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INTEGRATING SERVICE FAIRNESS INTO THE POST-ACCEPTANCE MODEL OF IS CONTINUANCE IN CLOUD COMPUTING

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ABSTRACT

This study integrates service fairness into a post-acceptance model of information system continuance. This study added constructs based on Greenberg's (1993) four-component taxonomy of organizational justice. The research model seeks to be useful in predicting satisfaction, which enhances continued usage of an IS. The results show that perceived usefulness and satisfaction influence continuance intention, as the post-acceptance model predicts. Three of the four distinct service fairness dimensions, systemic, configural and interpersonal fairness, significantly enhanced satisfaction. However, the relationship between informational fairness and satisfaction was negative and significant.

Keywords: Service fairness, Satisfaction, Post-acceptance model, IS use, Cloud computing

INTRODUCTION

Information technology (IT) service providers spend millions of dollars annually trying to retain current customers. Customer satisfaction in IT service support has a major impact on intentions to maintain contact with service providers who manage and provide a particular technology. There is a subtle distinction between continuing to use a service technology versus continuing to obtain the service from a particular service provider, and a similar distinction between satisfaction with a service technology versus satisfaction with the technology's service provider. This research focuses on satisfaction with service providers in a context where the service is provided through a technology.

While most prior information system (IS) research has attempted to explain user acceptance of new IT, recent research has focused on IS continuance or continued usage. The technology acceptance model (TAM) and expectation confirmation theory (ECT) are the dominant theoretical frameworks explaining user acceptance and continuance of IT [5][41]. In addition, a post-acceptance model (PAM) of IS continuance [5] has been widely adopted in the continuance intention literature.

Satisfaction is often a key issue in such research. This research proposes a theoretical integration with PAM by arguing that perceived usefulness and satisfaction are necessary for IS continuance intention. Satisfaction is contingent on customer perceptions of service fairness with a service organization provider who provides a technological product together with services.

Thus, fairness helps shape perceptions of satisfaction. In practice, IS service provider organizations in a competitive market seek to meet or exceed customer satisfaction levels, which helps keep customers using their systems. Customer

retention is critical to long-term profitability in services e.g.,[53]. Customer satisfaction is influenced by numerous variables. Among these are organizational fairness variables, which influence customer satisfaction by exerting influence upon individual satisfaction.

This research examines two interrelated research streams to integrate Greenberg's (1993) four-component taxonomy of organizational justice or fairness into PAM. In PAM, perceived usefulness and satisfaction directly influence intentions to continue using an IS. This research demonstrates the relationship of service fairness with satisfaction. The four distinct fairness constructs are systemic, configural, interpersonal, and informational. Enhancing satisfaction through service fairness would then improve IT continuance intention through the PAM relationships. Figure 1 presents the conceptual model and hypothesized relationships.

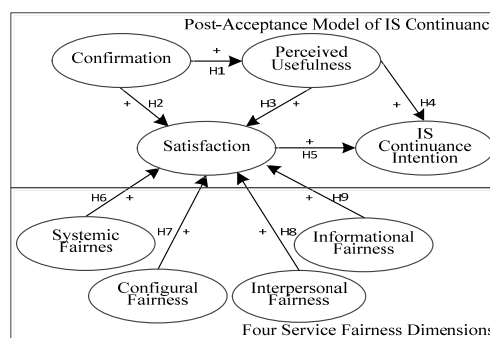


Figure 1 Conceptual model

The context of the study is Software-as-a-Service (SaaS) with the cloud computing environment as the IS application and SaaS users as the IS sample. Cloud computing is an emerging technology enhancing subscribers' perceptions of SaaS as a long term solution requiring long-term partners [52][55]. Cloud computing has already been widely adopted among both businesses and non-profit organizations. It is a good example of the wider SaaS market, which is rapidly growing as developers and service providers continue to make investments in developing the technologies.

LITERATURE REVIEW

The post-acceptance model (PAM) of IS continuance proposed by Bhattacharjee (2001b) seeks to explain user intentions to continue or discontinue using an IS. The upper part of Figure 1 illustrates key constructs and relationships of the PAM model. In it, perceived usefulness and satisfaction directly influence IS continuance intention. The model was developed based on ECT as used in research on consumer behavior [36]. Continuance behavior may be defined as explaining user intentions to continue (or discontinue) using an IS, where a continuance decision follows an initial acceptance decision.

