experience

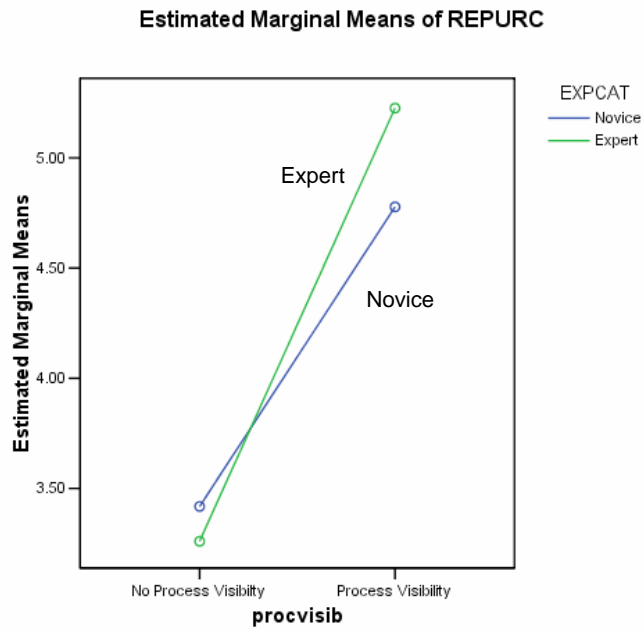


Figure 6. Repurchase Intention on Process Visibility * Online Buying Experience

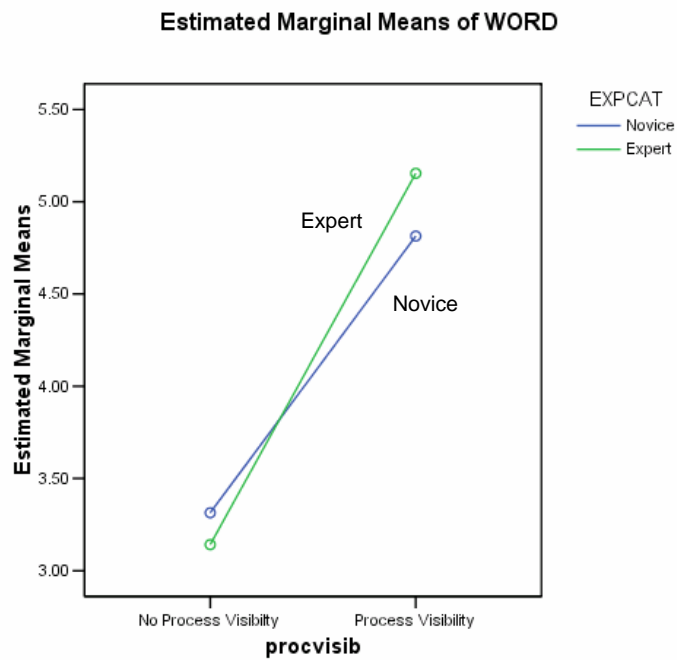


Figure 7. Word of Mouth on Process Visibility * Online Buying Experience

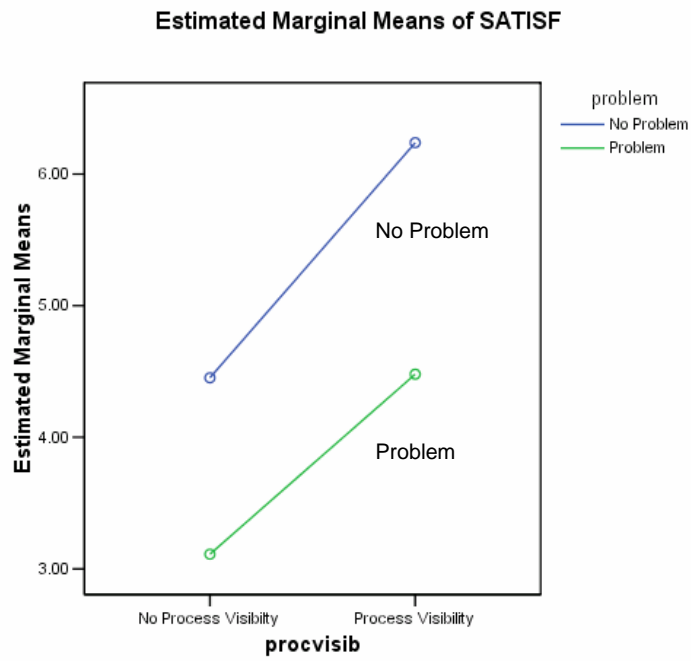


Figure 8. Customer Satisfaction on Process Visibility * Fulfillment Problem

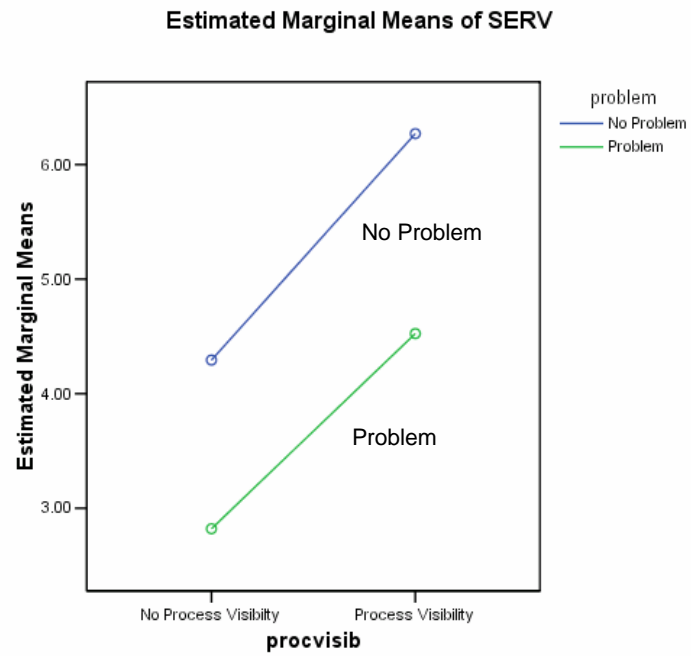


Figure 9. Service Satisfaction on Process Visibility * Fulfillment Problem

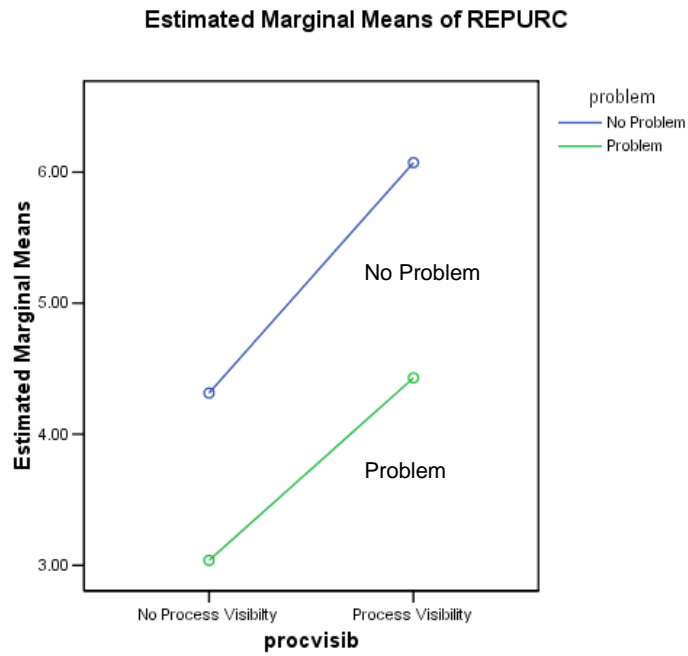


Figure 10. Repurchase Intention on Process Visibility * Fulfillment Problem

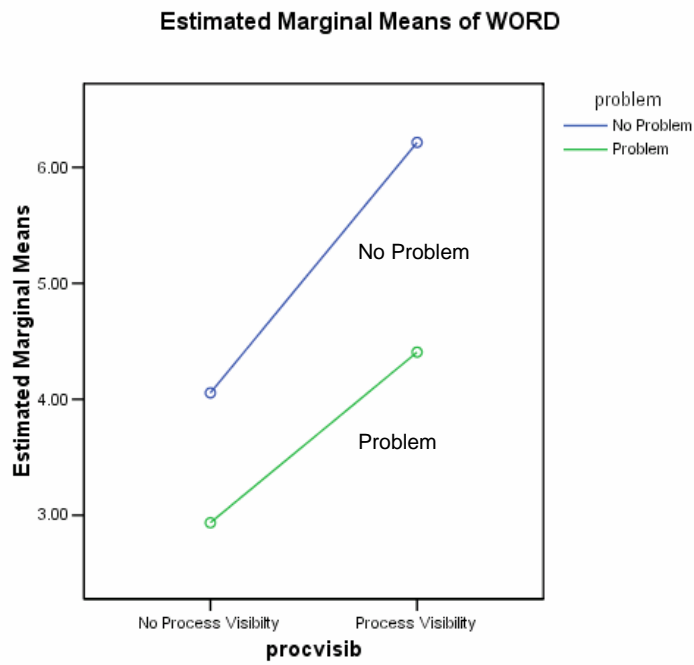


Figure 11. Positive Word of Mouth on Process Visibility * Fulfillment Problem

Table 36. MANOVA for Customer Outcomes

Source	Dependent Variable	Type IV Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Customer Satisfaction	175.92(a)	7	25.13	16.55	.000
	Service Satisfaction	220.22(b)	7	31.46	22.08	.000
	Repurchase Intention	177.70(c)	7	25.38	15.15	.000
	Positive Word of Mouth	183.49(d)	7	26.21	18.01	.000
Intercept	Customer Satisfaction	1135.63	1	1135.63	748.10	.000
	Service Satisfaction	1087.29	1	1087.29	763.12	.000
	Repurchase Intention	1080.01	1	1080.01	644.46	.000
	Positive Word of Mouth	1064.05	1	1064.05	731.27	.000
Process Visibility	Customer Satisfaction	22.75	1	22.75	14.98	.000
	Service Satisfaction	27.40	1	27.40	19.23	.000
	Repurchase Intention	16.23	1	16.23	9.68	.002
	Positive Word of Mouth	30.78	1	30.78	21.16	.000
Problem	Customer Satisfaction	62.23	1	62.23	40.99	.000
	Service Satisfaction	67.10	1	67.10	47.10	.000
	Repurchase Intention	55.16	1	55.16	32.91	.000
	Positive Word of Mouth	55.55	1	55.55	38.18	.000
Compensation	Customer Satisfaction	3.15	1	3.15	2.07	.152
	Service Satisfaction	4.72	1	4.72	3.31	.071
	Repurchase Intention	4.15	1	4.15	2.48	.118
	Positive Word of Mouth	4.94	1	4.94	3.40	.067
Number of Buys	Customer Satisfaction	.21	1	.21	.14	.712
	Service Satisfaction	.26	1	.26	.18	.672
	Repurchase Intention	.27	1	.27	.16	.689
	Positive Word of Mouth	.04	1	.04	.03	.871
Process visibility * Problem	Customer Satisfaction	1.14	1	1.14	.75	.388
	Service Satisfaction	.48	1	.48	.34	.561
	Repurchase Intention	.87	1	.87	.52	.473
	Positive Word of Mouth	3.07	1	3.07	2.11	.148
Process visibility * Compensation	Customer Satisfaction	.99	1	.99	.65	.420
	Service Satisfaction	.74	1	.74	.52	.472
	Repurchase Intention	1.58	1	1.58	.94	.333
	Positive Word of Mouth	.04	1	.04	.03	.862
Process visibility * Number of Buys	Customer Satisfaction	2.92	1	2.92	1.93	.167
	Service Satisfaction	6.33	1	6.33	4.44	.037
	Repurchase Intention	8.16	1	8.16	4.87	.029
	Positive Word of Mouth	3.53	1	3.53	2.43	.122
Error	Customer Satisfaction	217.08	143	1.52		
	Service Satisfaction	203.75	143	1.42		
	Repurchase Intention	239.64	143	1.68		
	Positive Word of Mouth	208.08	143	1.45		

a R Squared = .45 (Adjusted R Squared = .42) b R Squared = .52 (Adjusted R Squared = .50)
c R Squared = .43 (Adjusted R Squared = .40) d R Squared = .47 (Adjusted R Squared = .44)

It was also hypothesized that the perceived justice dimensions mediate the impact of process visibility (H₆, H₇, and H₈) and compensation (H₁₀) on customer outcomes. Given the nature of these hypotheses, regressions with mediation analysis were conducted, as well as calculations for the Sobel test (Preacher and Leonardelli 2001).

Consistent with Baron and Kenny (1986), four conditions were examined to test for mediation: (1) the independent variables (process visibility and compensation) must affect the mediator (perceived justice dimensions); (2) the independent variables (process visibility and compensation) must affect the dependent variables (customer outcomes); (3) the mediator (perceived justice dimensions) must affect the dependent variables (customer outcomes) while the independent variable is held constant; (4) the impact of independent variables (process visibility and compensation) on the dependent variables (customer outcomes) must be less after controlling for the mediator (perceived justice dimensions). Preacher and Leonardelli (2001) argue that these criteria can be used informally to judge whether or not mediation is occurring, and suggest the Sobel test to formally assess the mediation. Baron and Kenny (1986) affirm that the Sobel test provides an approximate significance test for the indirect effect of the independent variable on the dependent variable via the mediator.

Following the mentioned mediation criteria, three regression equations were calculated for each hypothesis. For the mediation hypothesis of an indirect effect of process visibility on customer outcomes via informational justice, the regression coefficients are shown in Table 37 and Table 38, and all of the regressions are significant ($p \leq 0.001$), thus criteria 1, 2 and 3 are satisfied. Furthermore, after controlling for the mediator the relationship of process visibility with the outcome variables is not significant, demonstrating a full mediation effect. The Sobel test is also significant in all of the cases (4.78, 5.65, 5.08, 5.60; all with $p \leq 0.001$). Thus, H₆ is supported.

