The Influences of Organisational Culture on Email Usage in Malaysian Private Universities

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ABSTRACT

This study examines the influence of organisational culture on use of email among non-academic workers in Malaysian private universities. For this research regarding the culture in organisations, a scale of measurement was used based upon the concepts that are found in values as well as practices in regards to organisational culture developed by Hofstede *et al*. (1990) namely Need for Security (NS), Results-Oriented (RO), Job-Oriented (JO) and Closed System (CS). In this study, Technology Acceptance Model (TAM) is used as part of the perspective theory on technology adoption, using the constructs; perceived ease of use (PEOU) and perceived usefulness (PU) as mediator for organisational culture and email usage. Data used in the study was based on questionnaires of 185 non-academic staff from four Malaysian private universities. The study found that all constructs of organisational culture were having significant relationship with perceived ease of use (PEOU) with NS, JO and CS having significant negative relationship while RO has significant positive relationship with PEOU on email usage. For PU constructs, this study found a significant negative relationship between JO and PU while a significant positive relationship of RO with PU on email usage. Finally, only PU had significant positive relationship with email usage while PEOU

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had significant positive relationship with PU on email usage. This means that the usage of email in Malaysian private universities depend on the user's perception of email usefulness rather than perception of ease of use.

Keywords: email, non-academic staff, private universities, organisational culture, Technology Acceptance Model (TAM)

JEL Classification: M10, M14, M15

INTRODUCTION

Over the past few decades, research done on information systems adoption has suggested that one of the most important factors contributing to success or failure of any information systems adoption is the influence of organisational culture in the workplace. As explained by Jackson (2011), organisational culture continues to play an important role on the adoption of any technology at workplace. Recent studies by many scholars around the world suggested the same finding on the significant influence of organisational culture on acceptance of information system at workplace (Kummer *et al*. 2016; Mahomed 2015; Tarhini *et al*. 2015). For example, the study done by Mahomed (2015) suggested that email usage has significant relationship with organisational culture in Malaysian universities using Hoftede's values and practices factors. Another study done by Tarhini *et al*. (2015) found similar finding which also suggests that individual, social and organisational factors are important in considering technological adoption at workplace. Mahomed (2015) made the conclusion that when discussing differences in people's behaviour, culture is the most useful variable. Culture as well as the cultivation of strong bonds in information technology is the central component of acceptance in ICT.

Malaysian government has promoted widely the usage of electronic mail or email communication in order to enhance communication and performance. However, several challenges arise while fully implementing email usage in Higher Education Institutions (Mahomed 2015). Previous research in Malaysian Higher Education Institutions consistently found that Malaysian private universities staffs have higher email usage, than Malaysian public universities staffs (Mahomed 2015; Husain *et al*. 2009; Baninajarian 2009).

The Malaysian Higher Education Institutions has encountered several challenges related to the implementation of electronic mails (Mahomed 2015). For example:

- A research done by Osman *et al*. (2011) involved 1814 individual users from major cities in Malaysia which took into account various types of smartphone usage application which also consist of email and internet browsing. The results proved that 75% of the respondents have experienced browsing the Internet, almost half (44.3%) did not experience accessing email via smartphone and 29.8% are frequent users of email via smartphone. This is significantly lower than the normal usage rate of 78 per cent in the United States and United Kingdom (e-Dialog 2010).

- The Malaysian government's long-term initiative was to increase email communication via MyEmail.my programme. It was launched by the Prime Minister on the 19th of April

2011 which involves a cost of RM 50 million. The target was 100% of Malaysians aged 18 and above would subscribe and use MyEmail.my by 2015 (Pemandu 2012). The manager's aim was 5.4 million people would subscribe by the end of 2011. The results received were only 3000 people (or 0.06%) subscribed (Idris 2011). Recently the access to the website has been defaulted.

• There was a study conducted by Southeast Asia Consumer Insights which involved 3,600 Southeast Asian consumers which included Malaysia on online behaviour (Beechler 2014). The study found that consumers in Southeast Asia uses email at home and on the move, and they are open to online retails via emails. The percentage of online consumers accessing emails at least once a day in Malaysia (87%) was lower than Singapore and Philippines with 90% each (Beechler 2014).

Based on previous researches by Malaysian Higher Education, it showed that Malaysian private universities staffs had higher email usage compared to Malaysian public universities staffs (Mahomed 2015; Husain *et al*. 2009; Baninajarian 2009). Recent research by Mahomed (2015) on email usage among non-academic staffs in the universities showed that 21.9% staffs received more than 20 messages a day and 50% of the staffs sent only 5 messages or less in a day. The comparison of emails received by non-academic staffs in both universities showed that private universities had higher number of official emails, on which private universities was ranked 234.41 level and public universities was ranked 173.44 level. The comparison of emails received by non-academic staffs in both universities showed that private universities had higher number of official emails, where by private universities were ranked 235.79 level and public universities were ranked 172.26 (Mahomed 2015).

Hence, this study seeks to examine two aspects of email usage. First, it will identify the influence of organisational culture in increasing the rate of email usage by non-academic executives in Malaysian private universities. Secondly, the study aims to used integrated model which was based on Hofstede *et al*. (1990) organisational culture model together with Technology Acceptance Model by Davis (1989) to analyse the relation between organisational culture and email usage. We achieve this through integration of culture and technological acceptance theories which would test applicability of the Technology Acceptance Model (TAM) (Davis 1989) with organisational culture established by Hofstede *et al*. (1990).