The model assumes that a user's expectation toward using an IT system, after initial acceptance and use, should not be different from his/her expectations before using it, if pre-acceptance expectations are confirmed and the system meets prior expectations (perceived performance equals expectations). This confirmation will influence both satisfaction and perceived usefulness. Users form judgments about benefits from perceived usefulness, and so intention to continue using an IS will be influenced by both perceived usefulness and satisfaction. The model thus parsimoniously explains decisions to continue to use an IS.

In line with Bhattacharjee (2001b), this study assumes that confirmation of expectation and perceived usefulness from prior use are the main antecedents of post-acceptance user satisfaction. Confirmation is defined here as an individual user's perception of congruence between expectation prior to use and actual performance [5]. Perceived usefulness is the degree to which an individual user believes that a particular system delivers benefits, notably that it will enhance his or her job performance by reducing the time to complete a task, and facilitate completing the task with high quality [5].

Customers' initial expectations can be easily confirmed (or not) as soon as they have actual experience. Customers may have varying experiences in different systems, and adjust their perceptions to be consistent with their perceived reality. If use of the system generates worse results than expected, the disconfirmation will negatively alter their prior perceived usefulness, but good results will enhance perceived usefulness. Thus, confirmation positively influences perceived usefulness. Bhattacharjee (2001a, 2001b) showed that the level of user confirmation influences perceived usefulness in business-to-consumer e-commerce services [4]. These considerations lead to the hypothesis:

H₁: The extent to which a user's expectations are confirmed is positively associated with the level of perceived usefulness.

One of the definitions of satisfaction from Spreng, MacKenzie, & Olshavsky (1996) is "an affective state that is the emotional reaction to a product or a service experience" (p. 17). User satisfaction is therefore defined as the end-user's perception when interacting with a specific application [27]. Levels of customer satisfaction result from many factors, although these are all grounded in the customer's experiences with the service and the interaction with the service provider.

A number of studies empirically validate that confirmation and satisfaction are linked [5][35][37][38]. PAM explains this relationship by noting that confirmation implies a realization of the expected benefits of IS usage, while satisfaction assesses the user's positive or negative experience with the IS. Realization of benefits results in satisfaction. As customers continue using the system with good results, confirmation reinforces satisfaction. Therefore:

H₂: The extent to which a user's expectations are confirmed is positively associated with the level of satisfaction.

Perceived usefulness also influences satisfaction. To understand this, it should be remembered that perceived usefulness assesses the degree to which an IS gives access to increased performance, while satisfaction assesses the user's positive or negative experience of using the IS. According to PAM, perceived usefulness and satisfaction should be positively and significantly correlated, and previous research demonstrates that usefulness perceptions impact attitude during both pre-acceptance and post-acceptance stages of IS use. Bhattacharjee's (2001b) study showed that perceived usefulness influences the satisfaction of individual users.

In accordance with these observations, the more a user perceives the system to be useful, the more satisfied he or she will be with the system. Thus, the third hypothesis is:

H₃: The perceived usefulness of the IS is positively associated with a user's level of satisfaction with using the IS.

As noted above, TAM provides a limited explanation of continuance behaviors. By itself, or even with its extensions, TAM is somewhat weak in the ability to predict post-acceptance continued IT usage [16][33] or to explain discontinuance after successful acceptance [5]. Bhattacharjee (2001b) notes that "long-term viability of an IS and its eventual success depend on its continued use rather than [its] first-time use." (pp. 351-352). This is the basis for the distinction of PAM from TAM, with PAM's focus on IS continuance intention.

Perceived usefulness is one of the two main antecedents to intention to use in TAM, and it also directly influences subsequent IS continuance intentions in PAM. Based on TAM, perceived usefulness can significantly influence a user's decision to adopt an IS. Bhattacharjee's (2001b) study showed that perceived usefulness also influences a user's decision to continue to use an IS. Perceived usefulness will positively influence continuance intention and lead to his or her continuing to use the system. Therefore:

H₄: The perceived usefulness of the IS is positively associated with intention to continue using the system.