Table 37. Regressions for process visibility as predictor

Dependent Variable	β	Adj. R²	F
Customer Satisfaction	0.46	0.21	26.86*
Service Satisfaction	0.56	0.31	45.20*
Repurchase Intention	0.46	0.20	26.28*
Word of Mouth	0.51	0.25	34.82*
Informational Justice	0.79	0.63	166.70*
Interactional Justice	0.65	0.41	70.86*
Procedural Justice	0.59	0.34	52.25*

*($p \leq 0.001$), n = 100

Table 38. Regressions for process visibility and informational justice as predictors

Dependent Variable	Predictor	β	Adj. R²	F
Customer Satisfaction	Process Visibility	-0.07	0.37	30.06*
	Informational Justice	0.67*		
Service Satisfaction	Process Visibility	-0.02	0.50	51.27*
	Informational Justice	0.73*		
Repurchase Intention	Process Visibility	-0.11	0.39	32.49*
	Informational Justice	0.72*		
Positive Word of Mouth	Process Visibility	-0.08	0.46	43.21*
	Informational Justice	0.75*		

*($p \leq 0.001$), n = 100

For the mediation hypothesis of an indirect effect of process visibility on customer outcomes via interactional justice, the regression coefficients are shown in Table 37 and Table 39, and all of the regression coefficients are significant ($p \leq 0.001$), thus criteria 1, 2 and 3 are satisfied. Furthermore, after controlling for the mediator the relationship of process visibility with the outcome variables is not significant, demonstrating a full mediation effect. The Sobel tests are also significant (5.44, 5.99, 5.42, 5.62; all with $p \leq 0.001$). Thus, H₇ is supported.

Table 39. Regressions for process visibility and interactional justice as predictors

Dependent Variable	Predictor	β	Adj. R²	F
Customer Satisfaction	Process Visibility	0.02	0.47	45.54*
	Interactional Justice	0.68*		
Service Satisfaction	Process Visibility	0.10	0.60	75.38*
	Interactional Justice	0.71*		
Repurchase Intention	Process Visibility	0.02	0.47	44.88*
	Interactional Justice	0.68*		
Positive Word of Mouth	Process Visibility	0.07	0.52	55.15*
	Interactional Justice	0.68*		

*($p \leq 0.001$), n = 100

For the mediation hypothesis of an indirect effect of process visibility on customer outcomes via procedural justice, the regression coefficients are shown in Table 37 and Table 40, and all of the regression coefficients are significant ($p \leq 0.001$), thus criteria 1, 2 and 3 are satisfied. Furthermore, after controlling for the mediator the relationship of process visibility with the outcome variables is not significant, demonstrating a full mediation effect. The Sobel tests are also significant (5.7584, 5.92, 5.50, 5.77; all with $p \leq 0.001$). Thus, H₈ is supported.

Table 40. Regressions for process visibility and procedural justice as predictors

Dependent Variable	Predictor	β	Adj. R²	F
Customer Satisfaction	Process Visibility	0.01	0.58	70.80*
	Procedural Justice	0.76*		
Service Satisfaction	Process Visibility	0.12	0.67	100.39*
	Procedural Justice	0.74*		
Repurchase Intention	Process Visibility	0.04	0.54	58.39*
	Procedural Justice	0.72*		
Positive Word of Mouth	Process Visibility	0.08	0.61	78.22*
	Procedural Justice	0.74*		

*($p \leq 0.001$), n = 100

The mediation hypothesis of an indirect effect of compensation on customer outcomes via distributive justice (H_{10}) was not tested because the direct effect of compensation on customer outcomes is not significant. Thus, H_{10} is not supported.

Lastly, it was hypothesized that perceived justice dimensions are affected by the interaction between process visibility and online buying experience (H_9). The analysis was done using MANOVA (see Table 41), with procedural justice, interactional justice, and informational justice as dependent variables; process visibility and compensation as fixed factors; and online buying experience as a covariate. A custom factorial design was run with all the main effects and only two two-way interactions: process visibility * online buying experience, and process visibility * compensation. Since the design has unbalanced cell sizes, type III sum of squares was used (Speed, Hocking et al. 1978).

The theorized impact of the interaction of process visibility and online buying experience was tested by performing an F test for the interaction process visibility * online buying experience for each dependent variable (see Figure 12, Figure 13, and Figure 14). None was significant: procedural justice ($p > 0.05$), interactional justice ($p > 0.05$), and informational justice ($p > 0.05$), thus H_9 was not supported.

Table 41. MANOVA for Perceived Justice

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Distributive Justice	68.036(a)	5	13.607	9.616	.000
	Procedural Justice	82.584(b)	5	16.517	13.502	.000
	Interactional Justice	114.632(c)	5	22.926	16.946	.000
	Informational Justice	203.748(d)	5	40.750	35.219	.000
Intercept	Distributive Justice	729.507	1	729.507	515.538	.000
	Procedural Justice	774.692	1	774.692	633.274	.000
	Interactional Justice	699.641	1	699.641	517.134	.000
	Informational Justice	604.678	1	604.678	522.607	.000
Process Visibility	Distributive Justice	9.082	1	9.082	6.418	.013
	Procedural Justice	20.337	1	20.337	16.624	.000
	Interactional Justice	42.194	1	42.194	31.187	.000
	Informational Justice	71.368	1	71.368	61.681	.000
Compensation	Distributive Justice	13.789	1	13.789	9.744	.002
	Procedural Justice	9.526	1	9.526	7.787	.006
	Interactional Justice	8.936	1	8.936	6.605	.012
	Informational Justice	1.012	1	1.012	.874	.352
Number of Buys	Distributive Justice	2.371	1	2.371	1.676	.199
	Procedural Justice	1.425	1	1.425	1.165	.283
	Interactional Justice	1.932	1	1.932	1.428	.235
	Informational Justice	.353	1	.353	.305	.582
Process Visibility * Compensation	Distributive Justice	1.398	1	1.398	.988	.323
	Procedural Justice	.026	1	.026	.021	.884
	Interactional Justice	1.206	1	1.206	.891	.348
	Informational Justice	1.990	1	1.990	1.720	.193
Process Visibility * Number of Buys	Distributive Justice	2.760	1	2.760	1.950	.166
	Procedural Justice	1.480	1	1.480	1.210	.274
	Interactional Justice	.063	1	.063	.047	.829
	Informational Justice	2.641	1	2.641	2.283	.134
Error	Distributive Justice	133.014	94	1.415		
	Procedural Justice	114.991	94	1.223		
	Interactional Justice	127.175	94	1.353		
	Informational Justice	108.762	94	1.157		

a R Squared = .338 (Adjusted R Squared = .303)

b R Squared = .418 (Adjusted R Squared = .387)

c R Squared = .474 (Adjusted R Squared = .446)

d R Squared = .652 (Adjusted R Squared = .633)

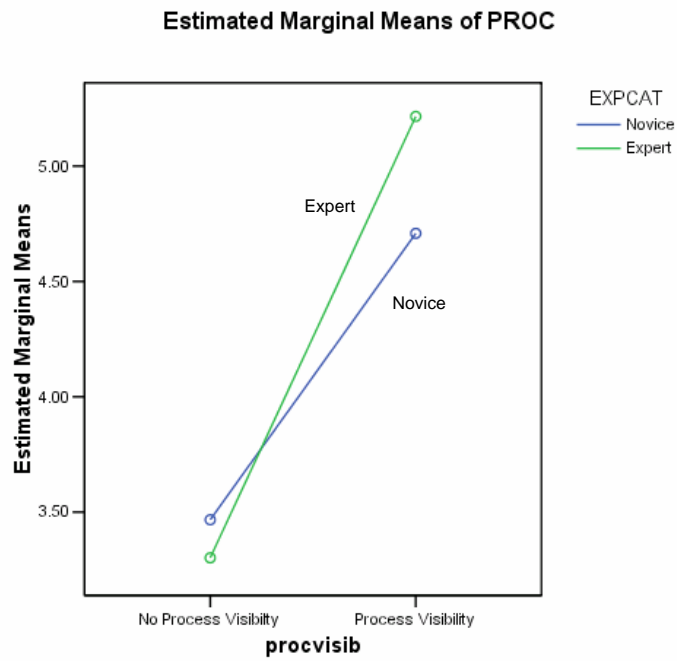


Figure 12. Procedural Justice on Process Visibility * Online Buying Experience

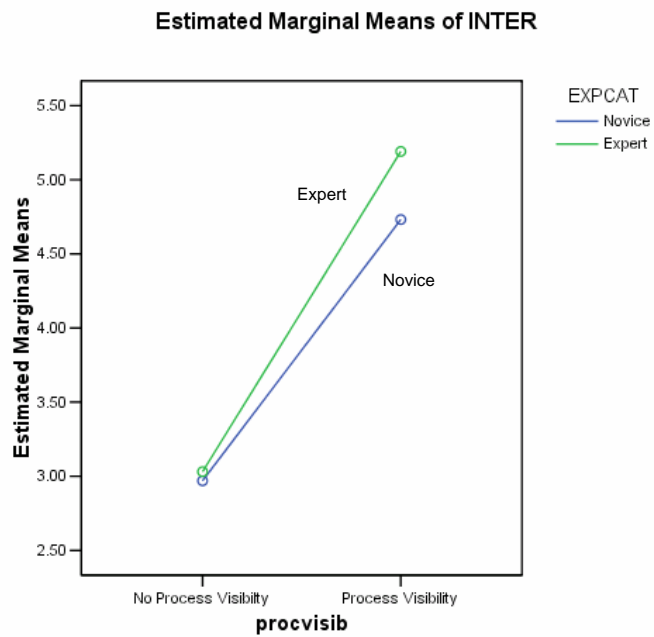


Figure 13. Interactional Justice on Process Visibility * Online Buying Experience

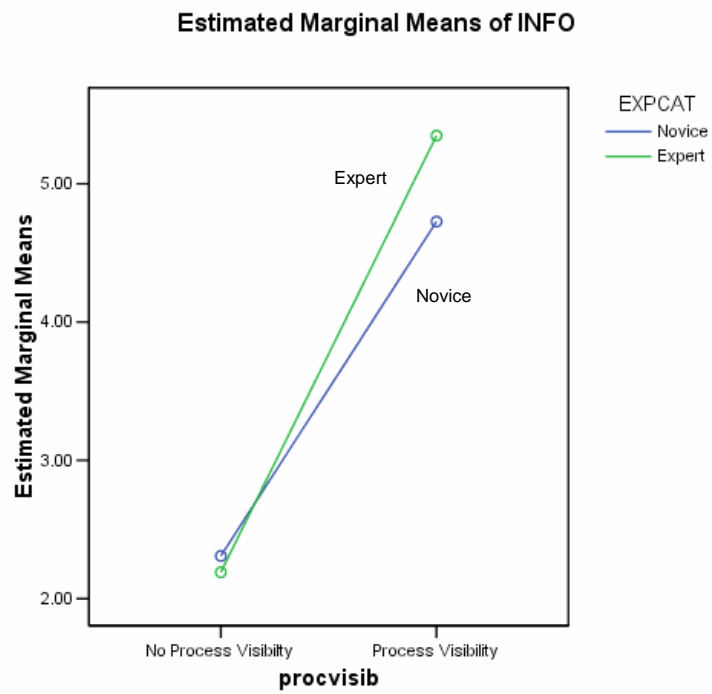


Figure 14. Informational Justice on Process Visibility * Online Buying Experience

Chapter 7

7.0 ADDITIONAL ANALYSIS

“The most exciting phrase to hear in science, the one that heralds new discoveries, is not “Eureka!” (“I found it!”), but rather “hmm....that’s funny...”
Isaac Asimov

7.1 RECOVERY PARADOX

The interaction of process visibility and problem showed no impact on customer outcomes. However, the recovery paradox predicts that the level of customer satisfaction after an effective recovery should be as high as, or even higher than the level of the case of no failure (McCollough and Bharadwaj 1992). Thus, the data was examined for the presence of a recovery paradox in the mild form. The customer satisfaction levels with the presence of process visibility after a failure with no compensation (Mean = 4.40, SD = 1.24) and with compensation (Mean = 4.61, SD = 1.47) is about the same as the case of no failure and no process visibility (Mean = 4.19, SD = 1.08) (see Figure 15). A post-hoc t-test shows that these differences are not significant, suggesting that the presence of process visibility restored customer satisfaction to a level as high as if no problem had occurred, thus showing support for the recovery paradox.

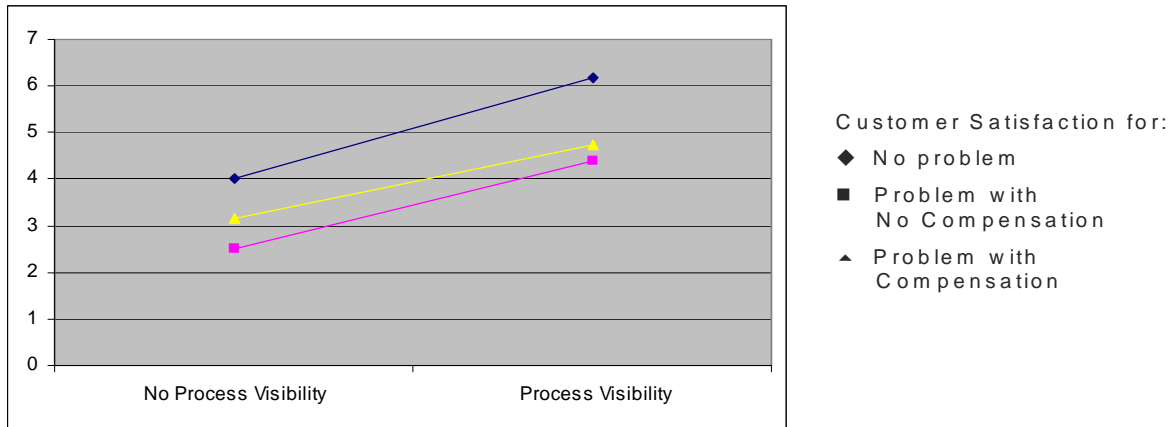


Figure 15. Changes on Customer Satisfaction Levels

7.2 ALTERNATE EXPLANATIONS FOR MEDIATION

An alternative explanation for mediation is attribution theory. It says that when someone else has erred, one tends to attribute that error to internal causes, but a person who makes the error tends to attribute that error to external causes (Heider 1958). When no information is released about a problem, the customer's tendency is to blame the company, because no other actor or external cause is visible to them; and that in turn reduces customer outcomes. Folkes (1988) indicates that attribution of blame can be modified by the information made available, by creating certain beliefs and by influencing the consumer's motivations. Because process visibility is used to inform the customer about the real causes of problems, like backorders or high demand, attribution of blame toward the company will be smaller, which in turn will lead to more positive customer outcomes. Process visibility can be used to show customers that everything that could be done to solve or to alleviate their problem is being done. To test that alternative, a mediation effect of

attribution of blame on the impact of process visibility on customer outcomes was examined. Attribution of blame was measured with Likert scale items (e.g. I blame BookSelection.com for the delay in my order) and a high score means that the subject blamed the online retailer for the delay in the order) (see histogram on Figure 16).