The reason for choosing non-academic executives is because of a significant difference among email usage rate and frequency between non-academic executives in Malaysian public (Husain *et al*. 2009) and private universities (Baninajarian 2009). Latest study by Mahomed (2015) confirmed that level of email usage among executives in Malaysian private universities was higher than public universities.

Mahomed (2015) expounds that executives who are non-academic usually are involved in administrative responsibilities that require a lot of communication, as well as documentation inside and outside their companies. As such the time taken as well as the efficiency of these administrative staff at HEIs is greatly affected by the usage of email in their work performance at the university.

The results from this study will be used to the contribution of filling in the gaps that exists

in the knowledge found in current literature in regards to the usage of emails among executives from the non-academic side in the private universities of Malaysia as seen below:

a. To proof with evidence on whether the culture of an organisation also influences the usage of email.

b. To proof with evidence on whether technology acceptance model has any influences on the email usage.

The work provided will also be a big contribution for private universities in Malaysia, as it will convey practical knowledge in regards to the usage of emails among the non-academic workers. In fact, it will contribute by:

a. Sharing data of great value in regards to the factors which influences the email usage of non-academic executives.

b. Providing knowledge that might allow the Malaysian Government (as well as parties who might be interested) to increase email usage and eventually leading to economic benefits that will prove to be substantial.

Organisational Culture

Pettigrew (1979) first introduced the term 'organisational culture'. Organisational culture defined by Krefting and Frost (1985, p. 155) is a *"---patterns of belief, symbols, rituals, and myths that evolve across time and that function as social glue"*. Wallace defined corporate culture as "*---the shared understanding of an organisation's employees – 'how we do thing around here'"*. As such the importance of organisational culture was emphasized by Pothukuchi *et al.* (2002). This implies that if work culture in an organisation is amendable by using technology, then the success of transferring new technologies would be higher. Aziz and Salleh (2011) suggested for example that a major factor towards implementing of IT/IS effectively in Malaysian construction industry was related towards organisation culture.

Hofstede *et al.* (2010, p. 346) states that across national and organisational cultures, the values and practices are differently mix. Interestingly on organisational level, cultural difference resides mostly in practice. Hofstede *et al.* (2010) explains that unlike paradigmatic cultures studied by anthropologists, organisations do not attain such depth or richness of socially acceptable understanding. This is because a person acquires values early in life while practices are learnt through socialization with others at school or work. Organisational culture as used in this research is defined as *"the collective programming of the mind that distinguishes the members of one organisation from others"* Hofstede *et al.* (2010, p. 344).

Hofstede's framework of organisational culture

Hofstede *et al.* (1990) models of organisational culture are not just widely used, but changeable in quantitative research. There are six dimensions of organisational culture Hofstede (1998, p. 483-484) as follows:

a. **Process-oriented versus results-oriented**
    Process-oriented cultures cultivate risk-avoidance traits among its people. Minimal effort is required in work as each day is viewed as similar to the previous day. Unlike results-oriented culture, where maximal effort is exerted in exploring new challenges, and unfamiliar situations faced daily (Hofstede 1998, p. 483).

b. **Employee-oriented versus job-oriented**
    Employee-oriented culture organisations hold the welfare of their workers as their responsibility as well as consider employees in decision-making processes. Unlike organisations of job-oriented culture who care little about employee welfare but focus on the work they do (Hofstede 1998, p. 483).

c. **Parochial versus professional**
    Parochial culture companies cause employees to feel that their family and social life is taking into consideration besides their job competence. Professional culture however considers the private lives of employees separate from work, and employees are hired base on competency (Hofstede 1998, p. 483-484).

d. **Open systems versus closed systems**
    Open culture organisations and its' workers are open to newcomers and outsiders unlike closed system organisations which are secretive even to insiders. As such people do not feel a sense of belonging to the organisation even after a while (Hofstede 1998, p. 484).

e. **Loose versus tight control**
    People in a lackadaisical work environments do not view strictly about cost, punctuality and norms, unlike those in a rightly controlled environment where cost-consciousness, punctuality and adherence to rules is encouraged (Hofstede 1998, p. 484).

f. **Normative versus pragmatic**
    Normative culture emphasizes organisational procedures regarding business ethics matters correctly. Pragmatic culture on the other hand want results with less emphasis on correct procedures, which encourages pragmatic employees rather than workers who are dogmatic (Hofstede 1998, p. 484).

Organisational Culture in Malaysian Public and Private Universities

It had been suggested by Ducheneaut (2002) that in an organisation the effectiveness in regards to email usage applied in communication is not dependent on monetary or even technological resources, but in fact depends on the culture of that institution, as well as individuals themselves. As such the culture of an organisation whether it is national or organisational will determine the rate of success or failure when it comes to the introduction and transfer of new types of technology to a workplace (Deal & Kennedy 1982).

In terms of ICT, public universities were supposed to be performing excellently. Unfortunately they aren't able to do so due to lack of training (Putih 2007). Sampaio (1991) discovered between public and private universities, there were significant differences in terms of organisational processes.

There are varying compositions of ethnic groups in Malaysia however Malays (Bumiputera) were predominant among public university staff while private universities had multiple races

(Mahomed 2015). While heirachial culture is prevalent in Malaysian organisations, power distance is seen more prominent among academicians of public universities as Ahadi *et al*. (2011) noted. Ramachandran *et al*. (2011) observed that public universities show higher hierachy-based culture, while private universities are seen as individual institutions that follow equality-based cutlure which focuses on student recruitment, plus other income-generating activies (Ramachandran *et al*. 2011). As such public universities seem to be more process-oriented leaning towards rules and procedures, compared to private universities which tend to be result-oriented (Hofstede *et al*. 1990).