User satisfaction is a significant factor in the IS context [5][6][48]. Online, e-satisfaction is a key determinant of technology acceptance and continued usage [10][15]. PAM views relationship satisfaction as a basis for the continued intention to use IS; user satisfaction with prior use has a strong positive impact on intention to continue using the system. The more an individual user is satisfied with the prior usage experience, the higher the chance that he or she will continue to use the system [5]. Other IS researchers have also found that user satisfaction is a strong predictor of system use [2]. This relationship can be stated as:

H₅: Satisfaction with initial IS usage is positively associated with IS continuance intention.

PAM has been extended by various researchers, adding complexity to examine various antecedents to its constructs. Most of those issues are outside the scope of this research, which aims specifically to determine the impact of service fairness on satisfaction. We show that the basic PAM works in the cloud computing context; otherwise there would be little need to worry about satisfaction. However, the various extensions of PAM are not necessary for simply showing that PAM works, so the original simple PAM framework is used. Here, the basic PAM model is extended from satisfaction, which is a key construct influencing continuance intention (as in H₅). Thus, the discussion now turns to examining service fairness from the standpoint of organizational fairness and with respect to its influence on user satisfaction.

The Structure of Organizational Fairness

Organizational fairness is an important construct which has been widely discussed in the field of organizational behavior [3][13]. (Prior studies have used both 'justice' and 'fairness' interchangeably. Here, 'fairness' is used for consistency.) Organizational fairness has also received attention in the context of employee perceptions of fairness in the workplace with regard to matters such as job satisfaction, complaint handling, human resource management [17], customer satisfaction with services and service delivery [12][20].

Organizational fairness is defined as the perception of fairness by an individual in the working environment [9][18]. Service fairness is a customer's perception of fairness shown by a firm's service personnel [44], or, in an IS context, by a software service provider's personnel. Scholars have identified various dimensions. The first two-dimensional understanding of organizational fairness analyzed distribution fairness (the fairness of outcomes of a particular decision) and procedural fairness (the fairness of the process which leads to the outcomes) [9]. Bies and Moag (1986) proposed interactional fairness (the fairness of interpersonal treatment) as a third dimension. Interactional fairness split off from procedural fairness, and refers to the perceived fairness of interpersonal treatment.

Various typologies and configurations, analyzed in either two or three dimensions, have been proposed in discussions of organizational fairness [19]. Work in management and marketing has investigated the relationship between organizational fairness and satisfaction [39]. Fairness plays a significant role in service failure and recovery [23][30][46][54] and service management [12][44]. In service management, perceptions of fairness are important antecedents of customer satisfaction [22]. Clemmer (1993) found that service fairness leads to satisfaction, and another study of hospital patient satisfaction found that equity and expectation affected satisfaction and return intention [49].

Greenberg (1993) proposed a four-component taxonomy of organizational fairness designed to emphasize the differences between structural and social determinants of fairness. The distinction between these two determinants is based on the immediate focus of the just action. Each of the four components of this taxonomy is formed by the intersection of

the two categories of fairness (procedural and distributive) with the two focal determinants (social and structural). The four specific fairness categories which these give rise to are:

1. Systemic (structural-procedural) fairness is based primarily on Leventhal's (1980) procedural fairness model, which "refer(s) to the variety of procedural fairness that is accomplished via structural means" [19, p.83]. It explains the procedures for structurally determined fairness to provide participant control over outcome processes. Procedural fairness includes procedures and processes for making decisions [19][51].

In service delivery, systemic fairness refers to the policies and procedures utilized to handle the service delivery process. When customers perceive high systemic fairness, they will believe that an unfair outcome was merely an accident and will expect systemic fairness to occur the next time. That is, they will be less likely to terminate their relationship with the service provider and they remain satisfied with the service. Additionally, customer satisfaction will increase if the service provider provides advanced technology support to monitor and track their service, especially with on-line customers. Empirical results support the concept of perceived systemic fairness that has a direct impact on customer outcomes. Customer feelings of having experienced a fair process can be used to increase customer outcomes (i.e. satisfaction), and this consideration leads to the following hypothesis:

H₆: Perceptions of systemic service fairness will be positively associated with satisfaction.