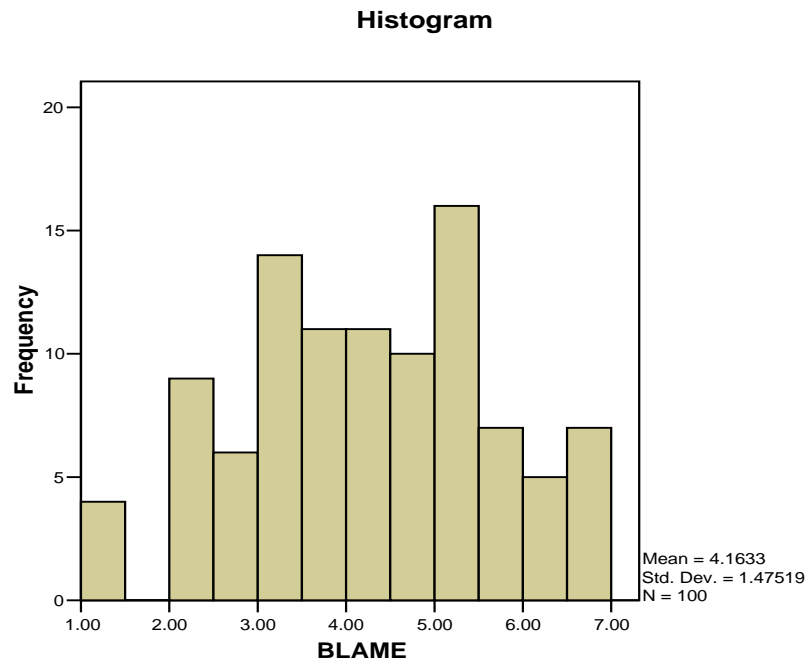


Figure 16. Histogram for Attribution of Blame

The regression coefficients used to test the mediation effects are shown in Table 37, Table 42 and Table 43. In Table 37 and Table 42, all of the regression coefficients are significant ($p \leq 0.001$). However, in Table 43, none of the regression coefficients are significant after controlling for process visibility. Thus, even though process visibility has a significant negative

direct effect on attribution of blame, attribution of blame has no mediation effect on the link between process visibility and customer outcomes.

Table 42. Regressions for process visibility as predictor

Dependent Variable	β	Adj. R²	F
Attribution of Blame	-0.34	0.10	12.49*
Confirmation of Expectations	0.46	0.20	26.56*

*($p \leq 0.001$)

Table 43. Regressions for process visibility and attribution of blame as predictors

Dependent Variable	Predictors	β	Adj. R²	F
Customer Satisfaction	Process Visibility	0.43*	0.21	13.95
	Attribution of Blame	-0.10		
Service Satisfaction	Process Visibility	0.52*	0.31	23.75
	Attribution of Blame	-0.12		
Repurchase Intention	Process Visibility	0.43*	0.21	13.94
	Attribution of Blame	-0.11		
Positive Word of Mouth	Process Visibility	0.45*	0.27	19.58
	Attribution of Blame	-0.17		

*($p \leq 0.001$)

Another alternative explanation is confirmation of expectations. The development of information technology and the dissemination of the Internet are creating an expectation of having information about everything you do almost immediately without the need to call customer service. One can check online bank account transactions, flight information, credit card charges, etc. Thus it can be expected that making the fulfillment process more visible is going to meet or exceed customers' expectations which in turn will lead to higher customer outcome levels. To assess that alternative, a mediation test of confirmation on the impact of process visibility on customer

outcomes was examined. The regression coefficients are shown in Table 37, Table 42 and Table 44, and all of the regression coefficients are significant ($p \leq 0.001$). Thus criteria 1, 2 and 3 are satisfied. Furthermore, after controlling for confirmation of expectations, the relationships of process visibility with the outcome variables are weaker, demonstrating a partial mediation effect. Thus, confirmation of expectations partially mediates the link between process visibility and customer outcomes.

Table 44. Regressions for process visibility and confirmation of expectations as predictors

Dependent Variable	Predictor	β	Adj. R^2	F
Customer Satisfaction	Process Visibility	0.15*	0.56	64.35*
	Confirmation of Expectations	0.67*		
Service Satisfaction	Process Visibility	0.25*	0.66	98.89*
	Confirmation of Expectations	0.67*		
Repurchase Intention	Process Visibility	0.14*	0.57	67.34*
	Confirmation of Expectations	0.69*		
Positive Word of Mouth	Process Visibility	0.18*	0.66	97.94*
	Confirmation of Expectations	0.72*		

* ($p \leq 0.001$)

Because informational justice, interactional justice and procedural justice all have a mediation effect between process visibility and customer outcomes, the regression of process visibility, informational justice, interactional justice and procedural justice on customer outcomes also should be significant. As expected, the regression is indeed significant (see Table 45). However the regression coefficients for informational justice and interactional justice are not, suggesting that procedural justice and confirmation are partial mediators of the link between process visibility and customer outcomes.

Table 45. Regressions for process visibility, perceived justice and confirmation as predictors

Dependent Variable	Predictor	β	Adj. R²	F
Customer Satisfaction	Process Visibility	-0.01	0.67	41.87*
	Procedural Justice	0.61*		
	Interactional Justice	-0.14		
	Informational Justice	0.00		
	Confirmation of Expectations	0.42*		
Service Satisfaction	Process Visibility	0.04	0.76	65.27*
	Procedural Justice	0.44*		
	Interactional Justice	0.00		
	Informational Justice	0.08		
	Confirmation of Expectations	0.42*		
Repurchase Intention	Process Visibility	-0.05	0.65	37.68*
	Procedural Justice	0.42*		
	Interactional Justice	-0.04		
	Informational Justice	0.10		
	Confirmation of Expectations	0.46*		
Positive Word of Mouth	Process Visibility	-0.03	0.75	59.11*
	Procedural Justice	0.48*		
	Interactional Justice	-0.14		
	Informational Justice	0.15		
	Confirmation of Expectations	0.50*		

* ($p \leq 0.001$)

7.3 INDIVIDUAL MANIPULATION CHECKS

Even though the general testing for manipulation checks indicated that the manipulations had the desired effect, an additional test of the manipulation checks was done. The additional test for the manipulation checks was run at the individual level, which means that a subject who missed any manipulation was excluded from the dataset. Missing a manipulation was defined as

ratings 4 or below when the manipulation is present and 4 or above when the manipulation is absent. For the process visibility manipulation, 13 (No - 4/ Yes - 7) subjects missed it; for the fulfillment problem manipulation, 19 (No - 10/ Yes - 9) missed it; and for the compensation manipulation, 20 (No - 12/ Yes - 8) missed it. A total of 40 subjects were excluded (2 subjects missed 3 manipulations, 6 missed 2 manipulations, and 32 missed 1 manipulation) leaving 111 subjects in the dataset.

The core analyses were redone with the subset. The main effects for process visibility and fulfillment problem remained significant, but the main effect for compensation became significant. This suggests that random noise in the full dataset might be influencing the previous non-significant results. The compensation manipulation seems to be the weakest of the study, with more people missing it, and that could be having an effect in the previous results. Future research is needed to determine whether the non-significant results were due to a weak manipulation or a smaller effect size.

All interactions are non-significant in the subset of the data. For the full dataset, the interaction process visibility * online buying experience was significant for service satisfaction and repurchase intention outcomes. However, the new interaction plots had the same quantitative results, suggesting that this result is probably due to loss of statistical power with the sample size going from 151 to 111.

Chapter 8

8.0 DISCUSSION, IMPLICATIONS AND CONCLUSION

“An investigator starts research and eventually the interplay of negative and positive results guides the work. By the time the research is completed, he or she knows how it should have been started and conducted”.

Donald Cram

8.1 DISCUSSION

A discontinuity in the buying process was introduced by electronic commerce, where the relationship between customers and retailers began to be mediated by information technology. That discontinuity means a gap in the buying process between the ordering and fulfillment process. Furthermore, this gap means that the customer does not have information about the order fulfillment related to the purchase made.

The purpose of this research was to examine the nature of the discontinuity introduced by the computer-mediation in electronic commerce and how intentionally making the process visible might mitigate the impact on customer outcomes. More specifically, the study addressed how the visibility of fulfillment process influences customers' perceptions of an online purchase. Compensation was also analyzed because of its impact on customer outcomes in the marketing literature as a satisfactory recovery strategy following a problem. See Table 46 for hypotheses and summary of results.

It was theorized that if the order fulfillment process is more visible, with features that keep customers informed without them asking, it shows that the company is proactive and that it cares about the customer after the sale, which will ultimately lead to higher customer outcomes. Online buying experience is also hypothesized to influence customer outcomes and the relationship between process visibility and customer outcomes. Experienced customers have better formed expectations, making them harder to surprise and please, thus high levels of online buying experience were expected to lead to lower customer outcomes. Furthermore, novice customers were expected to be delighted by process visibility, but sophisticated customers will take it for granted, leading to a bigger impact of process visibility for novice customers.

In the presence of problems, the impact of process visibility is expected to be even higher. If the retailer keeps customers informed about the problem without their asking, the impact of waits will be mitigated because the retailer has shown a desire to try to fix the problem, ultimately leading to higher customer outcomes. Compensation is also anticipated to positively impact customer outcomes, because it shows that the company is trying to address the inequity caused by the failure, compensating the customer for their inconvenience.

The research model also predicted that in the presence of problems, perceived justice dimensions mediate the impact of process visibility and compensation on customer outcomes. Compensation is expected to shape distributive justice and process visibility is expected to impact procedural justice, interactional justice, and informational justice. In the case of problems, process visibility will have a greater impact on perceived justice for novice customers than for experienced customers.

The results show that process visibility by itself has a positive impact on customer outcomes. The levels of customer satisfaction, service satisfaction, repurchase intention and

positive word of mouth all increased with the presence of process visibility, whether they had a problem or not. This suggests that keeping the customer informed is a viable way of improving customer outcomes, because the customer has a more favorable evaluation of the transaction if information about it is shared. Furthermore, customer satisfaction levels after a failure (independent of compensation) with the presence of process visibility is about the same as the case of no failure and no process visibility, meaning that the presence of process visibility restored customer satisfaction to a level as high as if no problem had happened, thus showing support for the recovery paradox, but suggesting that it may be attributable to a main effect associated with the additional service.

Online buying experience had no impact on customer outcomes. It is possible that the sample size did not provide enough statistical power to detect a small effect. Online buying experience does not moderate the impact of process visibility on perceived justice. It seems that no matter what your level of experience, process visibility is an important factor for your perceived fairness of the transaction.

However, online buying experience moderates the impact of process visibility on service satisfaction and repurchase intention. This suggests that the perceptions of customer satisfaction and word of mouth are less susceptible to online buying experience, i.e. novice and experienced customers perceptions do not vary much for customer satisfaction and word of mouth as they do for service satisfaction and repurchase intention. It might be the case that the experienced customer makes a clear distinction between outcome satisfaction and service satisfaction, where the novice does not.

Compensation did not show a direct impact on customer outcomes. Surprisingly, compensation had only a marginal impact ($p \leq 0.1$) on service satisfaction and word of mouth. It is

possible that this is a result of the particular scenarios used in the experiment. All of the scenarios described a purchase without urgency in the first encounter with an online retailer. Hence, if a problem occurred, it is likely that the customer's level of satisfaction was not highly damaged.

An interesting fact is that even with a low level of damage (or even no damage at all) perceived by the subjects, the impact of process visibility is significant, while the impact of compensation is not. This suggests that the impact of process visibility plays a more constant role in the formation of customers' perceptions than compensation. Compensation might be important only when high damage is involved. Bell and Zemke (1987) suggest that compensation is particularly important in the case of great dissatisfaction, but not necessary when addressing a small change in customer satisfaction. Future studies of compensation should address this claim.

Lastly informational, interactional, and procedural justice dimensions mediate the impact of process visibility on customer outcomes. Perceived justice or process visibility are not a factor in most electronic commerce research that investigates customer outcomes, usually the focus are perceived risk, trust, assurance, quality, navigability, etc. The discontinuity introduced by computer-mediation is missing from the electronic commerce framework, thus no attention was given to perceived justice and process visibility. It is true that the ordering process has visibility, however the reasoning for its introduction was only to make to customer able to buy. This gap has to be acknowledged for the development of electronic commerce research.