As such Wilkinson and Yussof (2005) argued that private universities should be more prevalent in adhocracy culture yet findings by Ramachandran *et al*. (2011) contradict this. He observed higher cultural practice at public HEIs, because of the transferences of administration and academic staffs among different public HEIs who also practice richer organisational cultures. Public HEIs clan culture is dominant compared to civil HEIs who work together when it comes to consultation, administration and research tasks. On top of that, public HEIs which belongs to the government were loyal to individual HEIs, viewed as commitment to the government (Ramachandran *et al*. 2011, p. 627). As such, public universities are inclined towards top-down policy practices done by the government, especially MOHE.

This element follows a top-down decision-making process related closely to the job-oriented culture (Cabrera *et al*. 2001) compared to private HEIs, which are run almost independently from MOHE's influence and have their respective in-house training (Ramachandran *et al*. 2011, p. 626). As such public HEIs are systematically more centralised (Ramachandran *et al*. 2011).

Email Usage in Malaysia

Using emails at the workplace has been the contributing factor in the increase of work base performance and productivity (Chui *et al*. 2012; Mahomed 2015). Yet there are also disadvantages in the use of emails am work as shown in research done by Eunson (2012) which demonstrated that conversations through emails brought about an overload of information. The root cause is found in the reason that due to its convenience, an email that has been sent to many recipients may contain information that could be actually a distraction to office personnel.

Since 2000 many studies in Malaysia have investigated on the level of email usage in various sectors among specific groups. Habil (1999) investigated patterns of email conversation of two leading private manufacturers. From the research it is found that it had interesting cultural and societal perception related to social action as there was active social meaning in exchanging emails. She discovered institutional ideology was a factor which influenced and moulded communication. Institutional ideology values adopted from organisation reflected strongly on email.

Baninajarin (2009) did a research on executive's staff at a private university in Malaysia. The result was 75.5% executives use more than five emails daily and 5.9% used it once daily. 66.5% received more emails then receiving, 32.6% send and receive equal amount of mails and 0.9% received less emails then sending. Additionally 74.9% used emails more than five years, 49.4% used official emails and 50.6% used alternative emails such as Yahoo, Gmail and Hotmail.

Husain *et al*. (2009) conducted a comparative study between Malaysian and the UK universities. The study showed a difference in the volume of email received by the administrative staffs in both the universities. In Malaysia, Universiti Teknikal Malaysia Melaka (UTeM) was chosen to conduct the survey and in the UK University of Brighton (UB) was chosen for the survey. The result of this research was that it was found that the staff at UB had up to 20 work-related emails with an average of 11 to 50 messages, while most of the UTeM staff only receive on average less than five emails, with an average of 5-10 messages a day received.

Osman *et al* (2011) considered the usage of smartphone in his research. The research proved that there were usage of internet browsing and half of the users did not have any email accounts and one-third used email daily. The research involved 1814 respondents showed 75% experience browsing internet, 44.3% did not own an email account and 29.8% were frequent users of email. It could be concluded that Malaysia had issues in email usage compared to the First World countries.

Mahomed (2015) studied on email usage among non-academic staffs in Malaysia. The study proved that 21.9% of the staffs received 20 messages per day and one third of the staffs received 6-10 messages per day. The percentage proved that sending messages was lower than receiving messages. The study also proved that 50% of the staffs sent only 5 messages per day or lesser.

Conceptual Framework

As explained earlier this study used integrating theories of culture and technological acceptance which will test the applicability of the Technology Acceptance Model (TAM) (Davis 1989) with organisational culture developed by Hofstede *et al*. (1990).

There are many studies that looked into the influences of organisational culture with technology adoption. For example a study done by Merchant (2007) looked into the relationship between the cultural factors of the employees in United States, France and China. The study found that culture has a significant relationship with the adoption of new technology and the crucial factor that can determine the acceptance or rejection of new technology.

The most recent study done by Mahomed (2015) which looked into the relationship of culture and the adoption of email usage in Malaysian university using extension TAM model found that culture plays an important role for the acceptance of email usage among non-academic staff in Malaysian universities. The study also found that not only national culture has the significant relationship with email usage but organisational culture also has a significant relationship with email usage. Specifically the study found that the variables of organisational culture developed by Hofstede *et al*. (1990) namely need for security, results-oriented and closed system has a significant relationship with the email usage in Malaysian universities. The study also concluded that organisational culture is significantly correlated with technology acceptance and email use. However, Mahomed (2015) looked into the roles of organisational culture on email usage among non-academic staff in Malaysian universities while this study will specifically look into the role of organisational culture on email usage in Malaysian private universities only.

Organisational Culture Model

Cabrera *et al*. (2001) explains in regards to Hofstede's framework on organisational culture that it is quite simple when used on organisational issues. Yet Berenice (2010) argues, that these six organisational culture dimensions of Hofstede cannot be considered universally sufficient of valid in describing cultures since they were based on 20 units from two countries. Berenice suggest that more dimensions are necessary or that not all of the six are as useful. As such this study will use a model shown earlier by Hofstede *et al*. (1990) where values and practices are referred as tools to measure organisational culture. The model less complex but covers the entire facet of organisational culture recorded in the current model.

