2015

Rationality VS Fashion In Cloud Adoption Decisions: The Case of Cloud-Enabled Payroll Systems

Ariana Polyviou
Athens University of Economics and Business, Greece, apolyviou@aueb.gr

Katerina Pramatari
Athens University of Economics & Business, k.pramatari@aueb.gr

Pouloudi Nancy
Athens University of Economics and Business, Greece, pouloudi@aueb.gr

RATIONALITY VS FASHION IN CLOUD ADOPTION DECISIONS: THE CASE OF CLOUD-ENABLED PAYROLL SYSTEMS

Completed Research

Polyviou, Ariana, Athens University of Economics and Business, SingularLogic S.A., Athens, Greece, apolyviou@aueb.gr

Pramatari, Katerina, Athens University of Economics and Business, Athens, Greece, k.pramatari@aueb.gr

Pouloudi, Nancy, Athens University of Economics and Business, Athens, Greece, pouloudi@aueb.gr

Abstract

Cloud computing is an innovation said to be bringing radical changes in the way organisations interact with information systems. Decision makers seek for reasons that make the adoption of cloud computing meaningful (or not) for their organisation. At the same time, several stakeholders strive to promote cloud as a 'must-do' innovation. Given the hype that currently surrounds cloud computing, it is worth investigating whether the rationale behind the decision to adopt cloud is partly muddled by an apparent simplicity of choice for decision makers: 'to adopt or fail'. Based on indications in the existing literature and recent empirical findings, weargue that in addition to the factors grouped under cloud's relative advantage, IT- Fashion also influences the intention to adopt cloud which is currently overlooked. By using the example of cloud-enabled payroll systems, we demonstrate that IT-Fashion has also a significant impact on the intention to adopt cloud services.

Keywords: Cloud adoption, IT-Fashion, Rational factors, payroll systems.

1 Introduction

Managers often come across innovation waves, each of them promising to be providing remarkable advantages to the organisation if adopted (Swanson 2012). To decide whether a new technological innovation is worth adopting, managers need to make sense of the innovation in the context of their organisation. This decision making process is rational to the extent that the consequences of an innovation's adoption are understood (Rogers 1995). However, during the first half of an innovation's diffusion curve, consequences of an innovation cannot be fully inferred since the innovation has not been widely adopted yet. Seeing this as an opportunity, fashion setters (e.g. vendors, consultants, IT and management 'gurus'), selectively promote certain innovations creating buzz around them and using 'must-have' rhetoric (Abrahamson 1991). In this way, selected innovations generate a bandwagon phenomenon and colonize practice (Wang 2010). As a result an organization's decision for innovation adoption at this stage, may not be based only on purely rational criteria, but is also likely to be influenced by fashion (Swanson et al. 1997). Thus, the reasoning associated with the decision to adopt the technological innovation is muddled by a dilemma: 'to adopt or fail'(Kieser 1997).

Cloud computing is such a technological innovation, said to be radically changing the way in which organisations interact with IT. It is deemed to be transferring the world from the PC era to the utility computing era (Carr 2009). Compared to previous technologies, the use of cloud computing minimizes IT investment risks, offers computing power which is tailored to the demand that each organization has at each moment, provides the ability to access technological resources from everywhere, increases the potential of the organization to innovate and alters the organization's boundaries with its employees, customers and other organizations (Köhler et al. 2010; Willcocks et al. 2014). In this paper, cloud computing is defined as a form of shared-resource and elastic computing services which are offered on-demand and are pooled via external data-centres and are made available via the Internet (Bohn et al. 2011; Durkee 2010). Cloud comprises three different layers, Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS) and Software-as-a-Service (SaaS).

IS scholars have already taken steps to understand cloud adoption decisions. While early work focused on enlisting the advantages and disadvantages of cloud computing (Janssen et al. 2011; Köhler et al. 2010), recent studies have employed more sophisticated approaches by employing widely-cited IS adoption literature to frame their studies (Low et al. 2011; Oliveira et al. 2014). Their findings highlight, inter alia, that an important factor influencing the adoption of cloud services is its relative advantage; the extent to which cloud computing brings advantages to the organisation compared to previous technologies used (Rogers 1995). At the same time, current studies indicate that, beyond relative advantage, factors of psychological nature (i.e., attitude towards the term cloud) seem also to have a remarkable influence on cloud adoption decisions and merit further research (Morgan et al. 2013). Despite these indications, cloud adoption literature has not addressed the impact of IT-Fashion so far.

In this paper we investigate whether, in addition to the 'rational' factors that influence cloud computing adoption (i.e. cloud's relative advantage), IT-Fashion also influences the intention to adopt. Drawing on diffusion of innovation and fashion management theories, we formulate a theoretical framework that takes into account both rational and IT-Fashion factors. The objective of our study is to juxtapose their influence. To achieve this, the study draws on the results of a previous preliminary research, specifying the factors that express the relative advantage of cloud computing (Polyviou et al. 2014a). We empirically test the validity of our hypotheses through a survey investigating the adoption of cloud-enabled payroll systems (i.e., payroll SaaS systems). The findings suggest that IT-Fashion has an influence on the intention to adopt cloud. Thus, this paper contributes to cloud computing research, offering a complementary lens for understanding cloud adoption decisions.

The paper is structured as follows. The following section reviews the relevant literature and presents our theoretical model. Section 3 defines the methodology employed to test our hypotheses. Section 4

describes the results of the empirical study, while Section 5 discusses their implications for IS research. Section 6 presents the study's conclusions and proposes further research directions.