Table 46. Hypotheses and Summary of Results

	Hypotheses	Result
H ₁ .	Process visibility will positively impact customer outcomes.	Supported
H ₂ .	Online Buying Experience will negatively impact customer outcomes.	NOT Supported
H ₃ .	Process visibility will have a greater positive impact on customer outcomes for novice customers than for experienced customers.	Partially Supported
H ₄ .	If a problem arises, process visibility will have a greater positive impact on customer outcomes than would be in the absence of problem.	NOT Supported
H ₅ .	When a problem arises, compensation will positively impact customer outcomes.	NOT Supported
H ₆ .	In the presence of problems, informational justice will mediate the impact of process visibility on customer outcomes.	Supported
H ₇ .	In the presence of problems, interactional justice will mediate the impact of process visibility on customer outcomes.	Supported
H ₈ .	In the presence of problems, procedural justice will mediate the impact of process visibility on customer outcomes.	Supported
H ₉ .	In the presence of a problem, process visibility will have a greater positive impact on perceived justice for novice customers than for experienced customers.	NOT Supported
H ₁₀ .	In the presence of problems, distributive justice will mediate the impact of compensation on customer outcomes.	NOT Supported

Alternate explanations for the mediation results were also evaluated: attribution of blame and confirmation of expectations. Surprisingly, attribution of blame does not mediate the impact of process visibility on customer outcomes. It seems that customers are not looking for someone to blame, they just want information about what happened and when they will receive their purchases, they think it is only fair to have that kind of information. As anticipated, confirmation of expectations partially mediates the impact of process visibility on customer outcomes. Thus, it supports the use of the confirmation-disconfirmation model for electronic commerce contexts.

Finally, it seems that informational justice and confirmation of expectations partially mediate the impact of process visibility on customer outcomes. Thus it explains how process visibility translates into customers outcomes.

Another way of looking at the dilemma of the mediation effect of perceived justice is a factor analysis. The factor analysis of perceived justice dimensions showed only two factors instead of the four expected (see Table 24 and Table 25). As expected, informational justice loaded alone, showing that process visibility, that provides information about the fulfillment process, has an impact on informational justice. Surprisingly, the distributive, procedural, and interactive justices loaded together, suggesting that they are measuring the same thing. Some aspects of the scenarios might have influenced these results. First, the communications via email were not showed. The email itself, the way is written (with courtesy and politeness), might be essential for the perception of interactional justice. Second, because the company discovered the problem and fixed it, without the participation of the customer, the outcome and the process might be blurred. Thus the subject could not make the distinction between distributive and procedural justices. Therefore, further research needs to be done to assess the role of perceived justice.

8.2 IMPLICATIONS

The major practical implication from this study is that process visibility should be taken into consideration in online transactions. Attention should be given, when designing an electronic commerce system, to features that make the process more visible. It is shown that process visibility alleviates the discontinuity introduced by computer mediation, making the customer more satisfied, and increasing customer outcomes. Practitioners might be reluctant to reveal all the information about the problems, because it might call attention to the problem itself, but the study showed that even with problems, providing information is better than not. The customer feels that the incident is fair if s/he has information about it. The customer expects to be informed about the purchase and

feels it is not fair to be kept in the dark. Also, the lack of information will probably change how trust and risk are perceived.

The major theoretical implication of the study is that it demonstrates how and why electronic commerce is different from traditional commerce. The discontinuity will also affect other behavioral aspects of electronic commerce, like trust, perceived risk, etc; and technical aspects, like business integration, web site design, etc. This research study opens a new path to be followed by electronic commerce researchers.

This study also shows that process visibility, confirmation of expectations and perceived justice are related to customer outcomes in an electronic commerce context. Furthermore, it implies that perceived justice can also be used outside the context of complaint situations. In the case of no problems, confirmation of expectations only partially mediates the relationship between process visibility and customer outcomes, thus suggesting that something other than confirmation of expectations is at work. Further research should be done to extend perceived justice applications.

8.3 LIMITATIONS

Like most empirical research, the study has limitations. First, the results may be different given another online setting. This research only looked at electronic commerce transactions of a particular type of product: a book. Thus it is possible that the results are not generalizable for other online contexts or other products. However no indication was found that this would be the case.

Second, the convenience nature of the sample may limit the results. The sample used was composed of undergraduate students available through the instructor's permission, i.e. in a

convenience sample. There is no randomness on their selection, so it increases the likelihood of bias. Most of the subjects were business students and they could be different from other subjects, because they might be sensitized to business processes. Another potential bias is the age range, older customers might have different needs from customer service. Thus it is possible that the results are not generalizable to other customers.

Third, the measures need to be developed further. Most measures were adapted from other studies and one measure (online buying experience) was created specifically for this study. Some measures (customer outcomes) were adapted to the online context, and others (perceived justice dimensions) were adapted from non business contexts. The measures are very reliable (most were above 0.90, only three are below, the smallest is 0.77), but they could be developed further. Also some measures only can be used in the case of a potential complaint situation, thus a measure for perceived justice in general is needed.

Fourth, scenarios rely on people being able to predict their behavior in imagined events. However, it is expected that the sacrifices in external validity and realism are offset by gaining control of the various components of the transaction, without the ethical considerations associated with enacting actual service failures.

Despite these limitations, the study is expected to contribute to the online consumer behavior literature by offering a unique perspective on the role of process visibility.

8.4 FUTURE RESEARCH

In this research only the presence of process visibility was investigated. It was implemented in the experimental scenarios using only one type of process visibility. The next step in this research stream would be a follow up experiment, which would explore different aspects of process visibility. What would happen if we distinguish between active process visibility and passive process visibility? Active process visibility requires the customer to actively seek information, while passive process visibility means that the customer does not need to do anything – the information is sent to the customer. Passive process visibility allows the company to inform the customer about a problem and fix it even before the customer realizes that something was wrong. Active process visibility would give the same result for the customer, but the perception of the process might be different, because the company is only reacting to the customer's complaint.

In this study, perceived justice was measured only in the case of a fulfillment problem. The literature of perceived justice examined studied justice only in cases of conflict situations or problems; however the expected interaction between problem and process visibility was not supported. This result suggests that perceived justice is important also in case of no problems. It would therefore be interesting to determine if justice is also a factor when transactions are fulfilled without any problems.

Other variables should also be considered in future researches. Some that could be pursued are need for cognition, preference for predictability and perceived control. They were considered in initial stages of this study but a change of focus and scope limitation prevented them to be

investigated further. Nevertheless, it seems that they could help to explore further the role of process visibility.

Other factors should also be considered for manipulations. In this study there was no manipulation of salience or quality of process and outcomes. What would be the role of process visibility in case there are bad procedures? Process visibility would make salient a bad or inefficient process, so how perceived justice would be affected by that? These are important questions for the development of a process visibility framework.

While this study considers the role of process visibility in online retail transactions, process visibility is also likely to be significant in other domains. An interesting point for this research stream is the impact of process visibility on customer satisfaction in the context of electronic government. The services in electronic government seem to have a longer time period for delivery and more steps/milestones in the processes. In this case, process visibility could be even more important than in electronic commerce, where the product delivery averages only a week or two.

8.5 CONCLUSION

The discontinuity introduced by computer mediation in electronic commerce affects customers' perceptions of the transaction. Process visibility mitigates this discontinuity, having an impact on customer outcomes, even without the presence of problems. The customer feels more satisfied because the transaction is perceived as fair. If a problem occurs, the presence of process visibility gives the online retailer the opportunity to shape customers perceptions, changing a dissatisfied customer into a satisfied one. With this knowledge in hand, practitioners will be better able to develop essential electronic commerce features to increase the levels of customer outcomes, and researchers will be able to further develop their understanding of the dynamics of electronic commerce.

This research was intended to generate better understanding of the role of process visibility in customer outcomes, however more research is needed to complement and validate the findings. No matter what business context process visibility is studied, it seems that after all, "ignorance is *not* bliss" in business transactions.

APPENDICES

Appendix A

A. DATA COLLECTION MATERIAL – PILOT 1

Appendix A – Pilot 1

Experiment Factors

Process Visibility (Y, N) (manipulated) x Presence of Problem (Y, N) (manipulated) x Customer Online Experience (Novice, Experienced) (measured)

Proposed Scenarios

Scenarios	Process Visibility	Fulfillment Problem
1	No	No
2	No	Yes
3	Yes	No
4	Yes	Yes

Scenario 1 – Imagine the following scenario. You notice in a news article a good review of a book. You see an ad for Book Selection bookstore and decide to check it out. You go to Book Selection’s website for the first time, and you find the book at a reasonable price. After you check other bookstores you find out that Book Selection has the best price. Even better, the website indicates that the book is in stock and it can be delivered to you within 3-7 days by regular mail. You decide to order the book. You put the book in the cart and go to checkout. After you confirm all your information, like address and credit card, you submit your order by clicking on the “Place Order” button and you are brought back to the Book Selection’s homepage. You go about your life and five days later you receive the book

Scenario 2 – Imagine the following scenario. You notice in a news article a good review of a book. You see an ad for Book Selection bookstore and decide to check it out. You go to Book Selection’s website for the first time, and you find the book at a reasonable price. After you check other bookstores you find out that Book Selection has the best price. Even better, the website indicates that the book is in stock and it can be delivered to you within 3-7 days by regular mail. You decide to order the book. You put the book in the cart and go to checkout. After you confirm all your information, like address and credit card, you submit your order by

clicking on the “Place Order” button and you are brought back to the Book Selection’s homepage. You go about your life. Two weeks pass and you don’t hear anything from the company. You look in your records for the order information, but you can’t find it. The next day, the book arrives.

Scenario 3 – Imagine the following scenario. You notice in a news article a good review of a book. You see an ad for Book Selection bookstore and decide to check it out. You go to Book Selection’s website for the first time, and you find the book at a reasonable price. After you check other bookstores you find out that Book Selection has the best price. Even better, the website indicates that the book is in stock and it can be delivered to you within 3-7 days by regular mail. You decide to order the book. You put the book in the cart and go to checkout. After you confirm all your information, like address and credit card, you submit your order by clicking on the “Place Order” button and you are brought back to the Book Selection’s homepage. You immediately receive a note indicating that the order has been received and processed. Two days later, you receive an email saying that the package was shipped. Two days after that, five days after ordering the book, you receive it.

Scenario 4 – Imagine the following scenario. You notice in a news article a good review of a book. You see an ad for Book Selection bookstore and decide to check it out. You go to Book Selection’s website for the first time, and you find the book at a reasonable price. After you check other bookstores you find out that Book Selection has the best price. Even better, the website indicates that the book is in stock and it can be delivered to you within 3-7 days by regular mail. You decide to order the book. You put the book in the cart and go to checkout. After you confirm all your information, like address and credit card, you submit your order by clicking on the “Place Order” button and you are brought back to the Book Selection’s homepage. You immediately receive a note indicating that the order has been received and processed. Two days later, you receive an email saying that due to high demand, the book is backordered, and it should be shipped in one week. One week later you receive another email saying that the package was shipped. Two weeks after ordering the book, you receive it.

Demographics

- (a) Age
- (b) Gender
- (c) Income Availability

Measures

Customer Satisfaction (Anderson and Srinivasan 2003), with 7-point Likert scale (1= “Strongly Disagree” to 7= “Strongly Agree”). It was adapted from the scale developed by Oliver (1980) with alpha of 0.89, mean of 6.19 and standard deviation of 1.12

- (a) I am satisfied with my decision to purchase from this website.
- (b) If I had to purchase again, I would feel differently about buying from this website (reverse coded)
- (c) My choice to purchase from this website was a wise one.
- (d) I feel badly regarding my decision to buy from this website (reverse coded)
- (e) I think I did the right thing by buying from this website
- (f) I am unhappy that I purchased from this website (reverse coded)

Service Satisfaction (Maxham 2001), with 7-point Likert scale and alpha of 0.94.

- (a) I am satisfied with Book Selection’s service. (1=“Not at all Satisfied” to 7=“Very Satisfied”)
- (b) In my opinion, Book Selection provides a satisfactory service. (1=“Strongly Disagree” to 7=“Strongly Agree”)
- (c) How satisfied are you with the quality of Book Selection’s service? (1=“Not at all Satisfied” to 7=“Very Satisfied”)
- (d) As a whole, I am NOT satisfied with Book Selection’s service. (1=“Strongly Disagree” to 7=“Strongly Agree”) (reverse coded)

Customer Online Buying Experience (based on General Web Experience from Everard (2003), 7-point Likert scale (1= “Strongly Disagree” to 7= “Strongly Agree”) and alpha of 0.78.

- (a) I often use the web to gather information about products or services.
- (b) I often purchase products or services on the Internet.
- (c) I feel knowledgeable about Internet buying.

- (d) I feel lost when I buy something on the Internet (reverse coded)
- (e) I have accounts with various online retailers.

Plus

- (f) How many times did you buy products/services on the Internet in the last 6 months?

Repurchase Intention (Maxham 2001) with 7-point Likert scale and alpha of 0.93.

- (a) The next time I desire to buy a book I intend to use Book Selection's service. (1="Highly Improbable" to 7="High Probable")
- (b) I will continue using Book Selection's service for my book's needs. (1="Strongly Disagree" to 7="Strongly Agree")
- (c) How likely are you to purchase your next book from Book Selection's bookstore. (1="Very Unlikely" to 7="Very Likely")
- (d) The next time I purchase a book, I will NOT use Book Selection's service (reverse coded) (1="Strongly Disagree" to 7="Strongly Agree")

Word of Mouth (Maxham 2001) with 7-point Likert scale and alpha of 0.93.

- (a) How likely are you to spread positive word of mouth about Book Selection's bookstore? (1="Very Unlikely" to 7="Very Likely")
- (b) I would recommend Book Selection bookstore to my friends. (1="Strongly Disagree" to 7="Strongly Agree")
- (c) Given my experience with Book Selection bookstore, I would NOT recommend their service to my friends. (1="Strongly Disagree" to 7="Strongly Agree") (reverse coded)
- (d) If my friends were looking for an online bookstore, I would tell them to try Book Selection bookstore. (1="Strongly Disagree" to 7="Strongly Agree")

Manipulation checks

- (a) I had enough information about my order.
- (b) I felt that I knew what was going on with my order.
- (c) My order's fulfillment and delivery took the time I initially expected.
- (d) The book arrived later than I had initially expected.