Ciganek *et al*. (2010), explained that out of the six practices depicted in Hofstede's Organisational Culture model, only three were deemed relevant in the study of technology and system usage. The trio were results-oriented (RO), job-oriented (JO) and closed system (CS). Mahomed (2015) also used these three Hofstede organizational culture (practices) variables and included one Hofstede organizational culture (value) namely need for security (NS) on his research on email adoption in Malaysian organization. He found that these variables has good construct reliability and adequate convergent validity. As such, the research will be using the three dimensions and aligned with one value-based dimension referred to as need for security (NS) to make the research model manageable.

a)   Need for security (NS)

Need for security is represented as a dimension inside the organisation's culture whereby workers are given repeated security assurance regarding their deeds. Acceptance of a system as stated by Ciganek *et al*. (2010) is dependent if an employee is able to publish, and back with confidence the information obtained from co-workers using technology. Meaning more secure ways of communication such as face-to-face or telephone will be preferred if the person is on a higher security level, but on the other hand, lower level security workers in an organisation prefer to use emails at work despite being aware of the rest (Brake 2004). To support this, a more recent study done by Mahomed (2015) in Malaysia organisations found a negative significant connection of a need for security to that of perceived ease of use (PEOU). However, a similar study found no significant relationship between need for security and perceived usefulness (PU).

H1a: There is a significant negative relationship between Need for Security (NS) and perceived usefulness (PU) on email usage in Malaysian private universities.

H2a: There is a significant negative relationship between Need for Security (NS) and Perceived Ease of Use (PEOU) on email usage in Malaysian private universities.

b)   Results-oriented (RO)

Results-oriented organisations concern themselves mainly with the goals related to tasks. As such result-oriented organisations tend to be risk-oriented, creating an environment that will advocate innovative methods for survival and growth of an organisation (Hofstede *et al*. 1990). Organisations which emphasize on innovation and exploration of ground-breaking ideas

amongst workers are more successful in technology adoption (Ruppel & Harrington 2001). Result-oriented culture, gives employees many opportunities to pick technology useful for work ignoring of any formal procedures which leads to an innovative attitude in technology acceptance (Ciganek *et al*. 2010). Ciganek *et al*. (2010) adds there is significant positive relationship of result-oriented between PEOU and PU on system use. Mahomed (2015) in a more recent study done in Malaysian universities found that results-oriented has significantly more positive relationship towards perceived ease of use (PEOU) and perceived usefulness (PU) on email usage.

H1b: *There is a significant positive relationship between Results-oriented (RO) and perceived usefulness (PU) on email usage in Malaysian private universities.*

H2b: *There is a significant positive relationship between Results-oriented (RO) and Perceived Ease of Use (PEOU) on email usage in Malaysian private universities.*

c)   Job-oriented (JO)

When it comes to employee-oriented cultures, decision making is found in care of committees, which make the effort in assisting fresh members to blend in. This is unlike job-oriented cultures, where personal and up-down decision making is prioritised (Cabrera *et al*. 2001). Ruppel and Harrington (2001), states that the adoption of an innovation or system takes place in organisations which priorities its employees. Meaning organisations that are job-oriented culture are less likely to embrace technological tools like the email, as compared to employee-oriented companies thus, a negative relationship between job-oriented and the adoption of email usage. However, a more recent study done by Mahomed (2015) among Malaysian organisations found there was no significant relationship between job-oriented with PEOU and PU on email usage. However, Mahomed (2015) study included both Malaysian public and private universities, while this study will only look into Malaysian private universities to investigate any differences occurring.

H1c: *There is a significant negative relationship between Job-Oriented (JO) and perceived usefulness (PU) on email usage in Malaysian private universities.*

H2c: *There is a significant negative relationship between Job-Oriented (JO) and Perceived Ease of Use (PEOU) on email usage in Malaysian private universities.*

d)   Closed system (CS)

An open system culture allows information it possesses to flow freely, unlike closed ones who keep their activity a secret (Cabrera *et al*. 2001). Since technology usage needs co-worker support, as well as supervisors and managers, the absence of this support will make employees reluctant to share their info around. Ciganek *et al*. (2010) explains that organisations which have open communication system are open towards adopting technology unlike organisations that have closed communication systems. Employees are willing to exchange experiences and aid with each other in open systems (Ciganek *et al*. 2010). The conclusion is that there is a negative relationship between closed system with the adoption of email usage. Mahomed

(2015) in a more recent study done in Malaysian universities found that closed system has a significant negative relationship with PEOU and PU on email usage. As such universities which practice closed systems are likely to have a lower PEOU and PU in email usage compared with an open system university.

H1d: There is a significant negative relationship between Closed-System (CS) and perceived usefulness (PU) on email usage in Malaysian private universities.

H2d: There is a significant negative relationship between Closed-System (CS) and Perceived Ease of Use (PEOU) on email usage in Malaysian private universities.

Technology Acceptance Model

TAM is used in this study as part of its research model because TAM is specific on information system usage in terms of concepts of ease of use and usefulness compared to other technology acceptance theories. It is accredited as a reliable model in terms of describing and predicting consumer acceptance towards technology due to versatility (Venkatesh & Davis 2000), parsimony and predictive power (Mathieson 1991) being widely used (Mahomed 2015) as the most well-known model in technology acceptance studies (McCoy *et al*. 2007).

TAM also accounts for approximately 40% of variance when it comes to usage intention and behaviour as noted by Venkatesh & Davis (2000) compared to alternative models such as TRA and TPB. The reason is because TAM has the capacity as well as flexibility to communicate cultural moderators in international studies (McCoy *et al*. 2007), Western countries (Davis 1989; Mathieson 1991; Segars & Grover 1993), Eastern countries (Al-Sukkar 2005; Al-hujran 2009; Huang 2003) as well as Malaysia (Ebrahimi *et al*. 2010). Many studies where TAM was applied to analyse the intention to use email communication had shown huge validity results in Western countries (Adams *et al*. 1992; Davis 1989, 1993), Eastern countries (Huang 2003) and Malaysia (Baninajarian 2009; Mahomed 2015).