2. Configural (structural-distributive) fairness explains the structural aspect of distributive fairness and "refer[s] to the variety of distributive justice that is accomplished via structural means" [19, p.84]. It is defined here as the extent to which resource distribution is perceived as being fair under various conditions [19]. Distributive fairness is closely related to the outcome of service delivery and is also related to the perceived fairness of restoring services to a consumer following a service failure, or the outcome of service failure events. Distributive fairness can be seen in the form of refunds, reimbursements, corrections to charges, replacements, repairs, and apologies [25].

In service delivery, customers feel that they have been treated equally (or not) with respect to the final service outcomes, judging that this comes partly from how the system is structured. Feelings of configural fairness can be important between the customers and the service provider, as individual customers feel they should receive the same services from the service personnel as anyone else. Customers can have negative feelings if they find that they receive fewer resources than others. Configural fairness is helpful in building a good relationship with customers and leads to satisfaction [19][44][50]. Thus, the following hypothesis is proposed:

H₇: Perceptions of configural service fairness will be positively associated with satisfaction.

3. Interpersonal (social-distributive) fairness is part of the interactional fairness which split from the original two dimensions of fairness [7][8], and here is involved in the social aspect of establishing distributive fairness [19]. Interpersonal fairness refers to the kind, polite and proper treatment that service providers give to their customers. It can be accomplished by “showing concern for individuals regarding the distributive outcomes they receive” [19, p.85] and concerns individual outcomes and a customer’s desire to be treated with courtesy, dignity, respect and politeness by others [13][19]. Thus, if service personnel are able to manage the quality of treatment in service delivery, the customer perceives a proactive effort based on honesty, respect and politeness, allowing negative feelings to be reduced and interpersonal fairness to increase [12][46].

The treatment an individual receives in off-line or face-to-face settings is more important than in on-line contexts, and can increase or decrease customer complaints depending on how service personnel treat customers [11]. Fair interaction (i.e. interpersonal fairness) leads to positive customer outcomes. When customers feel they have been treated fairly, with respect, sincerely and politely by the service provider personnel throughout the service delivery process, the level of customer satisfaction will increase. From this, the following hypothesis is developed:

H₈: Perceptions of interpersonal service fairness will be positively associated with satisfaction.

4. Informational (social-procedural) fairness involves the social aspect of establishing procedural fairness [19]. Conceptually, it is also part of interactional fairness [13][19]. Greenberg (1993) commented that “informational justice may be sought by providing knowledge about procedures that demonstrate a regard for people’s concerns” (p. 84). Perceptions of informational fairness are thus socially rather than structurally determined. Informational fairness is found in the form of logical explanations and justifications of the allocation processes.

Therefore, in IT service delivery, informational fairness can take the form of any information provided by service providers. Customers are given information about services they have received or with which they have been involved; customers need to be kept informed before and during changes to service processes. When they perceive a fair information exchange (i.e. informational fairness); this can be used to increase customer outcomes. High levels of informational fairness may be achieved by being truthful in all communications and tailoring service providers’ explanations to customer needs. Customers must feel they have been given satisfactory explanations before, during, and after the service delivery process. Thus:

H₉: Perceptions of informational service fairness will be positively associated with satisfaction.

These dimensions of service fairness should have an impact on satisfaction, and H₆ – H₉ address the question of whether

an individual’s perception of the various dimensions of fairness is strong enough to stimulate customer satisfaction, thus indirectly contributing to the intention to continue to use IS. This study applies a conceptual model in which the perceptions of service fairness are integrated with the PAM based on Bhattacharjee’s (2001b) model (Figure 1).

METHODOLOGY

Scale items were adapted from existing literature with some modification and supplementation reflecting the specific IS context and the targeted users. Items for basic PAM were developed by Bhattacharjee (2001b) and several other researchers e.g., [14][31][47]. Fairness items were adapted from a number of works, but generally follow [7][29][32][45]. All items were reworded to relate specifically to customer relationship management (CRM) SaaS, called ‘the software’ throughout the survey questionnaire.