Importance Measures

- (a) I consider a delay in the delivery a problem.
- (b) If I don't receive my order on the day it was promised, I believe it is Book Selection's fault.

Online Buying Survey

First of all, thank you for taking the time to participate in this survey; your answers are very important. This research study is interested in your attitudes towards an online retail store. There are no known risks in participating in this study and your answer will help us to better understand people's attitudes.

You will be asked to read a scenario describing an online customer's experience in a retail store. Please imagine yourself in the scenarios depicted. Read the scenario carefully and follow the instructions presented in each section.

Section A – Please provide the following information about yourself:

1. Age: ____ years

2. Gender: Male Female

3. In a typical month, how much do you spend on things other the rent, utilities and tuition?

Under \$100 \$300 – \$599 Over \$1000
 \$100 – \$299 \$600 – \$999

4. How many times did you buy products/services on the Internet in the last 6 months?

Less than 3 3 to 6 7 to 12
 13 to 24 More than 24

5. I often use the web to gather information about products or services.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

6. I often purchase products/ services on the Internet.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

7. I am knowledgeable about Internet buying.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

8. I feel lost when I buy something on the Internet.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

9. I have accounts with various online retailers.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Section B – Now imagine the following scenario.

You notice in a news article a good review of a book. You see an ad for ABC bookstore and decide to check it out. You go to ABC’s website for the first time, and you find the book at a reasonable price. After you check other bookstores you find out that ABC has the best price. Even better, the website indicates that the book is in stock and it can be delivered to you within 3-7 days by regular mail. You decide to order the book. You put the book in the cart and go to checkout. After you confirm all your information, like address and credit card, you submit your order by clicking on the “Place Order” button and you are brought back to the ABC’s homepage. You go about your life and five days later you receive the book .

Please respond the following questions related to the scenario you just read.

1. I am satisfied with my decision to purchase from this website.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

2. I consider a delay in the delivery time a problem.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

3. My order’s fulfillment and delivery took the time I initially expected.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

4. If had to purchase again, I would feel differently about buying from this website.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

5. My choice to purchase from this website was a wise one.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

6. I feel badly regarding my decision to buy from this website.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

7. I think I did the right thing by buying from this website.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

8. I am unhappy that I purchased from this website.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

9. I had enough information about my order.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

10. I felt that I knew was going on with my order.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

11. If I don't receive my order on the day it was promised, I believe it is Book Selection's fault.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

12. The next time I desire to buy a book I intend to use Book Selection's service.

Highly Improbable 1 2 3 4 5 6 7 High Probable

13. I will continue using Book Selection's service for my book's needs.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

14. How likely are you to purchase you next book from Book Selection's bookstore.

Very Unlikely 1 2 3 4 5 6 7 Very Likely

15. The next time I purchase a book, I will NOT use Book Selection's service.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

16. How likely are you to spread positive word of mouth about Book Selection's bookstore?

Very Unlikely 1 2 3 4 5 6 7 Very Likely

17. I would recommend Book Selection bookstore to my friends.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

18. Given my experience with Book Selection, I would NOT recommend their service to my friends.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

19. If my friends were looking for an online bookstore, I would tell them to try Book Selection bookstore.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

20. The book arrived later than I had initially expected.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Thank you for your time and participation.

Please make sure that you signed the consent form.

Appendix B

B. DATA COLLECTION MATERIAL – PILOT 2

Appendix B – Pilot 2

Experiment Factors

Process Visibility (Y, N) (manipulated) x Presence of Problem (Y, N) (manipulated) x Customer Online Experience (Novice, Experienced) (measured)

Proposed Scenarios

Scenarios	Process Visibility	Fulfillment Problem
1	No	No
2	No	Yes
3	Yes	No
4	Yes	Yes

Scenario 1

You notice in a news article a good review of a book. You see an online ad for Book Selection bookstore and decide to check it out. You go to Book Selection’s website for the first time, and you find the book at a reasonable price. After you check other online bookstores you find out that Book Selection has the best price. Even better, the website indicates that the book is in stock and it can be delivered to you within 3-7 days by regular mail.

You decide to order the book. You put the book in the cart and go to the checkout page. After you confirm all your information, like address and credit card, you submit your order by clicking on the “Place Order” button and you are brought back to the Book Selection’s homepage.

You go about your life. Two days pass and you don’t hear anything from the company. Three days after that, five days after ordering the book, you receive it.

Scenario 2

You notice in a news article a good review of a book. You see an online ad for Book Selection bookstore and decide to check it out. You go to Book Selection's website for the first time, and you find the book at a reasonable price. After you check other online bookstores you find out that Book Selection has the best price. Even better, the website indicates that the book is in stock and it can be delivered to you within 3-7 days by regular mail.

You decide to order the book. You put the book in the cart and go to the checkout page. After you confirm all your information, like address and credit card, you submit your order by clicking on the "Place Order" button and you are brought back to the Book Selection's homepage.

You go about your life. Two weeks pass and you don't hear anything from the company. You look in your records for the order information, but you can't find it. The next day, the book arrives.

Scenario 3

You notice in a news article a good review of a book. You see an online ad for Book Selection bookstore and decide to check it out. You go to Book Selection's website for the first time, and you find the book at a reasonable price. After you check other online bookstores you find out that Book Selection has the best price. Even better, the website indicates that the book is in stock and it can be delivered to you within 3-7 days by regular mail.

You decide to order the book. You put the book in the cart and go to the checkout page. After you confirm all your information, like address and credit card, you submit your order by clicking on the "Place Order" button and you are brought back to the Book Selection's homepage.

You immediately receive an email indicating that the order has been received and processed. You go about your life. Two days later, you receive an email saying that the package was shipped. Three days after that, five days after ordering the book, you receive it.

Scenario 4

You notice in a news article a good review of a book. You see an online ad for Book Selection bookstore and decide to check it out. You go to Book Selection's website for the first time, and you find the book at a reasonable price. After you check other online bookstores you find out that Book Selection has the best price. Even better, the website indicates that the book is in stock and it can be delivered to you within 3-7 days by regular mail.

You decide to order the book. You put the book in the cart and go to the checkout page. After you confirm all your information, like address and credit card, you submit your order by clicking on the "Place Order" button and you are brought back to the Book Selection's homepage.

You immediately receive an email indicating that the order has been received and processed. You go about your life. Two days later, you receive an email saying that due to high demand, the book is backordered, and it should be shipped in one week. One week later you receive another email saying that the package was shipped. Two weeks after ordering the book, you receive it.

Demographics

- (a) Age
- (b) Gender
- (c) Income Availability

Measures

Online Buying Experience: adapted from General Web Experience from Everard (2003), 15 items, 7-point Likert scale (1= "Strongly Disagree" to 7= "Strongly Agree") and alpha of 0.78.

- (a) I often use the web to gather information about products or services.
- (b) I often purchase products or services on the Internet.
- (c) I am knowledgeable about Internet buying.
- (d) I feel lost when I buy something on the Internet (reverse coded)

(e) I have accounts with various online retailers.

Plus

(f) How many times did you buy products/services on the Internet in the last 6 months?

Need for Cognition: adapted from Cacioppo, Petty and Kao (1984), 18 items, 7-point Likert scale (1= “Strongly Disagree” to 7= “Strongly Agree”) and alpha of 0.90.

(a) I prefer complex problems that require a lot of thought.

(b) I only think as hard as I have to. (reverse coded)

(c) I enjoy activities that make me think in a new way.

(d) I like to know how or why something works.

(e) I find pleasure in activities that require a lot of mental effort.

(f) I avoid tasks where I have to come up with new solutions. (reverse coded)

Preference for Predictability: from Gray and Butler (?), with 7-point Likert scale (1= “Strongly Disagree” to 7= “Strongly Agree”), 3 items with alpha of 0.75

(a) I like to know in advance what is going to happen before I do something.

(b) I don't like predictable situations. (reverse coded)

(c) I generally prefer situations where the outcomes are predictable.

(d) I enjoy the uncertainty of going into situations that are unpredictable. (reverse coded)

(e) Going into a situation without knowing what might happen bothers me.

Confirmation: adapted from Bhattacharjee (2001), 3 items, 7-point Likert scale (1= “Strongly Disagree” to 7= “Strongly Agree”) and alpha of 0.86.

(a) My encounter with Book Selection was worse than I anticipated (reverse coded)

(b) My experience with Book Selection was better than I expected.

(c) The service level provided by Book Selection was better than what I expected.

(d) Overall, most of my expectations about buying from Book Selection were confirmed.

Customer Satisfaction (Anderson and Srinivasan 2003), with 7-point Likert scale (1= “Strongly Disagree” to 7= “Strongly Agree”). It was adapted from the scale developed by Oliver (1980) with alpha of 0.8947.

- (a) I am satisfied with my decision to purchase from this website.
- (b) If I had to purchase again, I would feel differently about buying from this website (reverse coded)
- (c) My choice to purchase from this website was a wise one.
- (d) I feel badly regarding my decision to buy from this website (reverse coded)
- (e) I think I did the right thing by buying from this website
- (f) I am unhappy that I purchased from this website (reverse coded)

Service Satisfaction (Maxham 2001), with 7-point Likert scale and alpha of 0.94.

- (a) I am satisfied with Book Selection’s service. (1=“Not at all Satisfied” to 7=“Very Satisfied”)
- (b) In my opinion, Book Selection provides a satisfactory service. (1=“Strongly Disagree” to 7=“Strongly Agree”)
- (c) How satisfied are you with the quality of Book Selection’s service? (1=“Not at all Satisfied” to 7=“Very Satisfied”)
- (d) As a whole, I am NOT satisfied with Book Selection’s service. (1=“Strongly Disagree” to 7=“Strongly Agree”) (reverse coded)

Repurchase Intention (Maxham 2001) with 7-point Likert scale and alpha of 0.93.

- (a) The next time I desire to buy a book I intend to use Book Selection’s service. (1=“Highly Improbable” to 7=“High Probable”)
- (b) I will continue using Book Selection’s service for my book’s needs. (1=“Strongly Disagree” to 7=“Strongly Agree”)
- (c) How likely are you to purchase your next book from Book Selection’s bookstore. (1=“Very Unlikely” to 7= “Very Likely”)
- (d) The next time I purchase a book, I will NOT use Book Selection’s service (reverse coded) (1=“Strongly Disagree” to 7=“Strongly Agree”)

Positive Word of Mouth (Maxham 2001) with 7-point Likert scale and alpha of 0.93.

- (a) How likely are you to spread positive word of mouth about Book Selection's bookstore? (1="Very Unlikely" to 7= "Very Likely")
- (b) I would recommend Book Selection bookstore to my friends. (1="Strongly Disagree" to 7="Strongly Agree")
- (c) Given my experience with Book Selection bookstore, I would NOT recommend their service to my friends. (1="Strongly Disagree" to 7="Strongly Agree") (reverse coded)
- (d) If my friends were looking for an online bookstore, I would tell them to try Book Selection bookstore. (1="Strongly Disagree" to 7="Strongly Agree")

Attribution to Blame (1= "Strongly Disagree" to 7= "Strongly Agree").

- (a) If I don't receive my order when it was promised, I believe it is Book Selection's fault.

Perceived Process Visibility (1= "Strongly Disagree" to 7= "Strongly Agree").

- (a) I didn't receive any information about my order. (reverse coded)
- (b) I was aware of the details of my order.
- (c) I was informed about all aspects of my order.
- (d) I knew what's going on with my order.

Perceived Problem (1= "Strongly Disagree" to 7= "Strongly Agree").

- (a) My order's fulfillment and delivery took the time I initially expected.
- (b) The book arrived later than I had initially expected.

Online Buying Survey

First of all, thank you for taking the time to participate in this survey; your answers are very important. This research study is interested in your attitudes towards an online retail store. There are no known risks in participating in this study and your answer will help us to better understand people's attitudes.

You will be asked to read a scenario describing an online customer's experience in a retail store. Please imagine yourself in the scenarios depicted. Read the scenario carefully and follow the instructions presented in each section.

Section A – Imagine the following scenario.

You notice in a news article a good review of a book. You see an online ad for Book Selection bookstore and decide to check it out. You go to Book Selection's website for the first time, and you find the book at a reasonable price. After you check other online bookstores you find out that Book Selection has the best price. Even better, the website indicates that the book is in stock and it can be delivered to you within 3-7 days by regular mail.

You decide to order the book. You put the book in the cart and go to the checkout page. After you confirm all your information, like address and credit card, you submit your order by clicking on the "Place Order" button and you are brought back to the Book Selection's homepage.

You go about your life. Two days pass and you don't hear anything from the company. Three days after that, five days after ordering the book, you receive it.

Please respond the following questions related to the scenario you just read.