2 Related Literature and Hypotheses Development

2.1 Theoretical Background

Rogers's (1995) Diffusion of Innovation (DOI) theory defines innovation as an idea, practice or technology that is new to an organisation. According to DOI, once an innovation is released, it is spread to the targeted audience through several channels (e.g. mass-media) across time. In this way, managers can be informed about the innovation and be motivated to figure out further information about it so that the organisation can create an attitude towards the innovation (Rogers, 1995). In order to formulate and finalise their attitude towards the innovation (favourable or unfavourable), it is necessary for managers responsible for the adoption decision to find reasons for (or against) the innovation's adoption. In other words, in this stage, decision makers construct the rationale leading them to decide whether to adopt or reject the innovation. This is a difficult process, especially during the first half of the diffusion innovation's curve, as the innovation has not been widely adopted yet, so that its consequences become clear. Hence, at this stage the decision involves a large amount of uncertainty. One of the characteristics of the innovation influencing the decision for or against its adoption according to Rogers (1995) is its relative advantage. Rogers (1995: 212) defines relative advantage as the degree to which the innovation is perceived as a better idea compared to the one it supersedes.

To complement our understanding of how decision makers formulate their attitudes towards an innovation, we draw on fashion management theory. Fashion management theory complements diffusion of innovation theory as it emphasises the social setting of the innovation. Fashion is defined as a relatively transitory belief that a technique is fresh, efficient and lays a forefront of management practice (Abrahamson 1991). According to Abrahamson (1996), attitute towards innovation is influenced by the adopter's social norms and pressures. Hence, fashion management encourages researchers to take into account fashion setters when examining the diffusion of an innovation (Abrahamson 1996). Fashion setters, as for example consultants, academics, journalists and gurus, select and promote certain innovations as being at the forefront of management practice, using arguments arising by the anecdotal success stories of early adopters. Fashion setters are said to deploy media as means to disseminate certain views and drive the formulation of perceptions surrounding an innovation. In this way, the rationale behind the adoption of the innovation decision is transformed into an oversimplified dilemma for the decision maker: to 'adopt or fail' (Kieser 1997). As the adoption rate rises, the beliefs about the innovation generated by the fashion setters become stronger. This generates a collective belief towards the innovation. Meanwhile, it formulates a self-reinforcing cycle through which innovation diffusion and fashion management levels build on each other and thus they develop a bandwagon phenomenon for the particular innovation (Wang 2010).

2.2 Cloud Adoption Literature

Recent research work steps on understanding cloud adoption decisions, focuses on identifying the advantages and disadvantages of cloud computing or exploring the consumer preferences on certain cloud layers (Anandasivam et al. 2010; Giessmann et al. 2012; Janssen et al. 2011; Polyviou et al. 2014a). As the focus of this work is on the technology per se, it does not account for non-technological factors influencing cloud adoption (e.g. external factors). Responding to this challenge, other cloud adoption scholars employ widely-cited IS adoption theories such as the Technology-Organisation-Environment framework (TOE framework) (Tornatzky et al. 1990), the Human-Organisation-Technology model (HOT-fit model) (Yusof et al. 2007) and Diffusion of Innovation theory (DOI) (Rogers 1995) to guide their study using respondents from selected industries or sectors (Alshamaila et al. 2013; Low et al. 2011; Morgan et al. 2013; Oliveira et al. 2014). Such studies identify several fac-

tors that are influencing, at least to some extent, cloud adoption e.g. relative advantage, technological readiness, top management support, legal issues, complexity, competitive pressure.

Closer to our work is research that proposes a theoretical background that combines diffusion of innovation with other theories. For example, Oliveira et al. (2014) employ some of the characteristics of innovation defined by Rogers (1995) in combination with the TOE framework to test the impact of a set of factors on the decision to adopt cloud services (Oliveira et al. 2014). Similarly, Morgan & Conboy, (2013), use DOI theory and TOE framework to conduct a qualitative exploratory study on cloud adoption factors (Morgan et al. 2013). Both studies, evaluate factors grouped under relative advantage, as highly influential for cloud computing adoption. This conclusion is also confirmed by other studies examining cloud adoption factors (Alshamaila et al. 2013; Low et al. 2011).

The use of traditional IS adoption theories has been adequate for understanding the adoption of IS innovations in the past (Chau et al. 1997; Kuan et al. 2001). Undoubtedly, it has help us to reveal that relative advantage is one of the dominating factors influencing cloud computing. However, recent research efforts on cloud computing adoption reveal there are insights that cannot be sufficiently explained by the theoretical frameworks employed so far. More specifically, findings of Morgan and Conboy (2013) underline that factors influencing cloud computing adoption are not only technological, but also psychological. By psychological, authors refer to the perception of the decision makers towards the term 'cloud' itself, which seems to be also a factor influencing the decision to adopt. To this end, the authors call for further research in this direction, as the theoretical lenses employed by their study do not provide sufficient explanation (Morgan et al. 2013). At the same time, the pertinent literature also suggests that cloud may be currently passing through a 'fashion hyperbole' (Whitley et al. 2013). Building on these suggestions, we propose the use of Fashion Management theory as a complementary lens for addressing the factors that affect cloud computing adoption.

Thus, the research question tackled by this paper is formulated as follows:

> *To what extent is IT-Fashion influencing cloud computing adoption compared to the factors related to cloud's relative advantage?*

The following subsection presents a set of hypotheses formulated to address this research question.