The initial questionnaire was reviewed by a panel of experts (n=7) from IS academia and industry IS management, followed by a small pilot survey (n=60). This pilot showed good results on the basic PAM concepts, but the four service fairness concepts were not distinct and some had low reliability. An additional Delphi study was done with another panel of experts (n=10), who were practitioners in IT service management. The main survey was carried out after adjusting some fairness questions based on this Delphi phase.

Sample and Data Collection. The unit of analysis for pilot testing and the main study was individuals in small and medium sized enterprises who use business-to-business (B2B) CRM-SaaS in the cloud environment. For both the pilot and the main study, an online professional marketing research service implemented an online survey. This research service has access to upwards of over four million respondents worldwide. The panel members were recruited according to pre-qualify characteristics, and the research service used opt-in panel members, who have a choice whether or not to answer any specific survey. The respondents were SaaS users in B2B applications.

The web-based survey is an appropriate choice for this study due to the characteristics of the research subject (i.e., CRM-SaaS subscribers access the software via Internet on a daily basis) [1]. When the sample has frequent easy access to the Internet, they are more comfortable and likely to answer on the Internet. Therefore, web-based surveys may have no restricted geographical location, gain higher responses, and extract longer and more substantive quality answers than a mail survey [4][40].

RESULTS

Recruitment e-mails were sent to 31,015 prospective panel members nationwide in the USA, identified from company databases of full-time employees working in organizations. The first response rate was 11.58% (3,591). Four stringent screening questions reduced this to 490 questionnaires, at a response rate of 1.58%. The screening questions ensured that

- a) The respondents used a CRM software over the Internet in their work place; a list of specific, common

- CRM-SaaS was used to make sure the applications were comparable.
- b) The respondents' organization had used the software more than 2 years, so that their answers are about continuance, rather than adoption and the trial use period.
 - c) Respondents used the software at least once a week for their work, which is considered using the software as part of normal routine activity, and
 - d) The respondents had contacted the software service provider for support. If they have not had any interaction(s) with the software service provider and/or the software service provider personnel, they did not qualify to take part in the survey.

Since the response rate was relatively low, tests for non-response bias were performed by comparing answers on the last quartile of the responses to come back with those of the first quartile [28]. There were no differences in the mean of any item in the model constructs, and only two differences in the variances. This indicated that non-response bias was not a significant problem and the survey was able to achieve adequate data in this research.

Demographic characteristics of the 490 respondents are: males constitute 61.22% of respondents. The majority (64.70%) is in the age range from 30 years to 50 years old, and nearly ninety percent (88.98%) had over 5 years of working experience. The most common positions were operating staff (16.73%), supervisor (15.51%) and sales representatives (13.06%). Half of the respondents (50%) were from organizations employing between 51 to 500 employees. Respondents from the business services industry (51.84%) made up the highest percentage. In summary, the sample constituted an experienced working-age group, with responsibility at their present company requiring frequent use of the CRM software, and who interact with the software service provider.

Table 1 presents the descriptive statistics for the composite variables used, including mean, standard deviation and reliability (Cronbach's alpha) for each construct measure. The internal reliability of the measures ranged from .830 to .938 for the post-acceptance model and from .906 to .943 for the four service fairness dimensions. All the measures included in the questionnaire showed adequate levels of initial internal consistency reliability (> .70) [21][34].

Standardized estimates and standardized regression weights are presented in Figure 2 and Table 2. The first set of hypotheses (H₁ – H₅) was developed to test if the PAM can be applied in this research context. All five hypotheses tested were supported. The findings suggest that this research context supports the PAM [5].

The structural model was accepted and the chi-square was significant (chi-square = 1533.550; df = 362, p = .000, relative chi-square = 4.236) (Figure 2). The path coefficients for the structural model are shown in Table 2. The relative effect (standardized regression weights) between

independent and dependent variables shows a strong path (with statistical significance) for all hypothesized relationships, except between informational fairness and satisfaction, which was significant but in the opposite direction from the hypothesis.