01. I didn't receive any information about my order.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

02. I am satisfied with my decision to purchase from this website.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

03. My encounter with Book Selection was worse than I anticipated.
 Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
04. If had to purchase again, I would feel differently about buying from this website.
 Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
05. I will continue using Book Selection's service for my book's needs.
 Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
06. How satisfied are you with the quality of Book Selection's service?
 Not at All Satisfied 1 2 3 4 5 6 7 Very Satisfied
07. My order's fulfillment and delivery took the time I initially expected.
 Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
08. I think I did the right thing by buying from this website.
 Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
09. How likely are you to purchase you next book from Book Selection's bookstore.
 Very Unlikely 1 2 3 4 5 6 7 Very Likely
10. My experience with Book Selection was better than I expected.
 Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
11. I am unhappy that I purchased from this website.
 Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
12. I knew was going on with my order.
 Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
13. In my opinion, Book Selection provides a satisfactory service.
 Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
14. The service level provided by Book Selection was better than what I expected.
 Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
15. The next time I desire to buy a book I intend to use Book Selection's service.
 Highly Improbable 1 2 3 4 5 6 7 High Probable
16. How likely are you to spread positive word of mouth about Book Selection's bookstore?
 Very Unlikely 1 2 3 4 5 6 7 Very Likely
17. I would recommend Book Selection bookstore to my friends.
 Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

18. I was aware of the details of my order.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

19. I am satisfied with Book Selection's service.

Not at All Satisfied 1 2 3 4 5 6 7 Very Satisfied

20. I feel badly regarding my decision to buy from this website.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

21. Given my experience with Book Selection, I would NOT recommend their service.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

22. The next time I purchase a book, I will NOT use Book Selection's service.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

23. Overall, most of my expectations about buying from Book Selection were confirmed.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

24. If my friends were looking for an online bookstore, I would tell them to try Book Selection.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

25. I was informed about all aspects of my order.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

26. As a whole, I am NOT satisfied with Book Selection's service.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

27. The book arrived later than I had initially expected.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

28. My choice to purchase from this website was a wise one.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

29. If I didn't receive my order when it was promised, I believe it is Book Selection's fault.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Section B – Now please provide the following information about yourself:

30. I find pleasure in activities that require a lot of mental effort.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

31. I often use the web to gather information about products or services.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
32. I like to know in advance what is going to happen before I do something.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
33. I prefer complex problems that require a lot of thought.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
34. I often purchase products/ services on the Internet.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
35. I don't like predictable situations.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
36. I only think as hard as I have to.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
37. I am knowledgeable about Internet buying.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
38. I generally prefer situations where the outcomes are predictable.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
39. I enjoy activities that make me think in a new way.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
40. I feel lost when I buy something on the Internet.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
41. I like to know how or why something works.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
42. I enjoy the uncertainty of going into situations that are unpredictable.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
43. I have accounts with various online retailers.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
44. I avoid tasks where I have to come up with new solutions.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
45. Going into a situation without knowing what might happen bothers me.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

46. Age: ____ years

47. Gender: Male

Female

48. In a typical month, how much do you spend on things other than rent, utilities and tuition?

Under \$100

\$100 – \$199

\$200 – \$399

\$400 – \$599

\$600 – \$799

\$800 – \$999

Over \$1000

49. How many times did you buy products/services on the Internet in the last 6 months?

None

1 to 5

6 to 10

11 to 15

16 to 20

21 to 25

More than 25

Thank you for your time and participation.

Appendix C

C. DATA COLLECTION MATERIAL – PILOT 3

Appendix C – Pilot 3

Design: 2x3 - Process Visibility (No, Yes) x Service Performance (no failure, no recovery, recovery)

Common Beginning - Imagine the following scenario:

You notice in a news article a very positive review of an interesting new book. You see an online ad for BookSelection.com bookstore and decide to check it out. You go to BookSelection.com's web site for the first time, and you find the book at a reasonable price. After you check other online bookstores you find out that BookSelection.com has the best price. Even better, the website indicates that the book is in stock and it can be delivered to you within 3-5 days by regular mail.

You decide to order the book. You put the book in the cart and go to the checkout page. You fill in all the necessary information and select regular mail. After confirming all your information, like address and credit card, you submit your order by clicking on the "Place Order" button and you are brought back to the BookSelection.com's home page.

Scenario 1 (No Process Visibility, No Problem) - You go about your life. Two days pass and you don't hear anything from the company. Two days later, four days after ordering the book, you receive it.

Scenario 2 (No Process Visibility, No Recovery) - You go about your life. Nine days pass and you don't hear anything from the company. The next day, ten days after ordering, the book arrives.

Scenario 3 (No Process Visibility, Recovery) - You go about your life. Nine days pass and you don't hear anything from the company. The next day, ten days after ordering, the book arrives. You notice that the order came via priority mail, even though you selected regular mail. You open the box and you see from the receipt that you were not charged for shipping and handling.

Scenario 4 (Process Visibility, No Problem) - You immediately receive an email indicating that the order has been received and it will be processed. You go about your life. Two days later, you receive an email saying that the package was shipped. Two days later, four days after ordering the book, you receive it.

Scenario 5 (Process Visibility, No Recovery) - You immediately receive an email indicating that the order has been received and it will be processed. You go about your life. Two days later, you receive an email saying that due to high demand the book is backordered and it should be shipped in six days. Six days later, you receive another email saying that the package was shipped. Two days later, ten days after ordering the book, you receive it.

Scenario 6 (Process Visibility, Recovery) - You immediately receive an email indicating that the order has been received and it will be processed. You go about your life. Two days later, you receive an email saying that due to high demand the book is backordered and it should be shipped in six days. Six days later, you receive another email saying that the package was shipped, the shipping was upgraded, and that you won't be charged at all for shipping and handling. Two days later, ten days after ordering the book, you receive it. You notice that the order came via priority mail, even though you selected regular mail. You open the box and you see from the receipt that you were not charged for shipping and handling.

Measures

Section 1 - Measures used in all scenarios. The items for Need for Cognition (6) and Preference for Predictability (5) were excluded. Also after reliability analysis six items from the measures below were excluded.

Subjective Online Buying Experience: adapted from General Web Experience from Everard (2003), 15 items, 7-point Likert scale (1= "Strongly Disagree" to 7= "Strongly Agree") and alpha of 0.78.

(a) I often purchase products or services on the Internet.

- (b) I am knowledgeable about Internet buying.
- (c) I feel lost when I buy something on the Internet (reverse coded)
- (d) I have accounts with various online retailers.

The item “I often use the web to gather information about products or services” was excluded. Deleting this item improves the alpha from 0.84 to 0.85 on Pilot 1, and from 0.85 to 0.87 on Pilot 2.

Objective Online Buying Experience

(a) How many times have you bought products/services on the Internet in the last 6 months?

Confirmation: adapted from Bhattacharjee (2001), 3 items, 7-point Likert scale (1= “Strongly Disagree” to 7= “Strongly Agree”) and alpha of 0.86.

- (a) My encounter with BookSelection.com was worse than I anticipated (reverse coded)
- (b) My experience with BookSelection.com was better than I expected.
- (c) The service level provided by BookSelection.com was better than what I expected.
- (d) Overall, most of my expectations about buying from BookSelection.com were confirmed.

Customer Satisfaction (Anderson and Srinivasan 2003), with 7-point Likert scale (1= “Strongly Disagree” to 7= “Strongly Agree”). It was adapted from the scale developed by Oliver (1980) with alpha of 0.89.

- (a) I am satisfied with my decision to purchase from BookSelection.com.
- (b) My choice to purchase from BookSelection.com was a wise one.
- (c) I think I did the right thing by buying from BookSelection.com.
- (d) Overall, I’m satisfied with my experience with BookSelection.com.

The items “If I had to purchase again, I would feel differently about buying from this website (reverse coded)”, “I feel badly regarding my decision to buy from this website (reserve coded)” and “I am unhappy that I purchased from this website (reverse coded)” were excluded.

Deleting these three items (all reverse coded) improves the alpha from 0.89 to 0.94 on Pilot 1, and from 0.89 to 0.92 on Pilot 2.

Service Satisfaction (Maxham 2001), with 7-point Likert scale and alpha of 0.94.

- (a) I am satisfied with BookSelection.com's service. (1="Not at all Satisfied" to 7="Very Satisfied")
- (b) In my opinion, BookSelection.com provides a satisfactory service. (1="Strongly Disagree" to 7="Strongly Agree")
- (c) How satisfied are you with the quality of BookSelection.com's service? (1="Not at all Satisfied" to 7="Very Satisfied")
- (d) As a whole, I am NOT satisfied with BookSelection.com's service. (1="Strongly Disagree" to 7="Strongly Agree") (reverse coded)

Repurchase Intention (Maxham 2001) with 7-point Likert scale and alpha of 0.93.

- (a) The next time I desire to buy a book I intend to use BookSelection.com's service. (1="Highly Improbable" to 7="High Probable")
- (b) I will continue using BookSelection.com's service for my book's needs. (1="Strongly Disagree" to 7="Strongly Agree")
- (c) How likely are you to purchase your next book from BookSelection.com's bookstore. (1="Very Unlikely" to 7="Very Likely")
- (d) The next time I purchase a book, I will NOT use BookSelection.com's service (reverse coded) (1="Strongly Disagree" to 7="Strongly Agree")

Positive Word of Mouth (Maxham 2001) with 7-point Likert scale and alpha of 0.93.

- (a) How likely are you to spread positive word of mouth about BookSelection.com's bookstore? (1="Very Unlikely" to 7="Very Likely")
- (b) I would recommend BookSelection.com bookstore to my friends. (1="Strongly Disagree" to 7="Strongly Agree")
- (c) Given my experience with BookSelection.com bookstore, I would NOT recommend their service to my friends. (1="Strongly Disagree" to 7="Strongly Agree") (reverse coded)
- (d) If my friends were looking for an online bookstore, I would tell them to try BookSelection.com bookstore. (1="Strongly Disagree" to 7="Strongly Agree")

Perceived Process Visibility (1= “Strongly Disagree” to 7= “Strongly Agree”).

- (a) I was aware of the details of my order.
- (b) I was informed about all aspects of my order.

The items “I didn’t receive any information about my order. (reverse coded)” and “I knew what’s going on with my order” were excluded. Deleting these two items reduces the alpha a little bit, but is still good from 0.90 to 0.88.

Perceived Failure (1= “Strongly Disagree” to 7= “Strongly Agree”).

- (a) My order’s fulfillment and delivery took the time I initially expected.
- (b) The book arrived later than I had initially expected.

Perceived Recovery (manipulation check) (1=Strongly Disagree to 7=Strongly Agree)

- (a) I received monetary compensation from BookSelection.com.
- (b) Besides the book, I got something extra from BookSelection.com.
- (c) BookSelection.com gave me a bonus in my order.
- (d) I received additional compensation from BookSelection.com.

Section 2. The measures below will be used only in the condition of a failure (Scenarios 2, 3, 5 and 6).

Attribution of Blame: closely adapted from Maxham and Netemeyer (2002), alpha of at least 0.83.

- (a) To what extent was BookSelection.com responsible for the delay in your order? (1=Not at all responsible to 7=Totally responsible).
- (b) The delay in my order was all BookSelection.com’s fault. (1=Strongly Disagree to 7=Strongly Agree)
- (c) To what extent do you blame BookSelection.com for the delay in your order? (1=Not at all to 7=Completely)

Distributive Justice: closely adapted from Maxham and Netemeyer (2003), no alpha reported.

(1=Strongly Disagree to 7=Strongly Agree)

- (a) BookSelection.com effort to fix the problem resulted in an acceptable outcome for me.
- (b) The final outcome I received from BookSelection.com was fair, given the time and hassle.
- (c) Given the inconvenience caused by the delay, the outcome I received from BookSelection.com was fair.
- (d) The service recovery outcome that I received in response to the problem was more than fair.
- (e) My final outcome from BookSelection.com was reasonable, given the problem seriousness.

Procedural Justice, closely adapted from Maxham and Netemeyer (2003), no alpha reported.

(1=Strongly Disagree to 7=Strongly Agree)

- (a) Despite the hassle caused by the delay in my order, BookSelection.com responded fairly and quickly.
- (b) I feel BookSelection.com responded in a timely fashion to the problem.
- (c) I believe BookSelection.com has fair policies and practices to handle problems.
- (d) With respect to its policies and procedures, BookSelection.com handled the problem in a fair manner.
- (e) I feel that BookSelection.com procedures were free of prejudice.

Interactional Justice, adapted from Posthuma, Dworkin, and Swift (2000), Colquitt (2001) and Maxham and Netemeyer (2003). (1=Strongly Disagree to 7=Strongly Agree)

- (a) BookSelection.com treated me with kindness and consideration.
- (b) BookSelection.com treated me with dignity and respect.
- (c) BookSelection.com treated me in a courteous manner.
- (d) BookSelection.com showed a real interest in trying to be fair.
- (e) BookSelection.com took steps to deal with me in a truthful manner.

Informational Justice, adapted from Posthuma, Dworkin, and Swift (2000), Colquitt (2001) and Maxham and Netemeyer (2003). (1=Strongly Disagree to 7=Strongly Agree)

- (a) BookSelection.com has been candid in its communications with me.
- (b) BookSelection.com has communicated details in a timely manner.
- (c) BookSelection.com offered reasonable explanations about the problem.
- (d) BookSelection.com provided specific information about my problem.
- (e) BookSelection.com gave me accurate information about my problem.

Online Buying Survey

First of all, thank you for taking the time to participate in this survey. Your answers are very important for the success of this study. This research is interested in your attitudes towards an online retail store. There are no known risks in participating in this study and your answers will help us to better understand people's attitudes.

You will be asked to read a scenario describing an online customer's experience in a retail store. Please imagine yourself in the scenarios depicted. Read the scenario carefully and follow the instructions.

Section A – Imagine the following scenario.

You notice in a news article a very positive review of an interesting new book. You see an online ad for BookSelection.com bookstore and decide to check it out. You go to BookSelection.com's web site for the first time, and you find the book at a reasonable price. After you check other online bookstores you find out that BookSelection.com has the best price. Even better, the website indicates that the book is in stock and it can be delivered to you within 3-5 days by regular mail.

You decide to order the book. You put the book in the cart and go to the checkout page. You fill in all the necessary information and select regular mail. After confirming all your information, like address and credit card, you submit your order by clicking on the "Place Order" button and you are brought back to the BookSelection.com's home page.

You go about your life. Nine days pass and you don't hear anything from the company. The next day, ten days after ordering, the book arrives.

Please go to the next page to start the survey

Please respond the following questions related to the scenario you just read.