2.3 Hypotheses Development

As underlined by recent literature findings, the relative advantage of cloud computing compared to previous technologies is what drives the adoption intention the most. Some adoption researchers attempt to interpret relative advantage in the context of cloud computing. For example, Morgan and Conboy (2013) identify cost reduction as one of the factors leading to cloud's relative advantage. Similarly, in their study Oliveira et al. (2014) break down cloud's relative advantage into cost reduction. Using related studies in combination with the findings of our preliminary study results, we attempt to analyse the relative advantage characteristic as defined by Rogers (1995) in terms of factors that define cloud's advantage compared to previous technologies. To enhance our knowledge on cloud computing adoption decision, a preliminary qualitative study conducted through semi-structured interviews with key stakeholders was carried out as described in (Polyviou et al. 2014a). The interview agenda aimed at capturing the factors that affect cloud computing adoption. Open-ended questions were included allowing the participants to spontaneously present their views. Among the factors identified, outstanding were the factors relevant cloud's technology advantage compared to what it supersedes. In addition, indications about IT-Fashion could also be identified.

Firstly, most of the interviewees underlined the cost reduction as one of the main factors leading to cloud adoption. This is relevant to the reduction of costs concerning the investment in IT, IT maintenance, upfront investment and capital expenditure for IT. Cost reduction, has also been identified by existing literature as an important factor for cloud adoption (Janssen et al. 2011; Polyviou et al. 2014b). This finding was also supported by the interviews conducted in the frame of our preliminary

study. Hence, we consider cost reduction as one of the factors expressing cloud's relative advantage and based on this we define the first hypothesis guiding our research:

H1: Perceived cost reduction positively influences intention to adopt cloud services

Furthermore, access from everywhere was identified as one of the key factors driving cloud adoption. As denoted by one of our interviewees, "it is accessible from anywhere. Hence employees could even work from home without being obliged to stay in their offices"[quote of chief information officer in Poland]. Similarly, the cloud adoption literature recognises 'access from everywhere', as a factor influencing the decision to deploy cloud services for an organisation (Chau et al. 1997; Janssen et al. 2011; Köhler et al. 2010). Based on the above, we consider that remote access a functionality that cloud technology offers which was not provided by any previous technology used and thus it can be expressed as cloud's relative advantage. This defines the second hypothesis of our study:

H2: Perceived remote access positively influences intention to adopt cloud services

In addition, previous technologies tended to incorporate the storage or processing of the organisation's data within the premises of the organisation. In contrast, the deployment of cloud services implies that the data of the organisation is stored, processed and handled by an external provider in a multi-user environment (Joint et al. 2009). This may generate additional concerns to the organisation concerning the loss or exposure of sensitive data and thus it may act as a barrier towards cloud adoption (Janssen et al. 2011; Köhler et al. 2010; Oliveira et al. 2014; Polyviou et al. 2014b). Similarly, the results of our preliminary study indicate that security concerns is an important factor negatively influencing cloud adoption. As noted by one of the interviewees "possibility of leaking of sensitive data [quote of chief information officer in Greece]" is one of the main factors negatively influencing cloud adoption. Based on the above we extract the third hypothesis of our research:

H3: Security concerns negatively influence intention to adopt cloud services

Moreover, Morgan and Conboy (2013) underline that, beyond technical factors, psychological factors also have an important influence on the adoption decision. According to the vendors included in our preliminary study, the decision to move to the cloud is believed to be difficult for the decision makers, as they struggle to minimise the degree of uncertainty involved in their decision. At the same time, vendors note that they use the term 'cloud' in their campaigns as this creates positive associations in most of the cases, although they acknowledge that decision makers may not have a full understanding of the term: "We used the term cloud […] because that's really positive […] We believe that many people come from internet search […]-Do you think that people who search for 'cloud' understand what they are searching for?No! [quote of cloud vendor in Germany] ". Also, vendors of our preliminary study also denoted that they often exhibit their products through various events, fares and conferences promoting best practices in certain sectors. To this end, the fourth hypothesis of our study was derived:

H4: Tendency to follow IT-Fashion positively influences the intention to adopt cloud services

Based on the hypotheses defined in this section, we design the model of our study as illustrated in Figure 1. As we consider the factors grouped under the relative advantage characteristic to be defining the 'cloud-enableness' of the technology under consideration, our dependent variable is defined as 'intention to adopt cloud-enabled systems'. In the section that follows, the use case employed to test our model as well methodology followed for our study are being discussed.

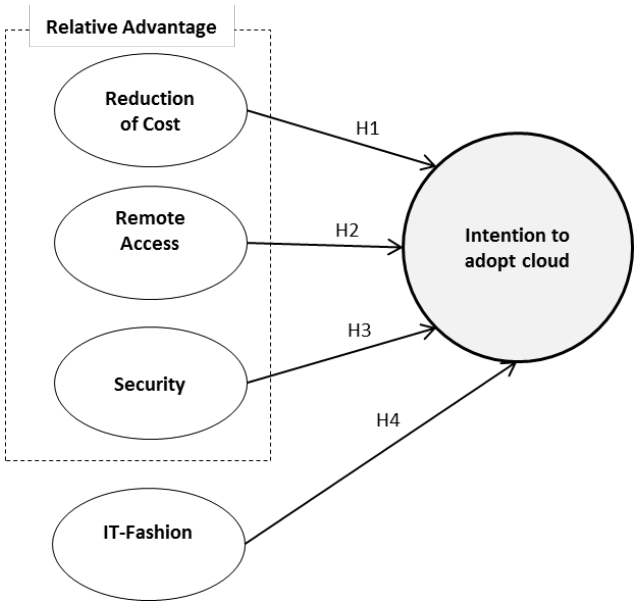

Figure 1. Hypotheses Model

3 Research Methodology

To investigate the factors that influence a firm's decision to adopt cloud services and test the hypotheses discussed in the previous section of this paper, a quantitative methodology was followed. A survey was deployed using the firm as the unit of analysis. The questions targeted the case of payroll systems and, in particular, the adoption of cloud-enabled payroll systems. We chose to focus on payroll systems, as there is a current trend among software providers in this market to upgrade their solution and move from on-premise software installations to cloud-enabled payroll systems, following the software-as-a-service model. This trend is also met in other functionality domains often related to back-office operations that are supported over the years by mainstream software solutions. Moreover, the fact that payroll systems belong to the group of non-strategic and infrequently-changed systems that a firm owns would suggest that decisions regarding the use of these systems is even less influenced by IT-Fashion.