A study done by Haderi and Ahmed (2015) to look into the influence of organisational culture on the slow adoption of the technology using Technology Acceptance Model found TAM to be an important research framework in assisting to understand and explain the effects of organisation culture which could slow usage and adoption for technology. In Malaysia there are many studies that validated TAM constructs for example in a study on email usage at a public university in Malaysia, Denan and Aliman (2005) found strong relationships between TAM constructs and email usage. The same true findings by Mahomed (2015) on email usage among non-academic staffs in Malaysian public and private universities where there was a significant positive relationship between TAM constructs and email usage. TAM was developed by Davis (1989) for the purpose of exploring technologies acceptance in organisations. Davis (1985) pinpoints Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) as the main determinants of technology adoption as seen in Figure 1.
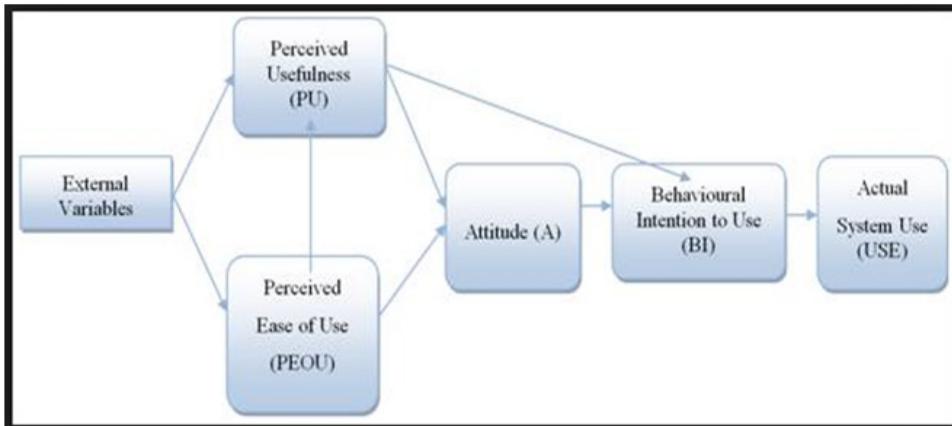
Source: Adopted from Davis (1989)

Figure 1: Technology Acceptance Model (TAM)

a)   Perceived Ease of Use (PEOU)

Perceived Ease of Use (PEOU) is defined as "the degree to which a person believes that using a particular system would be free of effort and ease giving the idea of freedom from difficulty or great effort" (Davis 1989, p. 320).

Davis (1989) hinted that PEOU was another key factor determining system usage. Similar studies consistently suggested that there is a significant positive relation between technology adoption from various technologies usage and PEOU (Davies 1989; Mutlu & Ergeneli 2012; Mahomed 2015; Mahomed *et al*. 2015; Mahomed *et al*. 2017). Similar findings in Mahomed (2015) showed significant level of PEOU towards emails among Malaysian universities. Email has to be simple for users to consider using it. If the level of PEOU is higher, then the tendency of email being used in Malaysian universities is higher (Mahomed 2015). Davies (1985) suggests that PEOU causally affects PU. Therefore, a system that is developed for easier usage, would likely make the system more useful (Davis 1993, p. 478). However, it is important to note here some of the studies found that PEOU has no relationship with intention to use or actual usage (Yusoff *et al*. 2009; Halim *et al*. 2016).

H3a: There is a significant positive relationship between Perceived Ease of Use (PEOU) and perceived usefulness (PU) on email usage in Malaysian private universities.

H3b: There is a significant positive relationship between Perceived Ease of Use (PEOU) and email usage (U) in Malaysian private universities.

## b)   Perceived Usefulness (PU)

Perceived Usefulness (PU) is defined as "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis 1989, p. 320). As a key factor which leads to consumption of system, PU is indeed a useful tool in an organisation for communication (Davies 1989). PU has been suggested by many studies to provide a significant

positive result in relation to technology adoption through various technologies usage (Davies 1989; Baninajarian 2009; Chen *et al*. 2011; Mutlu & Ergeneli 2012; Capece *et al*. 2013; Alharbi & Drew 2014, Mahomed 2015; Haderi & Ahmed 2015; Tarhini *et al*. 2016).

As such Mahomed (2015) focused on studying the relationship of email usage for non-academic workers in Malaysian universities, both private and public. This study concentrates on the non-academic staff of Malaysian universities and PU. The reason is because the research conducted by Mahomed (2015) coincides with previous findings by Baninajarian (2009) on Malaysian private university and Husain *et al*. (2009) on Malaysian public university which indicates higher email usage in Malaysian universities, both private and public.