Table 1: Construct descriptive statistics and reliability

Variable (Number of items)	Mean	S.D.	Cronbach's Alpha
Usefulness (4)	5.64	1.086	.938
Confirmation (3)	5.40	1.011	.830
Continuance intention (3)	5.58	1.041	.893
Satisfaction (4)	5.51	1.088	.929
Systemic fairness (8)	5.50	0.991	.943
Configural fairness (4)	5.53	1.019	.906
Interpersonal fairness (6)	5.63	1.003	.937
Informational fairness (4)	5.55	1.030	.908

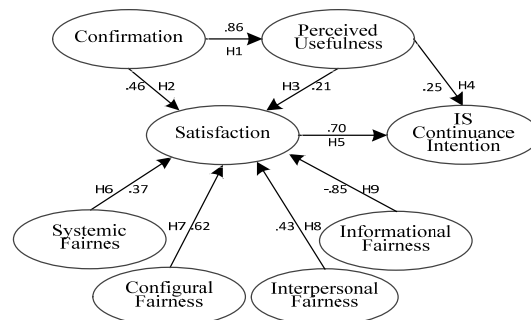


Figure 2: A full model fit

Table 2: Standardized path coefficients

Dependent (R ²)	Determinant (Hypothesis)	Coefficients (P-value)
Usefulness (.735)	Confirmation(H ₁)	.857 (.000)
Continuance intention (.774)	Usefulness(H ₄)	.254 (.000)
	Satisfaction(H ₅)	.702 (.000)
Satisfaction (.753)	Confirmation(H ₂)	.463 (.000)
	Usefulness(H ₃)	.207 (.023)
	Systemic fairness(H ₆)	.371 (.002)
	Configural fairness(H ₇)	.623 (.000)
	Interpersonal fairness(H ₈)	.429 (.049)
	Informational fairness(H ₉)	-.849 (.009)

Among the second set of hypotheses (H₆ – H₉), analysis of path coefficients indicates that three of four hypotheses (H₆ – H₈) are supported. The influences of systemic fairness (coefficient = 0.371), configural fairness (coefficient = 0.623), and interpersonal fairness (coefficient = 0.429) on satisfaction were positive and significant. However, interestingly, the impact of informational fairness on satisfaction was negative and significant (coefficient = -0.849) (Table 2). The impact of the endogenous variables is high, as indicated by the R² values. The highest R² appeared in IS continuance intention (77%) and the next highest R² were shown in satisfaction (75%) and perceived usefulness (74%) (Table 2).

CONCLUSION

The first objective of this study is to examine whether continued usage in cloud computing can be determined by the variables in the post-acceptance model. The results, from the first part of the research model (H₁ – H₅; top part of Figures 1 & 2) show that all five hypotheses are supported.

The second objective ($H_6 - H_9$; bottom part of Figures 1 & 2), is to propose a theoretical model that can explain and predict individual satisfaction in relation to service fairness perceptions. In other words, we explore the relationship between service fairness and customer satisfaction, to see whether service fairness issues has some indirect impact on continued use of the system through satisfaction. The findings show positive and significant paths from systemic, configural and interpersonal fairness to satisfaction, consistent with findings in the meta-analysis in Colquitt et al (2001)[13][19]. That is, satisfaction with the service delivery process is affected by the processes (systemic fairness), value outcome (configural fairness), and the fair and respectful behavior of the service provider personnel toward customers (interpersonal fairness).

The path from informational fairness (sharing of information) to satisfaction is negative and significant. It was the only one of four types of fairness that shows a contradiction in the hypothesized relationship of fairness. There are several possible reasons for the contradictory result between informational fairness and satisfaction. Some of the problems may come from multicollinearity, with relative high correlations between informational fairness and the other three fairness dimensions (0.874, 0.817 and 0.903), substantially larger than other correlations among four service fairness dimensions. However, the strength of the relationship suggests that the hypothesis is incorrectly stated, i.e., that this relationship is not understood very well.

At this point, we do not have a good explanation for this result. We do point out that there have been several other studies showing unexpected results regarding informational issues. For example, it seems that organizational customers view information sharing capabilities as a barrier instead of a benefit in internet banking [43]. Prior research has found a negative and significant relationship between informational fairness and an exchange relationship [26]. Other research in various contexts has failed to find any relationship between informational fairness to satisfaction e.g., [24][42]. This issue clearly needs additional research.