The respondents targeted were mainly the managers of the firms' HR department or other senior members of the HR department. In few cases, e.g. in cases that there was no HR executive directly related to the payroll management of the firm, the targeted audience was the CEO/Director or the CIO of the firm. Our sample included Greek firms of several sizes and business sectors. The survey was made available through the use of an online survey tool (Qualtrics). To collect the dataset, an initial email inviting participants to respond to the survey was distributed and a reminding email, as well as follow-up phone calls, were used as means to remind participants to respond. To encourage participation respondents were informed that, if interested, they could receive the results after the end of the study. Each company was asked to respond to the questionnaire only once. Responses were collected within the interval of 16 days in the autumn of 2014. Data provided by firms that have their payroll procedure outsourced, were excluded from the dataset considered for this paper. Out of the 682 emails, a total of 69 valid questionnaires were collected (the 29 additional responses by companies outsourc-

ing their payroll were excluded). The response rate of the respondents invited to participate in the study was 10% which is typical for studies targeting senior managers via emailed survey.

3.1 Measurement & Scale development

To address the impact of certain factors on the intention to adopt cloud-enabled payroll systems, our model includes only first-order constructs capturing both the rationality and the IT-Fashion concepts introduced in the previous section. The cost reduction, remote access desire and security concerns constructs are employed for instantiating the impact of rationality on the intention to adopt cloud-enabled payroll systems. The IT-Fashion construct is used for measuring the impact of IT-Fashion. Finally, the model captured three control variables; Industry sector, HR department existence and Number of employees. The constructs and items included in the survey are enlisted in Appendix A.

In most of the cases, items were adapted from existing literature, whereas in cases where the desired construct measurements were not available in existing literature, items were self-developed. The intention to adopt a cloud-enabled payroll system might be influenced by the desire to reduce costs. Thus, cost reduction in the proposed model was measured using three items and the responses were provided in a seven-point Likert-type scale with endpoints Strongly Agree (1), Strongly Disagree (7) (Premkumar et al. 1999). Another advantage offered by cloud-enabled payroll systems is the ability to access the system remotely from anyplace, anytime as this might improve the quality of work regarding the payroll task. To this end, the desire for remote access functionality for the payroll system was measured through the 'remote access' construct. The construct measured by three items with answers provided in seven-point Likert-type scale with endpoints Strongly Disagree (1), Strongly Agree (7). In addition, the impact of security concerns relevant to storing the payroll data outside the premises of the company was measured through the construct 'security concerns' captured by three items (Oliveira et al. 2014). Responses for this construct were measured in seven-point Likert-type scale with endpoints Not At All (1), Very Much (7). The impact of IT-Fashion was measured using two items relevant to the exposure of the firm towards fashion setters. Responses provided were measured using a seven-point Likert-type scale with endpoints Strongly Disagree (1), Strongly Agree (7).

Since Greek native speakers were targeted, the items were translated in the respondents' native language (Brislin 1970). The items translation was made by one of the authors of this paper and then reviewed and revised where necessary by the other two. The survey was pre-tested for clarity using MBA students who were familiar with the payroll business procedures and the cloud computing concepts. At a second phase, the survey was piloted by requesting six HR managers involved in the payroll procedure of their firm, to complete the survey while thinking aloud. After the end of the survey, items of the questionnaire at which respondents seemed to struggle were discussed, so as derive suggestions and reform the questions if necessary. At this stage, mini-interviews including open-ended questions were conducted with the pilot phase's participants, so as to ensure the validity of our understanding of the payroll procedure and its specificities.

4 Results

4.1 Data analysis and descriptive statistics

Various techniques and tools were used in order to test the research model and its hypotheses. Initially SPSS was used so as to organise the data and derive the descriptive analyses (illustrated in Table 1). To test the research model and the hypotheses proposed, Structural Equation Modelling (SEM) technique was employed using Partial Least Squares (PLS). PLS is considered appropriate if the sample size is small and the research aims at explaining the variance (Smith et al. 1997). As our sample size

number fulfilled the condition of being ten times the largest number of formative indicators used to measure a construct, it was considered safe and appropriate to use PLS for our analysis (Hair et al. 2011). To this end, Smart-PLS software was used with 1000 re-samples bootstrapping and exclusion of incomplete samples.