	Very Unlikely				Very Likely		
01. How likely are you to buy you next book from BookSelection.com?	1	2	3	4	5	6	7
02. How likely are you to spread positive word of mouth about BookSelection.com?	1	2	3	4	5	6	7
	Strongly Disagree				Strongly Agree		
03. My encounter with BookSelection.com was worse than I anticipated.	1	2	3	4	5	6	7
04. I am satisfied with my decision to purchase from BookSelection.com	1	2	3	4	5	6	7
05. I am satisfied with BookSelection.com’s service.	1	2	3	4	5	6	7
06. My experience with BookSelection.com was better than I expected.	1	2	3	4	5	6	7
07. My choice to purchase from BookSelection.com was a wise one.	1	2	3	4	5	6	7
08. In my opinion, BookSelection.com provides a satisfactory service.	1	2	3	4	5	6	7
09. The next time I want to buy a book I intend to use BookSelection.com’s service.	1	2	3	4	5	6	7
10. I would recommend BookSelection.com bookstore to my friends.	1	2	3	4	5	6	7
11. The service level provided by BookSelection.com was better than what I expected.	1	2	3	4	5	6	7
12. I think I did the right thing by buying from BookSelection.com.	1	2	3	4	5	6	7
13. I am satisfied with the quality of BookSelection.com’s service	1	2	3	4	5	6	7
14. I will continue using BookSelection.com’s service to buy books.	1	2	3	4	5	6	7
15. Given my experience with BookSelection.com bookstore, I would NOT recommend their service to my friends.	1	2	3	4	5	6	7
16. Overall, most of my expectations about buying from BookSelection.com were confirmed.	1	2	3	4	5	6	7
17. Overall, I’m satisfied with my experience with BookSelection.com.	1	2	3	4	5	6	7
18. As a whole, I am NOT satisfied with BookSelection.com’s service.	1	2	3	4	5	6	7
19. The next time I purchase a book, I will NOT use BookSelection.com’s service.	1	2	3	4	5	6	7
20. If my friends were looking for an online bookstore, I would tell them to try BookSelection.com bookstore.	1	2	3	4	5	6	7
21. BookSelection.com was responsible for the delay in my order.	1	2	3	4	5	6	7
22. BookSelection.com effort to fix the problem resulted in an acceptable outcome for me.	1	2	3	4	5	6	7
23. Despite the hassle caused by the delay in my order, BookSelection.com responded fairly and quickly.	1	2	3	4	5	6	7
24. BookSelection.com treated me with kindness and consideration.	1	2	3	4	5	6	7
25. BookSelection.com has been candid in its communications with me.	1	2	3	4	5	6	7
26. The delay in my order was all BookSelection.com’s fault.	1	2	3	4	5	6	7

	Strongly Disagree					Strongly Agree	
	1	2	3	4	5	6	7
27. The final outcome I received from BookSelection.com was fair, given the time and hassle.	1	2	3	4	5	6	7
28. I feel BookSelection.com responded in a timely fashion to the problem.	1	2	3	4	5	6	7
29. BookSelection.com treated me with dignity and respect.	1	2	3	4	5	6	7
30. BookSelection.com has communicated details in a timely manner.	1	2	3	4	5	6	7
31. I blame BookSelection.com for the delay in my order.	1	2	3	4	5	6	7
32. Given the inconvenience caused by the delay, the outcome I received from BookSelection.com was fair.	1	2	3	4	5	6	7
33. I believe BookSelection.com has fair policies and practices to handle problems.	1	2	3	4	5	6	7
34. BookSelection.com treated me in a courteous manner.	1	2	3	4	5	6	7
35. BookSelection.com offered reasonable explanations about the problem.	1	2	3	4	5	6	7
36. The service recovery outcome that I received in response to the problem was more than fair.	1	2	3	4	5	6	7
37. With respect to its policies and procedures, BookSelection.com handled the problem in a fair manner.	1	2	3	4	5	6	7
38. BookSelection.com showed a real interest in trying to be fair.	1	2	3	4	5	6	7
39. BookSelection.com provided specific information about my problem.	1	2	3	4	5	6	7
40. My final outcome from BookSelection.com was reasonable, given the problem seriousness.	1	2	3	4	5	6	7
41. I feel that BookSelection.com procedures were free of prejudice.	1	2	3	4	5	6	7
42. BookSelection.com took steps to deal with me in a truthful manner.	1	2	3	4	5	6	7
43. BookSelection.com gave me accurate information about my problem.	1	2	3	4	5	6	7
44. I received additional compensation from BookSelection.com.	1	2	3	4	5	6	7
45. I was aware of the details of my order.	1	2	3	4	5	6	7
46. My order's fulfillment and delivery took the time I initially expected.	1	2	3	4	5	6	7
47. I received monetary compensation from BookSelection.com.	1	2	3	4	5	6	7
48. I was informed about all aspects of my order.	1	2	3	4	5	6	7
49. The book arrived later than I had initially expected.	1	2	3	4	5	6	7
50. Besides the book, I got something extra from BookSelection.com.	1	2	3	4	5	6	7
51. BookSelection.com gave me a bonus in my order.	1	2	3	4	5	6	7

Please go to the next page to continue the survey

Section B – Now please provide the following information about yourself:

	Strongly Disagree				Strongly Agree		
	1	2	3	4	5	6	7
01. I feel LOST when I buy something on the Internet.							
02. I am knowledgeable about Internet buying.							
03. I often purchase products or services on the Internet.							
04. I have accounts with various online retailers.							

05. Age: ____ years

06. Gender: Male Female

07. In a typical month, how much do you spend on things other than rent, utilities and tuition?

Under \$100 \$100 – \$199 \$200 – \$399 \$400 – \$599

\$600 – \$799 \$800 – \$999 Over \$1000

08. How many times have you bought products on the Internet in the last 6 months? _____ times

Thank you for your time and participation.

Your help is much appreciated.

Appendix D

D. DATA COLLECTION MATERIAL – MAIN STUDY

Appendix D – Main Study

Common Beginning - Imagine the following scenario:

You notice in a news article a very positive review of an interesting new book. You see an online ad for BookSelection.com bookstore and decide to check it out. You go to BookSelection.com's web site for the first time, and you find the book at a reasonable price. After you check other online bookstores you find out that BookSelection.com has the best price. Even better, the website indicates that the book is in stock and it can be delivered to you within 3-5 days by regular mail.

You decide to order the book. You put the book in the cart and go to the checkout page. You fill in the checkout form and select regular mail. You submit your order by clicking on the "Place Order" button and you are brought back to the BookSelection.com's home page.

Scenario 1 (No Process Visibility, No Problem)

You don't see any information about the status of your order. You go about your life.

Three days pass and you still don't receive anything about your order status.

Two days later, five days after ordering the book, you receive it.

Scenario 2 (No Process Visibility, No Recovery)

You don't see any information about the status of your order. You go about your life.

Nine days pass and you still don't receive anything about your order status.

The next day, ten days after ordering, the book arrives.

Scenario 3 (No Process Visibility, Recovery)

You don't see any information about the status of your order. You go about your life.

Nine days pass and you still don't receive anything about your order status.

The next day, ten days after ordering, the book arrives.

You notice that the order came via priority mail, even though you selected regular mail.

You open the box and you see from the receipt that you were not charged for shipping and handling.

Scenario 4 (Process Visibility, No Problem)

You immediately receive an email indicating that the order has been received and it will be processed. You go about your life.

Three days later, you receive an email saying that the package was shipped.

Two days later, five days after ordering the book, you receive it.

Scenario 5 (Process Visibility, No Recovery)

You immediately receive an email indicating that the order has been received and it will be processed. You go about your life.

Two days later, you receive an email saying that due to high demand the book is backordered and it should be shipped in six days.

Six days later, you receive another email saying that the package was shipped.

Two days later, ten days after ordering the book, you receive it.

Scenario 6 (Process Visibility, Recovery)

You immediately receive an email indicating that the order has been received and it will be processed. You go about your life.

Two days later, you receive an email saying that due to high demand the book is backordered and it should be shipped in six days.

Six days later, you receive another email saying that the package was shipped, the shipping was upgraded, and that you won't be charged at all for shipping and handling.

Two days later, ten days after ordering the book, you receive it.

You notice that the order came via priority mail, even though you selected regular mail.

You open the box and you see from the receipt that you were not charged for shipping and handling.

Measures

Section 1 - Measures used in all scenarios. The items for Need for Cognition (6) and Preference for Predictability (5) were excluded. Also after reliability analysis four items from the measures below were excluded.

Subjective Online Buying Experience: adapted from General Web Experience from Everard (2003), 15 items, 7-point Likert scale (1= “Strongly Disagree” to 7= “Strongly Agree”) and alpha of 0.78.

- (a) I often purchase products or services on the Internet.
- (b) I am knowledgeable about Internet buying.
- (c) I feel lost when I buy something on the Internet (reverse coded)
- (d) I have accounts with various online retailers.

The item “I often use the web to gather information about products or services” was excluded. Deleting this item improves the alpha from 0.84 to 0.85 on Pilot 1, and from 0.85 to 0.87 on Pilot 2.

Objective Online Buying Experience

(a) How many times have you bought products/services on the Internet in the last 6 months?

Confirmation: adapted from Bhattacharjee (2001), 3 items, 7-point Likert scale (1= “Strongly Disagree” to 7= “Strongly Agree”) and alpha of 0.86.

- (a) My encounter with BookSelection.com was worse than I anticipated (reverse coded)
- (b) My experience with BookSelection.com was better than I expected.
- (c) The service level provided by BookSelection.com was better than what I expected.
- (d) Overall, most of my expectations about buying from BookSelection.com were confirmed.

Customer Satisfaction (Anderson and Srinivasan 2003), with 7-point Likert scale (1= “Strongly Disagree” to 7= “Strongly Agree”). It was adapted from the scale developed by Oliver (1980) with alpha of 0.89.

- (a) I am satisfied with my decision to purchase from BookSelection.com.
- (b) My choice to purchase from BookSelection.com was a wise one.
- (c) I think I did the right thing by buying from BookSelection.com.
- (d) Overall, I’m satisfied with my experience with BookSelection.com.

The items “If I had to purchase again, I would feel differently about buying from this website (reverse coded)”, “I feel badly regarding my decision to buy from this website (reverse coded)” and “I am unhappy that I purchased from this website (reverse coded)” were excluded. Deleting these three items (all reverse coded) improves the alpha from 0.89 to 0.94 on Pilot 1, and from 0.89 to 0.92 on Pilot 2.

Service Satisfaction (Maxham 2001), with 7-point Likert scale and alpha of 0.94.

- (a) I am satisfied with BookSelection.com’s service. (1=“Not at all Satisfied” to 7=“Very Satisfied”)
- (b) In my opinion, BookSelection.com provides a satisfactory service. (1=“Strongly Disagree” to 7=“Strongly Agree”)
- (c) How satisfied are you with the quality of BookSelection.com’s service? (1=“Not at all Satisfied” to 7=“Very Satisfied”)
- (d) As a whole, I am NOT satisfied with BookSelection.com’s service. (1=“Strongly Disagree” to 7=“Strongly Agree”) (reverse coded)

Repurchase Intention (Maxham 2001) with 7-point Likert scale and alpha of 0.93.

- (a) The next time I desire to buy a book I intend to use BookSelection.com’s service. (1=“Highly Improbable” to 7=“High Probable”)
- (b) I will continue using BookSelection.com’s service for my book’s needs. (1=“Strongly Disagree” to 7=“Strongly Agree”)
- (c) How likely are you to purchase your next book from BookSelection.com’s bookstore. (1=“Very Unlikely” to 7= “Very Likely”)

- (d) The next time I purchase a book, I will NOT use BookSelection.com's service (reverse coded) (1="Strongly Disagree" to 7="Strongly Agree")

Positive Word of Mouth (Maxham 2001) with 7-point Likert scale and alpha of 0.93.

- (a) How likely are you to spread positive word of mouth about BookSelection.com's bookstore? (1="Very Unlikely" to 7= "Very Likely")
- (b) I would recommend BookSelection.com bookstore to my friends. (1="Strongly Disagree" to 7="Strongly Agree")
- (c) Given my experience with BookSelection.com bookstore, I would NOT recommend their service to my friends. (1="Strongly Disagree" to 7="Strongly Agree") (reverse coded)
- (d) If my friends were looking for an online bookstore, I would tell them to try BookSelection.com bookstore. (1="Strongly Disagree" to 7="Strongly Agree")

Perceived Process Visibility (1= "Strongly Disagree" to 7= "Strongly Agree").

- (a) I didn't receive any information about my order status. (reverse coded)
- (b) I was aware of the details of my order.
- (c) I was informed about all aspects of my order.
- (d) I knew what's going on with my order.

Perceived Failure (1= "Strongly Disagree" to 7= "Strongly Agree").

- (a) My order's delivery took the time I initially expected.
- (b) The book arrived later than I had initially expected.

Perceived Recovery (manipulation check) (1=Strongly Disagree to 7=Strongly Agree)

- (a) I received an upgrade in my shipping option from standard to priority mailing.
- (b) I was refunded my initial charges of shipping and handling.
- (c) I was compensated by the delay by Book Selection.com.

Section 2. The measures below will be used only in the condition of a failure (Scenarios 2, 3, 5 and 6).

Attribution of Blame: closely adapted from Maxham and Netemeyer (2002), alpha of at least 0.83.

- (a) To what extent was BookSelection.com responsible for the delay in your order? (1=Not at all responsible to 7=Totally responsible).
- (b) The delay in my order was all BookSelection.com's fault. (1=Strongly Disagree to 7=Strongly Agree)
- (c) To what extent do you blame BookSelection.com for the delay in your order? (1=Not at all to 7=Completely)

Distributive Justice: closely adapted from Maxham and Netemeyer (2003), no alpha reported. (1=Strongly Disagree to 7=Strongly Agree)

- (a) BookSelection.com effort to fix the problem resulted in an acceptable outcome for me.
- (b) The final outcome I received from BookSelection.com was fair, given the time and hassle.
- (c) Given the inconvenience caused by the delay, the outcome I received from BookSelection.com was fair.
- (d) The service recovery outcome that I received in response to the problem was more than fair.
- (e) My final outcome from BookSelection.com was reasonable, given the problem seriousness.

Procedural Justice, closely adapted from Maxham and Netemeyer (2003), no alpha reported. (1=Strongly Disagree to 7=Strongly Agree)

- (a) Despite the hassle caused by the delay in my order, BookSelection.com responded fairly and quickly.
- (b) I feel BookSelection.com responded in a timely fashion to the problem.
- (c) I believe BookSelection.com has fair policies and practices to handle problems.