H3c: *There is a significant positive relationship between Perceived Usefulness (PU) and email usage (U) in Malaysian private universities.*
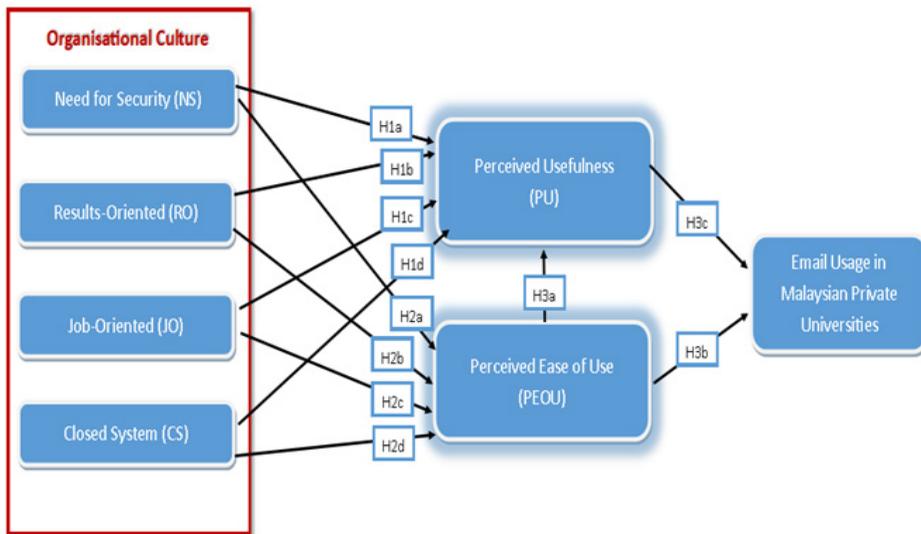
Source: Adopted from integrated model of Davis (1989) and Hofstede *et al*. (1990)

Figure 2: Research Model

RESEARCH METHODOLOGY

This study uses data collected from youth staffs among 4 private Malaysian universities by random sampling through use of a self-administered questionnaire. The questionnaire was divided into demographic, organisational culture and technology acceptance instruments which consist of a) organisational culture - need for security (NS), results-oriented (RO), job-oriented (JO) and closed system (CS), b) Technology Acceptance Model- Perceived ease of use (PEOU), Perceived usefulness (PU) and actual usage (U). This study also adopted cultural assessment scales established by Hofstede *et al*. (1990) which also used by Mahomed (2015) as in Table 1 (Appendix). As for PEOU and PU, a measurement scale developed by Davis (1989, p. 324 & 340) and Davis *et al*. (1989) is applied. Finally, for determining actual usage, the study adopts

scales created by Hart and Porter (2004, p. 50), which was also used by Hung (2011) and Mahomed (2015). The items are explained in detail in Table 2 (Appendix) The 5-point Likert scale was used for both instruments ranging 1 for (strongly disagree) to 5 (strongly agree), while a number of defined response choices were used for demographic section.

DATA ANALYSIS AND RESULTS

Table 1: Respondents' Profile

Gender	Frequency	Percentage (%)
Male	77	41.6
Female	108	58.4
Race		
Malay	78	42.2
Chinese	92	49.7
Indian	13	7
Other	2	1.1
Religion		
Muslim	80	43.2
Buddhist	71	38.4
Hindu	11	5.9
Christian	20	10.8
Other	3	1.6
Age		
20-25 years	20	10.8
26-30 years	71	38.4
31-35 years	48	25.9
36-40 years	12	6.5
41-45 years	8	4.3
46-50 years	19	10.3
51-55 years	5	2.7
56-60 years	2	1.1
Education		
Diploma	41	22.2
Bachelor Degree	118	63.8
Master Degree	24	13
PhD	2	1.1
Position		
Senior Executives	40	21.6
Executives	71	38.4
Junior Executives	74	40

This research using self-administered survey questionnaires for data collection. In total, 185 respondents out of 400 completed the questionnaires which were used for analysis in this study, making a response rate of 46.25% percent. Among the respondents, 41.6% are males, 42.2% are Malays, 49.7% are Chinese and about 8% are Indian and other. The respondents or samples were collected from four universities in peninsular Malaysia, which mean study does not include East Malaysia. Nonetheless, this shall not cause selection bias as explained by Mahomed (2015), the government's policy towards education (Ministry of Higher Education of Malaysia, 2007) have similar general systems.

In research's model validation, two common approaches often being used are Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM). According to Lei and Wu (2007, p. 33). According to Schreiber *et al*. (2006, p. 323), the appropriate method to examine the theoretical relationships of model is through CFA. In general, SEM terms were used in describing large numbers of statistical models used in evaluation to validate substantive theories with empirical data. Statistically, it represents an extension of general linear modelling (GLM) procedures, such as the ANOVA and multiple regression analysis. SEM usage is essential as it is a versatile statistical modelling tool and its uses are expanding rapidly (Lei & Wu 2007). It has also been confirmed to be suitable for extensive and challenging studies (Chin & Todd 1995) and high ability of validating relationship between various models (Lei & Wu 2007) and can be use on both experimental and non-experimental data, and cross-sectional and longitudinal data (Lei & Wu 2007). Also, SEM was often chosen by researchers due to its capability in estimating the relationship among latent constructs in measurement model and their underlying observed variables (Tomarken and Waller 2005, p.34).

For model fit assessment, this paper follows Hair *et al*. (2010) guidelines to assess various categories of indices before the goodness fit of model can be determine. In general, this paper employed three categories of fit indices, encompassed absolute fit index, incremental fit index and parsimonious fit index. The specific indices are 1) Chi-Square ($\chi 2$), 2) Normed chi-square ($\chi 2/df$), 3) Tucker-Lewis index (TLI), 4) Root Mean Square Error of Approximation (RMSEA), 5) Comparative Fit Index (CFI) and 6) Root Mean square Residual (RMR).

For Normed chi-square, the ratio value between 1 to 3 indicates good model fit (Carmines and McIver 1981). Further, CFI and TLI are both incremental fit indices (Bentler 1990; Tucker and Lewis 1973; Lei & Wu 2007), in which higher values indicates better model fit with value greater or equal to .90 (or more recently .95) indicates good fit of model (Lei & Wu 2007). Both RMSEA and RMR are absolute fix index in which lower value reflecting better model fit (Hair et. al. 2010; Lei & Wu 2007). In addition, value lower than 0.08 for RMSEA (MacCallum et. al. 1996) and value lower than 0.05 for RMR (Wu 2009) indicates decent fit of model with the data.