Constructs	Descriptive Statistics	
	Mean	Standard Deviation
Reduction of costs (CST)	4,27	1,54
Remote access (RMA)	3,97	2,11
Security (SEC)	4,56	2,13
IT-Fashion (FSH)	3,84	1,93
Intention to adopt cloud-enabled payroll system (AD)	1,56	0,92

Table 1. Descriptive statistics

4.2 Measurement Model Validation

Before proceeding with further examination of our research model, it is important that the measurement model's validity is tested. Measurements were addressed for their internal consistency, convergent validity and discriminant validity in accordance to testing systems suggested by existing literature (Fornell et al. 1981). All the constructs included in our model satisfied the criteria for internal consistency. This can be concluded as the Cronbach's alpha indicators for all of our constructs meet the .07 criterion (Nunnally et al. 1994). In addition, our model was successfully tested for convergent validity (that is testing that all items which measure a specific construct correlate). As suggested by Fornell and Lacker (1981) to meet a sufficient degree of convergent validity, it is essential that the average variance extracted (AVE) for each of our constructs is greater than .5. In addition, discriminant validity of the constructs was examined. This was achieved as the square roots of each factor's AVE were evaluated as greater than its correlations between it and the rest of other factors (Gefen et al. 2005). The analyses concerning the validity of our measurement model are described in Appendix B this paper. Since, our measurement model met the criteria discussed in this subsection, we proceeded with the structural validation stage of our analysis.

4.3 Structural Model Validation

Using PLS, the strength and significance of each hypothesis was tested. First of all, the path coefficients(pc) (or beta values, β) for each structural path were derived so as to understand the difference that each independent value makes in interpreting the variance in the depended variable. At the same time, the significance of each hypothesis was addressed by performing bootstrapping analysis on our dataset. In this way, the t-values (t) and corresponding significance for each relation were derived. Figure 2 illustrates our model in respect to the PLS values capturing path coefficients (pc), R^2, t-values (t) and significances.

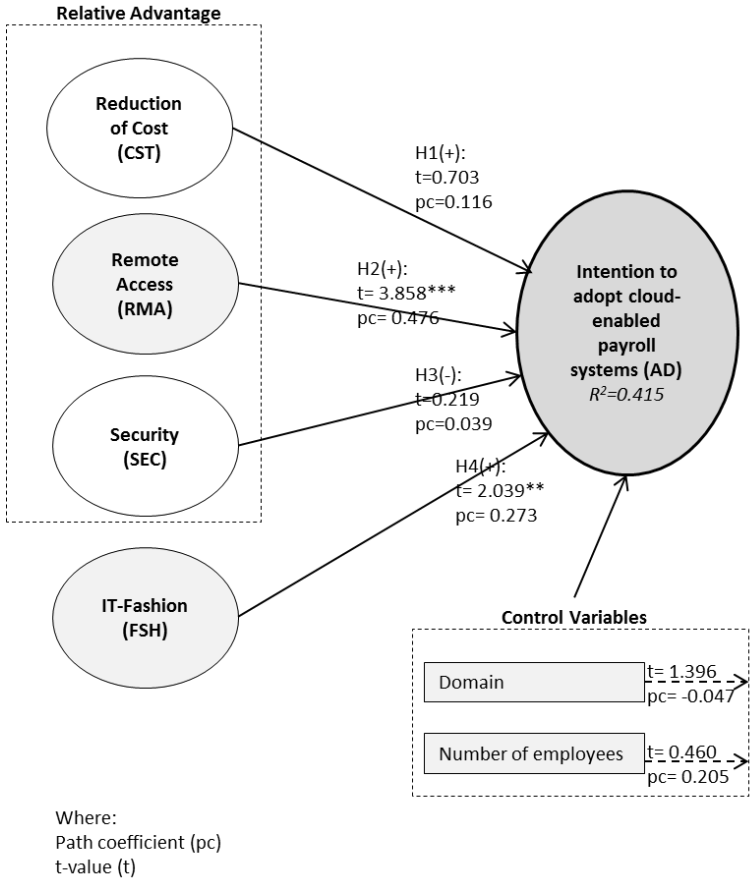

*Figure 2. Structural model with results (***p<.001, **p<.05.)*

Squared multiple correlations, R^2= 0.415 , denote the good explanatory potential for the intention to adopt cloud-enabled payroll systems (AD) for the constructs used in our model (i.e. 41.5% can be explained by the constructs employed by our model). Two out of four of our hypotheses defined in Section 2 are supported at <.05 or even at <.001 level. More specifically, hypothesis 2 (H2), is strongly related to the intention to adopt cloud-enabled payroll systems as it has highly significant positive effects (p<.001) on the adoption intention. At the same time, hypothesis 4 (H4) is also supported as IT-Fashion seems to have a strong influence on the intention to adopt cloud-enabled payroll systems (p< .05). Regarding reduction of costs (H1) and security concerns (H3), our dataset did not reveal any significant influence on the adoption intention. Finally, the control variables employed for our analysis did not reveal any effect on the intention to adopt cloud-enabled payroll systems.

This section presented the measurement and model validation information concerning our study. The next section discusses the study results in more depth and outlines the implications arising by the hypotheses confirmed by the study.

5 Discussion

Our study introduced the concept of IT-Fashion and investigated its influence on the intention to adopt cloud computing and cloud-enabled payroll systems in particular. In addition, the study addressed the

relative advantage of cloud computing by analysing it into cost-savings, remote access and security concerns factors.

First, the strongest effect on the intention to adopt cloud services is the capability provided, through the use of cloud technology, to have remote access to the service from any place at any time. This factor is one of the capabilities that cloud computing provides which was not possible through previous technologies, hence it contributes to cloud's relative advantage. Although previous literature identifies this as an important factor influencing adoption (Janssen et al. 2011; Polyviou et al. 2014a), a comparison of its influence in relation to other relative advantage factors has not been studied. Using the case of cloud-enabled payroll systems, our study evaluated that remote access to the system is the most important factor influencing the intention to adopt (the significance of the finding was p=.00003). The preliminary interviews conducted for cloud services in general (Polyviou et al. 2014a), also converge to this finding. As denoted by the interviewees "use of information wherever you are with every device […], wanted a CRM solution, something online so that accessible from everywhere" [quote of chief executive officer in Austria], "access from everywhere, any time […], independence of physical site" [quote of chief information officer in Greece]. Hence, although in our study remote access is measured in the context of cloud-enabled payroll systems, we can conclude that it is an important factor grouped under cloud's relative advantage that is influencing cloud adoption more generally.