- (d) With respect to its policies and procedures, BookSelection.com handled the problem in a fair manner.
- (e) I feel that BookSelection.com procedures were free of prejudice.

Interactional Justice, adapted from Posthuma, Dworkin, and Swift (2000), Colquitt (2001) and Maxham and Netemeyer (2003). (1=Strongly Disagree to 7=Strongly Agree)

- (a) BookSelection.com treated me with kindness and consideration.
- (b) BookSelection.com treated me with dignity and respect.
- (c) BookSelection.com treated me in a courteous manner.
- (d) BookSelection.com showed a real interest in trying to be fair.
- (e) BookSelection.com took steps to deal with me in a truthful manner.

Informational Justice, adapted from Posthuma, Dworkin, and Swift (2000), Colquitt (2001) and Maxham and Netemeyer (2003). (1=Strongly Disagree to 7=Strongly Agree)

- (a) BookSelection.com has been candid in its communications with me.
- (b) BookSelection.com has communicated details in a timely manner.
- (c) BookSelection.com offered reasonable explanations about the problem.
- (d) BookSelection.com provided specific information about my problem.
- (e) BookSelection.com gave me accurate information about my problem.

Online Buying Survey

First of all, thank you for taking the time to participate in this survey. Your answers are very important for the success of this study. This research is interested in your attitudes towards an online retail store. There are no known risks in participating in this study and your answers will help us to better understand people's attitudes.

You will be asked to read a scenario describing an online customer's experience in a retail store. Please imagine yourself in the scenarios depicted. Read the scenario carefully and follow the instructions.

Section A – Imagine the following scenario.

You notice in a news article a very positive review of an interesting new book. You see an online ad for BookSelection.com bookstore and decide to check it out. You go to BookSelection.com's web site for the first time, and you find the book at a reasonable price. After you check other online bookstores you find out that BookSelection.com has the best price. Even better, the website indicates that the book is in stock and it can be delivered to you within 3-5 days by regular mail.

You decide to order the book. You put the book in the cart and go to the checkout page. You fill in the checkout form and select regular mail. You submit your order by clicking on the "Place Order" button and you are brought back to the BookSelection.com's home page.

You don't see any information about the status of your order. You go about your life.

Nine days pass and you still don't receive anything about your order status.

The next day, ten days after ordering, the book arrives.

Please go to the next page to start the survey.

Please respond the following questions related to the scenario you just read.

	Very Unlikely				Very Likely		
01. How likely are you to buy you next book from BookSelection.com?	1	2	3	4	5	6	7
02. How likely are you to spread positive word of mouth about BookSelection.com?	1	2	3	4	5	6	7
	Strongly Disagree				Strongly Agree		
03. I DIDN'T receive any information about my order status.	1	2	3	4	5	6	7
04. My order's delivery took the time I initially expected.	1	2	3	4	5	6	7
05. I was aware of the details of my order.	1	2	3	4	5	6	7
06. The book arrived later than I had initially expected.	1	2	3	4	5	6	7
07. I was informed about all aspects of my order	1	2	3	4	5	6	7
08. I knew what's going on with my order.	1	2	3	4	5	6	7
09. My encounter with BookSelection.com was worse than I anticipated.	1	2	3	4	5	6	7
10. I am satisfied with my decision to purchase from BookSelection.com	1	2	3	4	5	6	7
11. I am satisfied with BookSelection.com's service.	1	2	3	4	5	6	7
12. My experience with BookSelection.com was better than I expected.	1	2	3	4	5	6	7
13. My choice to purchase from BookSelection.com was a wise one.	1	2	3	4	5	6	7
14. In my opinion, BookSelection.com provides a satisfactory service.	1	2	3	4	5	6	7
15. The next time I want to buy a book I intend to use BookSelection.com's service.	1	2	3	4	5	6	7
16. I would recommend BookSelection.com bookstore to my friends.	1	2	3	4	5	6	7
17. BookSelection.com's level of service was better than what I expected.	1	2	3	4	5	6	7
18. I think I did the right thing by buying from BookSelection.com.	1	2	3	4	5	6	7
19. I am satisfied with the quality of BookSelection.com's service	1	2	3	4	5	6	7
20. I will continue using BookSelection.com's service to buy books.	1	2	3	4	5	6	7
21. Given my experience with BookSelection.com bookstore, I would NOT recommend their service to my friends.	1	2	3	4	5	6	7
22. Overall, most of my expectations about buying from BookSelection.com were confirmed.	1	2	3	4	5	6	7
23. Overall, I'm satisfied with my experience with BookSelection.com.	1	2	3	4	5	6	7
24. As a whole, I am NOT satisfied with BookSelection.com's service.	1	2	3	4	5	6	7
25. The next time I purchase a book, I will NOT use BookSelection.com's service.	1	2	3	4	5	6	7
26. If my friends were looking for an online bookstore, I would tell them to try BookSelection.com bookstore.	1	2	3	4	5	6	7
27. BookSelection.com was responsible for the delay in my order.	1	2	3	4	5	6	7
28. BookSelection.com effort to fix the problem resulted in an acceptable outcome for me.	1	2	3	4	5	6	7

	Strongly Disagree			Strongly Agree			
	1	2	3	4	5	6	7
29. Despite the hassle caused by the delay in my order, BookSelection.com responded fairly and quickly.	1	2	3	4	5	6	7
30. BookSelection.com treated me with kindness and consideration.	1	2	3	4	5	6	7
31. BookSelection.com has been candid in its communications with me.	1	2	3	4	5	6	7
32. The delay in my order was all BookSelection.com's fault.	1	2	3	4	5	6	7
33. The final outcome I received from BookSelection.com was fair, given the time and hassle.	1	2	3	4	5	6	7
34. I feel BookSelection.com responded in a timely fashion to the problem.	1	2	3	4	5	6	7
35. BookSelection.com treated me with dignity and respect.	1	2	3	4	5	6	7
36. BookSelection.com has communicated details in a timely manner.	1	2	3	4	5	6	7
37. I blame BookSelection.com for the delay in my order.	1	2	3	4	5	6	7
38. Given the inconvenience caused by the delay, the outcome I received from BookSelection.com was fair.	1	2	3	4	5	6	7
39. I believe BookSelection.com has fair policies and practices to handle problems.	1	2	3	4	5	6	7
40. BookSelection.com treated me in a courteous manner.	1	2	3	4	5	6	7
41. BookSelection.com offered reasonable explanations about the problem.	1	2	3	4	5	6	7
42. The service recovery outcome that I received in response to the problem was more than fair.	1	2	3	4	5	6	7
43. With respect to its policies and procedures, BookSelection.com handled the problem in a fair manner.	1	2	3	4	5	6	7
44. BookSelection.com showed a real interest in trying to be fair.	1	2	3	4	5	6	7
45. BookSelection.com provided specific information about my problem.	1	2	3	4	5	6	7
46. My final outcome from BookSelection.com was reasonable, given the problem seriousness.	1	2	3	4	5	6	7
47. I feel that BookSelection.com procedures were free of prejudice.	1	2	3	4	5	6	7
48. BookSelection.com took steps to deal with me in a truthful manner.	1	2	3	4	5	6	7
49. BookSelection.com gave me accurate information about my problem.	1	2	3	4	5	6	7
50. I received an upgrade to priority mail in my shipping option.	1	2	3	4	5	6	7
51. I was refunded my initial charges of shipping and handling.	1	2	3	4	5	6	7
52. I was compensated by the delay by Book Selection.com.	1	2	3	4	5	6	7

Please go to the next page to continue the survey.

Section B – Now please provide the following information about yourself:

	Strongly Disagree				Strongly Agree		
	1	2	3	4	5	6	7
01. I feel LOST when I buy something on the Internet.							
02. I am knowledgeable about Internet buying.							
03. I often purchase products or services on the Internet.							
04. I have accounts with various online retailers.							

05. Age: ____ years

06. Gender: Male Female

07. In a typical month, how much do you spend on things other than rent, utilities and tuition?

- Under \$100 \$100 – \$199 \$200 – \$399 \$400 – \$599
 \$600 – \$799 \$800 – \$999 Over \$1000

08. How many times have you bought products on the Internet in the last 6 months? _____ times

Thank you for your time and participation.

Your help is much appreciated.

Appendix E

E. SCENARIOS EXAMPLES

Appendix E - Scenarios Examples

1. Example from Maxham (2001) p. 22

Introductory Scenario: Suppose for a moment that you have used ABC Haircut Service for the past 6 months. The cost of an ABC Haircut is US\$8.00, and ABC is located 5 miles from your residence. During the past 6 months, you have been satisfied with ABC's haircut quality.

Service Failure Scenario: Please recall the prior scenario information. Now, imagine that you notice that is time for a haircut at ABC. You drive to ABC's haircut service and patiently wait (in the waiting area) for your appointment. After you receive your haircut, you pay US\$8.00 to the hairstylist for the cost of the haircut. In addition, you pay US\$2.00 as gratuity. Upon arriving home, you take a good look at your new haircut in the mirror. In doing so, you notice that the hairstylist has done a poor job cutting your hair. Specifically, it appears that your hair has been unevenly cut.

Control Group Scenario: Please recall the prior scenario information. Now, imagine that you notice that is time for a haircut at ABC. You drive to ABC's haircut service and patiently wait (in the waiting area) for your appointment. After you receive your haircut, you pay US\$8.00 to the hairstylist for the cost of the haircut. In addition, you pay US\$2.00 as gratuity. Upon arriving home, you notice that the hairstylist has provided the same consistency and quality you have received from ABC in past visits.

High Service Recovery Group: Please recall the poor service you received from ABC Haircut service. Now, suppose that you return to ABC to explain your problem. Upon doing so, the hairstylist carefully listens to your complaint. Afterwards, the hairstylist expresses a sense of compassion regarding the problem and apologizes for the mishap. Further, the hairstylist immediately refunds your US\$10.00 (US\$8.00 for the haircut cost and US\$2.00 tip). Moreover, ABC successfully fixes the problem (i.e. straightens your hair). Finally, ABC's manager offers you free haircut upon your next visit.

Moderate Service Recovery Group: Please recall the poor service you received from ABC Haircut service. Now, suppose that you return to ABC to explain your problem. Upon doing so, the hairstylist listens to your complaint. Afterwards, the hairstylist apologizes for the mishap. In addition, the hairstylist successfully fixes the problem (i.e. straightens your hair).

Low Service Recovery Group: Please recall the poor service you received from ABC Haircut service. Now, suppose that you return to ABC to explain your problem. Upon doing so, the hairstylist listens to your complaint, but does nothing to resolve the problem.

2. Example from Dube and Maute (1998) p. 789-790.

Example of Scenario Presented to Research Subjects

Manipulation: value-added present, value recovery absent, high competition

Jeff is a 21-year-old university student, much like you. Over the past three years he has taken several trips by airline, mostly to his hometown. His last two flights were on ABC Airlines. Jeff's travel agent described ABC Airlines as a "typical Canadian airline." A new airline, XYZ Air, began offering service to thirty cities including Jeff's hometown, last month. XYZ Air has one of the best records in the industry for on-time departures and arrivals, and receives very few complaints from customers. After only six months, passengers appear to be very satisfied with XYZ Air. The airline has been profitable for some time and ABC Airlines has already lost some of its business to XYZ Air. Jeff has been a member of the ABC Airlines frequent flier program since his first flight almost three years ago. With the bonus miles acquired from joining the program and his last two flights, Jeff is close to qualifying for a free trip. ABC Airlines offers two other features that Jeff finds very appealing. Students who fly with the airline qualify for a special 15% discount on their airfare. The airline also operates a free shuttle service between the campus and the airport which saves Jeff \$30 in cab fare each time he flies. Recently, as he arrived at the airport to check in for a flight, Jeff noticed considerable confusion at the ABC Airlines check-in counter. When he reached the counter, he was advised that his flight had been canceled. The ABC airlines employee did not apologize for the cancellation and told Jeff that he was too busy to explain the nature of the problem to every single passenger. The employee advised Jeff that it was against the airline's policy to compensate for cancellations and suggested

that Jeff call back later to determine if the problem had been solved and to book a seat on the next available flight.

3. Examples from Kerr (2004) p. 204.

High Magnitude of Failure: You and another person go to a restaurant for dinner to celebrate a special occasion. This is the first time that either of you have been to the restaurant. You are seated at your table, and the waiter comes to greet your table, take orders for beverages, and to present the menus. The waiter informs you of any special menu items of the day, and leaves to get the beverages. After a 30 minute wait, the waiter returns with the beverages and takes the orders. After another 50 minute wait, the meal is delivered to the table. The waiter asks if there is anything else that may be needed before the waiter leaves. The person who accompanied you to the restaurant explains to the waiter that the entrée delivered was not what was ordered. The shrimp rather than the oyster platter had been ordered, and the requested vegetables had been replaced with a baked potato. You also explain to the waiter that you wanted your steak well done and not medium rare. The steamed vegetables you requested had also been replaced with fried vegetables. The waiter leaves for the kitchen to correct the orders. When the check is brought to you, the waiter tells you that due to the problems experienced with the service that evening, the bill has been discounted 20%, 50%. The waiter explains that you may also elect the option of receiving a voucher/gift certificate for the same total value, to be used at a later date.

Control Group: You and another person go to a restaurant for dinner to celebrate a special occasion. This is the first time that either of you have been to the restaurant. You are seated at your table, and the waiter comes to greet your table, take orders for beverages, and to present the menus. The waiter informs you of any special menu items of the day, and leaves to get the beverages. After a reasonable wait, the waiter returns with the beverages and takes the orders. After another reasonable wait, the meal is delivered to the table. The waiter asks if there is anything else that may be needed before the waiter leaves. The meals are fine. Everything is prepared and cooked just as it was requested. The meal is completed and you ask for the check. The check is brought to you, and after completing an order of coffee and dessert, you pay the bill and leave the restaurant.

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