Under the circumstance of lack of model fit, paper will re-specify model by omitting indicator or item that caused severe damage to goodness of fit of model. In addition, study will discard indicator that do not contribute (factor loading <0.5) to the model as suggested by Holmes-Smith (2001) which will then improve the model parsimony. Nonetheless, it is important to ensure a minimum of three indicators in each dimension as warned by Hair *et al*. (2006) that lesser indicators might cause model estimation problem.

DATA ANALYSIS

CFA for Measurement Model

This section aims to assess the measurement model in Malaysian private universities namely, technology acceptance model (TAM) and organisational culture model (OCM). In TAM, there are basically 13 items or indictors that divided into Perceived Usefulness (PU-5 items), Perceived Ease of Use (PEOU-5 items) and Usage (U-3 items). On the other hands, OCM has 3 items for Results-Oriented (RO), 5 items for Need for Security (NS), 3 items for Closed System (CS) and 3 items for Job-Oriented (JO).

The final results of TAM as presented in Figure 3 after omission of two indicators namely, PU3 and PEOU2. Referring to the fit indices, TAM model achieved good fit with both TLI and CFI values of 0.951 and 0.964, indicating well-fitting of model. In addition, RMSEA significantly dropped from 0.117 to 0.089 which is still slightly higher than the threshold value. Further, RMR value of 0.040 showing acceptable fit of model. Then, normed chi square showed the model has good fit with value of 2.47, which is within the range of 1 to 3. In short, the TAM model showed acceptable model fit with data from private universities.

Following the removal of indicator NS2 and NS5, the CFA of OCM is as depicted in Figure 4. Based on the results, OCM obtained decent model fit supported by both TLI and CFI values of 0.973 and 0.981. Then, RMSEA value of 0.060 and RMR value of 0.04 are both below the threshold value, indicating satisfactory model fit. Normed chi square showed value within the range of 1 to 3 (1.657), illustrating good model fit Based on the above, OCM has acceptable model fit and will be employed for analysis.
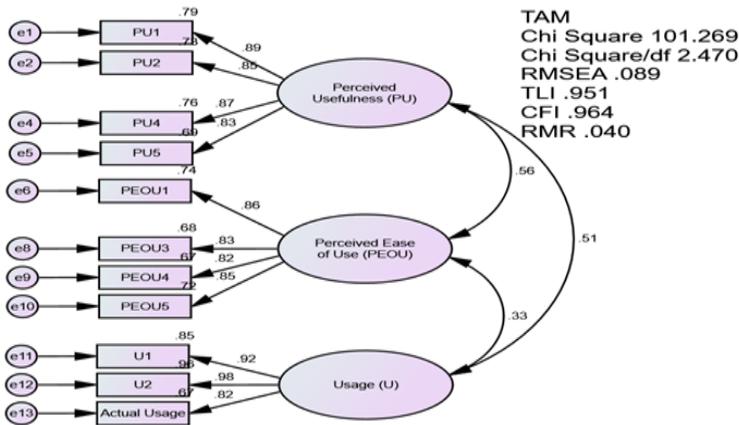
Figure 3: Confirmatory factor analysis for TAM
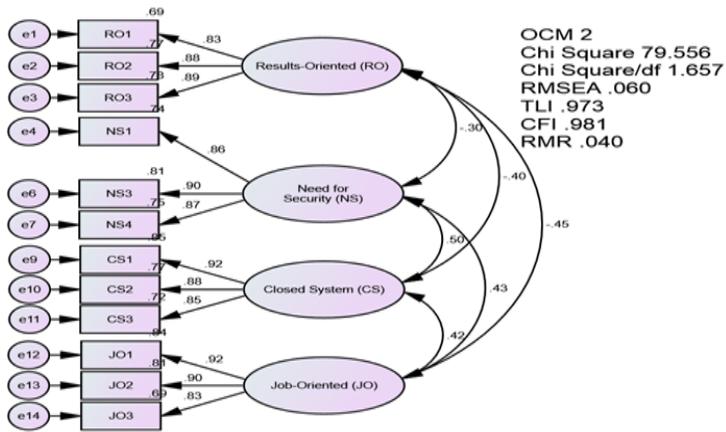
Figure 4: Confirmatory factor analysis for OCM

Full Model Confirmatory Factory Analysis (TAM and OCM)

In this section, TAM and OCM were merged and full model CFA was conducted as shown in Figure 5. Results showed the model exhibited good fit of model using private universities university's data. Such claim is supported by TLI and CFI values that both exceeded the 0.90 threshold value. Moreover, RMSEA and RMR values of 0.067 and 0.039 are both less than the threshold value of 0.08 and 0.05 respectively, indicating acceptable fit of model. Normed chi square value of 1.821 which is within the range suggesting good model fit. Therefore, the study employs the fitted final model for reliability and validity assessment.
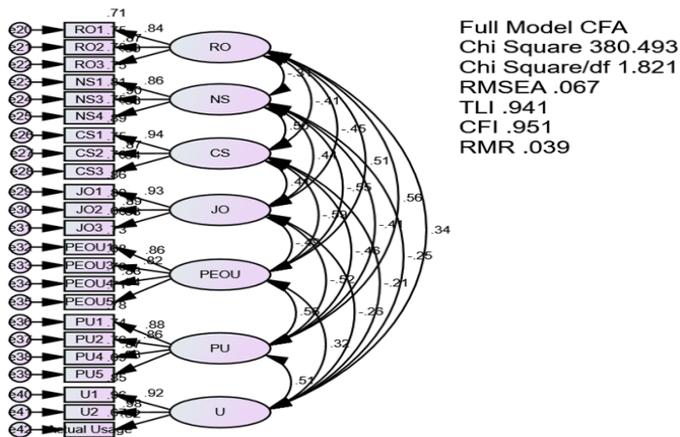
Figure 5: Confirmatory factor analysis for full model