We also identified IT-Fashion to be impacting cloud adoption intentions. Organisations and its executives are exposed to fashion setter pressures. Hence, fashion setters are said to influence the decision makers of organisations as they impact the formulation of their perceptions towards the innovation. Hence, it could be anticipated that IT-Fashion has an influence on the decision to adopt the innovation. This is in line with the indications of existing literature on cloud computing, identifying that perceptions towards the term 'cloud' itself are also influencing the adoption intention (Morgan et al. 2013). This finding could not be clustered within the theoretical frameworks employed in previous studies of cloud computing even though authors called for further research on it (Morgan et al. 2013). By employing cloud-enabled payroll systems as our example, throughout our study we have demonstrated that the tendency to follow IT-Fashion has a remarkable influence on the intention to adopt. This is confirmed also by our preliminary research study that targeted the adoption of cloud services in general (Polyviou et al. 2014a).. For example, some of our interviewees noted that the cloud product was spotted through a "CRM solutions fair" [quote of chief information officer in Austria], "the need was […] resolved in a more traditional/pen and paper manner […but then saw], it on facebook, watched the youtube video to understand how it works"[quote of chief executive officer in Greece]. Thus, we can conclude that IT-Fashion influences cloud adoption.

In addition, under relative advantage, reduction of cost was another factor hypothesised to be influencing the intention to adopt cloud computing. As cloud computing minimises investment on IT hardware, IT support cost and reduces capital expenditure, it was expected to be positively influencing the intention to adopt. This was also indicated by the findings of Oliveira et al. (2014). However, according to the results of our study cost reduction is not influential if compared to the influence of remote access and IT-Fashion factors. One possible justification of this finding is the fact that the needs of a firm in terms of payroll system licences are standard for each year, unlikely to vary across time and need limited computation power. Due to this characteristic of payroll systems we call for further investigation to address if there is diversity of answers when considering systems of a less predicted pattern of licence needs.

Moreover, given that firms are often handling sensitive data (e.g. financial statements, employee personal information etc), it was hypothesised that security concerns negatively influence cloud adoption. Using the case of cloud-enabled payroll systems, our study did not reveal that security concerns have an influence on the intention to adopt. Given that payroll systems are handling some of the most sensitive data of the organisation; this finding could be an indication that organisations and service providers are starting to build a more trusted relationship.

Also, previous research studies attempt to diversify their results based on the sector to which responding organisation belongs to (Oliveira et al. 2014). Hence, our study included this attribute as the control variable 'domain' and captured respondents from more that twelve different domains. Our research results concluded that the domain of the organisation did not have an influence of the intention to adopt cloud and cloud-enabled payroll systems in particular. Furthermore, the existence of the HR department in the organisation was used as a control variable, as well as the number of employees. We consider the number of employees a variable measuring the size of the organisation. We opted against the use of revenue as a control variable, as the current economic situation in Greece has reduced the validity of this measure as a proxy for organizational size.

Overall, our study demonstrated the relevance of IT-Fashion for cloud adoption as IT-Fashion hypothesis of our model explains a significant percentage of the adoption intentions. Although our research model was tested in cloud-enabled payroll systems, supportive insights from our preliminary qualitative studies targeting the adoption of cloud services in general illustrate the applicability of our findings for cloud adoption literature more generally. Although IT-Fashion explains a remarkable proportion of the intention to adopt cloud, it has been overlooked by previous efforts that endeavour to explain the factors influencing the intention to adopt cloud services. Our study has contributed by shedding further light on cloud adoption decisions and manifesting the relevance of IT-Fashion as another key factor that influences cloud adoption intention. In addition, the study specified the relative advantage of cloud by identifying factors that define cloud's relative advantage and testing their relevance. In this way, it has been clarified that remote access is the most important factor of relative advantage influencing the intention to adopt cloud, at least in the case of payroll systems.

Beyond its theoretical contribution, the study generated implications that can be valuable to practitioners especially from a marketing perspective. First of all, the relevance of IT-Fashion confirms the need for cloud vendors to invest in marketing campaigns. Such marketing campaigns could aim at creating a positive perception towards cloud. As indicated by our findings, the views of decision makers are highly influenced by fashion setters. Hence, targeting potential customers through fares, press releases and social media can contribute to raising the vendor's market share. In addition, our findings provide indications about the content of marketing campaigns. More specifically, according the insights of our study, marketing campaigns should focus on promoting certain benefits of the service that are enabled by cloud. For example, remote access was identified as the most important factor influencing the adoption intention, at least for cloud-enabled payroll systems. Hence, vendors offering cloud-enabled payroll systems should consider the promotion of the remote access functionality of their products compared to other characteristics such as its cost-effectiveness. Finally, heavy investments in providing security assurances seem to be no longer necessary for vendors, at least for those offering payroll systems.