Nevertheless, the basic PAM was shown to hold, and the basic concept that various dimensions of service fairness have an impact on satisfaction in the basic PAM was also confirmed. Of course, this study does have several limitations. First, the scope is limited to the context of SaaS enterprises in a cloud computing environment. While this is an important and increasingly widespread context, it would be beneficial to replicate the study to broaden the contexts. For example, related sorts of environments would be public SaaS, Infrastructure-as-a-Service (IaaS) or Platform-as-a-Service (PaaS) applications.

Second, this study employed a one-sided survey response from external customers using SaaS in the cloud computing environment. Further study using a dyadic approach could gain in-depth understanding on the responses from both customers and service providers; notably, by examining the record of the service interaction to examine how specific

details of the service interaction correlate with the fairness issues. Finally, this research was cross-sectional, surveyed at one period in time. The findings can only reflect that specific time, but satisfaction is also the product of cumulative experience, and may change over time.

The limitations help to define some potential directions of future research, but we also point out a couple of other useful areas for future work. First, IS in a large organizational context, where they have their own system and the IS service is for internal customers, is a potential environment to be investigated. Internal organizational employees account for a large percentage of IS users. Studies of these extrinsically motivated users may contribute many theoretical insights to the IS post-acceptance model. Second, testing the research model with different types of IS context will improve the generalizability of the empirical results of this study.

This research has offered an important contribution by integrating theories of service fairness with the IS continuance intention domain. Service fairness does have a significant impact on satisfaction, and thus, indirectly influences IS continuance. This suggests areas that managers of IS support services need to consider, and points out areas that research on IS management must account for. Service fairness is clearly an important issue for IS users.

Appendix 1A: Items for the basic PAM

Perceived usefulness

- 1 Using the software improves my work performance.
- 2 Using the software increases my productivity at work
- 3 Using the software enhances my effectiveness at work.
- 4 Overall, the software is a useful tool at work.

Confirmation

- 1 My experience with using the software was better than I expected.
- 2 The service level provided by the software service provider was better than I expected.
- 3 Overall, most of my expectations of using the software were confirmed.

IS continuance intention

- 1 I intend to continue using the software rather than discontinue its use.
- 2 I intend to continue using the software rather than using an alternative.
- 3 If I could, I would like to continue using the software.

Satisfaction

- 1 I am very satisfied with the overall experience of using the software.
- 2 I am very pleased with the overall experience of using the software.
- 3 I am very content with the overall experience of using the software.
- 4 I am absolutely delighted with the overall experience of using the software.

Appendix 1B: Items for service fairness

Systemic fairness

- 1 The software service provider was consistent with the service procedure according to the agreement.
- 2 The software service provider provided a level of service to me equal to that provided to other departments or companies.
- 3 The software service provider kept complete and accurate records of my problems concerning the software.

- 4 The software service provider has a knowledge-based system to provide solutions to my problems concerning the software.
- 5 The software service provider effectively managed my problems concerning the software from initial notification through to reasonable resolution.
- 6 The software service provider was able to identify and correct any problems that resulted from their own errors.
- 7 The software service provider was capable of performing all the duties covered by the agreement.
- 8 The software service provider behaved in an ethical manner in terms of fulfilling the spirit of the agreement.

Configural fairness

- 1 The software service provider delivered the service to all individuals in my company equally.
- 2 The software service provider delivered desired solutions to all individuals in my company equally.
- 3 The software service provider delivered reasonable results to all individuals in my company equally.
- 4 The software service provider met the needs of all the individuals in my company equally.

Interpersonal fairness

- 1 The software service provider personnel treated me with respect.
- 2 The software service provider personnel treated me with consideration.
- 3 The software service provider personnel treated me sincerely.
- 4 The software service provider personnel treated me in a polite and courteous manner.
- 5 The software service provider personnel were aware of my rights as a customer.
- 6 The software service provider personnel used proper or appropriate language.

Informational fairness

- 1 The software service provider offered reasonable explanations concerning the service.
 - 2 The software service provider explained the service procedure thoroughly.
 - 3 The software service provider was truthful in all communications to my company.
 - 4 The software service provider tailored their explanation to my needs.
-

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