We acknowledge that our study has a number of limitations. First, the sample targeted Greek companies, which implies that the study might reflect a situation in a specific country. Furthermore, although the findings of our study were also supported by the findings of preliminary study which targeted cloud service in general, the core conclusions of the study were demonstrated by using the example of cloud-enabled payroll systems. In addition, the model aimed at examining if IT-Fashion influences the intention to adopt cloud. This was achieved by comparing it to the factors that have been found in the extant literature to have the highest impact on the intention to adopt (i.e. the technology's relative advantage). As a result, the model did not capture additional factors that may fall out of cloud's relative advantage, but may have a smaller influence on the adoption intention.

6 Conclusion

This paper has studied the impact of IT-Fashion on the cloud adoption intention. To achieve this, the study has followed the strategy of juxtaposing it to cloud's relative advantage. Future research should consider enhancing the existing research model with additional factors, in addition to those grouped under cloud's relative advantage. By juxtaposing additional factors to IT-Fashion, the influence of IT-

Fashion could be further compared and factors influencing the intention to adopt cloud can be prioritised. In the study presented in this paper, by employing cloud-enabled payroll systems as our example, we have demonstrated that IT-Fashion influences the intention to adopt cloud to a remarkable extent. In addition, we have analysed cloud's relative advantage into more specific factors, revealing that remote access is the cloud characteristic that makes the technology more advantageous compared to what it attempts to supersede. We have discussed our results in more depth in the light of earlier research on cloud computing adoption. To confirm the generalizability of our results for cloud computing adoption, future research could focus on examining the impact of IT-Fashion using other types of cloud services, preferably of a more strategic importance. Finally, analysing the IT-Fashion variable into further sub-variables could provide additional insights on the most effective marketing strategies that cloud providers can follow.

Acknowledgments

This research has been co-financed by the European Union (European Social Fund - ESF) and Greek national funds through the Operational Program "Education and Lifelong Learning" of the National Strategic Reference Framework (NSRF) - Research Funding Program: Thalis - Athens University of Economics and Business - Software Engineering Research Platform. The authors also acknowledge the feedback of Dr. Stephanos Androutsellis-Theotokis on earlier drafts of this work.

Appendix A

Reduction of Cost	CST1	The cost of adoption of a cloud-enabled payroll system are far greater than the benefits.	(Premkumar et al. 1999)
	CST2	The cost of maintenance and support of a cloud-enabled payroll system are very high for our business.	(Premkumar et al. 1999)
	CST3	The amount of money and time invested in training employees to use a cloud-enabled payroll system are very high.	(Premkumar et al. 1999)
Remote Access	RMA1	My firm would be interested in having remote access to the payroll system.	(self-developed)
	RMA2	The remote access functionality of the payroll system will improve the effectiveness of the tasks completed by the HR department.	(self-developed)
	RMA3	The remote access functionality of the payroll system will raise the productiveness of the HR department	(self-developed)
Security Concerns	SEC1	Degree of concern of my firm for the security of the payroll data in the cloud	(Oliveira et al. 2014)
	SEC2	Degree of concern of the employees of my firm for the security of payroll data in the cloud	(Oliveira et al. 2014)
	SEC3	Degree of concern of employees of my firm about the privacy of the payroll data in the cloud	(Oliveira et al. 2014)
IT-Fashion Influence	FSH1	We were one of the first ones to find out about cloud-enabled payroll systems, since we are informed about the technological applications of our domain through conferences, press releases and social media	(self-developed)
	FSH2	We have heard about cloud-enabled payroll systems since a long time ago, as we are frequently following the technological applications of our domain through conferences, press releases and social media	(self-developed)
Intention to Adopt	AD1	At what stage of adoption is your firm currently engaged regarding cloud-enabled payroll systems? (Not considering; Has evaluated, and does not plan to adopt; Currently evaluating (e.g., in a pilot study); Has evaluated and plans to adopt; Has already adopted such systems)	(Thiesse et al. 2011)
	AD2	If you are expecting that your firm will adopt cloud payroll systems in the future, when do you think it will happen? (Not considering to adopt; In more than 5 years; Within 2-5 years; Within 1-2 years; In less than a year)	(Thiesse et al. 2011)

Table A . List of Constructs and Items

Appendix B

	Cronbach's Alpha	Composite Reliability	AVE	CST	RMA	SEC	FSH	AD
Reduction of costs (CST)	0.786	0.829	0.621	0.788				
Remote access (RMA)	0.917	0.948	0.858	0.098	0.926			
Security (SEC)	0.934	0.958	0.884	-0.072	0.180	0.940		
IT-Fashion (FSH)	0.911	0.957	0.917	0.147	-0.358	-0.220	0.957	
Intention to adopt cloud-enabled pay-roll system (AD)	0.738	0.880	0.787	0.152	0.554	-0.262	0.268	0.887

Table B. Convergent Validity

References

Abrahamson, E. 1991. "Managerial Fads and Fashions: The Diffusion and Rejection of Innovations," *The Academy of Management Review* (16:3), pp 586-612.

Abrahamson, E. 1996. "Managment Fashion," *The Academy of Management Review* (21:1), pp 254-285.

Alshamaila, Y., Papagiannidis, S., and Li, F. 2013. "Cloud computing adoption by SMEs in the north east of England," *Journal of Enterprise Information Management* (26:3), pp.250-275.

Anandasivam, A., Best, P., and See, S. 2010. "Customers' Preferences for Infrastructure Cloud Services," *In Proceedings of the 12th IEEE Conference on Commerce and Enterprise Computing, Shanghai, China*.

Bohn, R. B., Messina, J., Liu, F., Tong, J., and Mao, J. 2011. "NIST Cloud Computing Reference Architecture," *In Proceedings of the 2011 IEEE World Congress on Services*, IEEE Computer Society, pp. 594-596.

Brislin, R. W. 1970. "Back-Translation for Cross-Cultural Research," *Journal of Cross-Cultural Psychology* (1:2), pp 185-216.

Carr, N. 2009. *The Big Switch: Rewiring the World, from Edison to Google*, (1 ed.) W.W. Norton Company London, U.K.

Chau, P. Y. K., and Tam, K. Y. 1997. "Factors Affecting the Adoption of Open Systems: An Exploratory Study," *MIS Quarterly* (21:1), Zmud, B. (ed.), pp 1-24.

Durkee, D. 2010. "Why Cloud Computing Will Never Be Free," *Communications of the ACM* (53:5), pp 62-69.

Fornell, C., and Lacker, D. F. 1981. "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error," *Journal of Marketing Research* (18:1), pp 39-50.

Gefen, D., and Straub, D. 2005. "A Practical Guide To Factorial Validity Using PLS-Graph: Tutorial And Annotated Example," *Communications of the Association for Information Systems* (16:1), pp 91-109.

Giessmann, A., and Stanoevska, K. 2012. "Platform As A Service – A Conjoint Study On Consumer's Preferences," in *In Proceedings of the 32th International Conference of Information Systems(ICIS), Orlando, U.S.A.*

Hair, J. F., Ringle, C. M., and Sarstedt, M. 2011. "PLS-SEM: Indeed a Silver Bullet . *Journal of Marketing Theory and Practice* (19:2), pp 139-152.

Janssen, M., and Joha, A. 2011. "Challenges for Adopting Cloud-based Software as a Service (SaaS) in the Public Sector," in *19th European Conference on Information Systems (ECIS), Helsinki, Finland*.

Joint, A., Baker, E., and Eccles, E. 2009. "Hey, you, get off of that cloud?," in *Computer Law & Security Review*, pp. 270-274.

Kieser, A. 1997. "Rhetoric and Myth in Managment Fashion," *Organization* (4:1), pp 49-74.

Köhler, P., Anandasivam, A., and Ma, D. Year. "Cloud Services from a Consumer Perspective," *16th Americas Conference on Information Systems (AMCIS), Lima, Peru, 2010*.

Kuan, K. K. Y., and Chau, P. Y. K. 2001. "A perception-based model for edi adoption in small businesses using a technology-organization-environment framework," *Information & Management* (38:8), pp 507-521.

Low, C., and Chen, Y. 2011. "Understanding the determinants of cloud computing adoption," *Industrial Management & Data Systems* (111:7), pp 1006-1023.

Morgan, L., and Conboy, K. Year. "Factors Affecting The Adoption Of Cloud Computing: An Exploratory Study," *21st European Conference on Information Systems (ECIS), Utrecht The Netherlands*.

Nunnally, J. C., and Bernstein, I. H. 1994. *Psychometric Theory*, McGraw-Hill: New York.

Oliveira, T., Thomas, M., and Espadanal, M. 2014. "Assessing the determinants of cloud computing adoption: An analysis of the manufacturing and services sectors," *Information & Management* (51:5), pp 497-510.

Polyviou, A., Pouloudi, N., and Pramatari, K. 2014a. "Cloud Adoption: Relative Advantage or IT fashion?," *European Conference on Information Systems (ECIS), Tel-Aviv, Israel*.

Polyviou, A., Pouloudi, N., and Rizou, S. 2014b. "Which Factors Affect Software-as-a-Service Selection the Most? A Study from the Customer's and the Vendor's Perspective," in *In Proceedings of the 47th Hawaii International Conference on System Sciences (HICSS), Hawaii, U.S.A*.

Premkumar, G., and Roberts, M. 1999. "Adoption of new information technologies in rural small businesses," *Omega - The International Journal of Management Science* (27:4) 8//, pp 467-484.

Rogers, E. M. 1995. *Diffusion of Innovations*, Free Press: New York.

Smith, J. B., and Barclay, D. W. 1997. "The effects of organizational differences and trust on the effectiveness of selling partner relationships," *Journal of Marketing* (61:1), pp 3-21.

Swanson, E. B. 2012. "The Manager's Guide to IT Innovation Waves," *MIT Sloan Managment Review* (53:1), pp 75-83.

Swanson, E. B., and Ramiller, N. C. 1997. "The Organizing Vision in Information Systems Innovation," *Organization Science* (8:5), pp 458-474.

Thiesse, F., Staake, T., Schmitt, P., and Fleisch, E. 2011. "The rise of the "next-generation bar code": an international RFID adoption study," *Supply Chain Management: An International Journal* (16:5), pp 328-345.

Tornatzky, L. G., and Fleischer, M. 1990. *The processes of technological innovation*, Lexington Books: Massachusetts.

Wang, P. 2010. "Chasing the Hottest IT: Effects of Information Technology Fashion on Organizations," *MIS Quarterly* (34:1), pp 63-85.

Whitley, E. A., Mooney, J., Retana, G., Reynolds, P., and Venters, W. 2013. "Panel 5: the shift to cloud computing: a slow train comin'?," in *In Proceedings of the International Conference on Information Systems (ICIS), Milan, Italy*.

Willcocks, L., Venters, W., and Whitley, E. 2014. *Moving to the Cloud Corporation*, (1st ed.) Palgrave Macmillan: Hampshire, U.K.

Yusof, M. M., Kuljis, J., Papazafeiropoulou, A., and Stergioulas, L. K. 2007. "An evaluation framework for Health Information Systems: human, organization and technology-fit factors (HOT-fit)." *International Journal of Medical Informatics* (77:6), pp 386-398.