Reliability and Validity of Measurement Model

In order to evaluate the reliability and validity of measurement model, the paper examines the factor loadings (BETA), AVE values and also composite reliability in-line with Hair *et al*. (2010) guideline. Based on Table 2, noticed that factor loadings were all high, ranged from 0.817 to 0.982. In addition, AVE values ranged from 0.704 to 0.827 which are higher than 0.5 threshold value, suggesting that at least 70.4% of variance in items can be explained by corresponding constructs. Next, high composite reliability value ranged from 0.900 to 0.935 showed that all dimensions exhibited good reliability. Therefore, sufficient evidence were collected to prove the existence of construct reliability and convergent validity in the model.

Table 2: Convergent validity and reliability for measurement model

Path			B	Beta	P	AVE	CR
Results-Oriented (RO)							
RO1	←	RO	1	0.844		0.749	0.9
RO2	←	RO	1.242	0.867	***		
RO3	←	RO	1.433	0.885	***		
Need for Security (NS)							
NS1	←	NS	1	0.864		0.76704	0.90804
NS3	←	NS	1.112	0.898	***		
NS4	←	NS	1.103	0.865	***		
Closed System (CS)							
CS1	←	CS	1	0.941		0.77753	0.91273
CS2	←	CS	0.945	0.865	***		
CS3	←	CS	0.875	0.836	***		
Job-Oriented (JO)							
JO1	←	JO	1	0.925		0.77841	0.91316
JO2	←	JO	1.034	0.892	***		
JO3	←	JO	0.869	0.827	***		
Perceived Ease of Use (PEOU)							
PEOU1	←	PEOU	1	0.857		0.70365	0.90472
PEOU3	←	PEOU	0.9	0.823	***		
PEOU4	←	PEOU	0.875	0.834	***		
PEOU5	←	PEOU	0.982	0.841	***		
Perceived Usefulness (PU)							
PU1	←	PU	1	0.883		0.74172	0.91988
PU2	←-	PU	0.829	0.858	***		
PU4	←	PU	1.051	0.873	***		
PU5	←-	PU	0.858	0.83	***		
Usage (U)							
U1	←	U	1	0.922		0.8273	0.9346
U2	←	U	1.096	0.982	***		
Actual_Usage	←	U	0.878	0.817	***		

Table 3: Discriminant validity (squared multiple correlation matrix)

	U	PU	PEOU	JO	CS	NS	RO
U	0.827						
PU	0.260	0.742					
PEOU	0.105	0.311	0.704				
JO	0.065	0.275	0.240	0.778			
CS	0.044	0.210	0.348	0.172	0.778		
NS	0.064	0.167	0.301	0.191	0.249	0.767	
RO	0.114	0.309	0.258	0.206	0.164	0.094	0.749

AVE value: Bold and diagonal value

AVE value: Bold and diagonal value

Table 3 reports the squared multiple correlation values and the AVE values in matrix table form. Based on table, it seems that the model showed good discriminant validity as the AVE values were all larger than their squared correlation values of the corresponding dimensions. It means that each construct is capable of explaining the variance in its items better than other construct. In this case, the results showed that the measurement model has good discriminant validity. Therefore, the above findings lead to a solid conclusion that the model has adequate convergent validity, construct reliability and discriminant validity.

Assumption Assessment

There are basically two main assumption in SEM, i.e. the normality and outlier. According to Kline (2005), univariate normality issue arise if variable/ item showed absolute value of skewness > 3 and kurtosis > 10, while Bollen (1989) mentioned that multivariate normality violated when Mardia's multivariate kurtosis exceed $p (p + 2)$ where p = number of observed variables. Based on Table 3 in Appendix A, the Skewness values were between the ranges of -3 to 3 while Kurtosis values were between the range of -10 to 10, indicating all items exhibited univariate normality. As for the multivariate normality, Mardia's multivariate kurtosis value of 25.532 (less than 757) indicates that variables exhibit multivariate normality.

For multivariate outlier, Mahalanobis d-squared values were estimated through AMOS as presented in Table 4 in Appendix A. Seven (7) cases showed low p values in column p1 and p2, thus had been identified as outliers. Discarding outliers will likely improve the multivariate analysis, but reduce the generalisity of data towards study population. Nonetheless, the study does not remove the outliers as that might decrease the generalisity of data and most importantly the data belongs to the research's target population.

RESULT OF SEM

Direct Effect

Table 4 reports the p values for path estimated for direct effect. At significance level of 0.05, study found that RO, NS and CS has significant effect on PEOU; while RO, JO and PEOU found to have significant effect on PU. Further, study revealed that PU has significant effect on U at 0.05 significance level. Study also discovered that JO has significant influence to PEOU at 0.10 significance level.

Table 4: Regression Weights

Path			B	Beta	P	Hypothesis
PEOU	←	RO	0.243	0.243	0.001	Supported
PEOU	←	NS	-0.217	-0.264	<0.001	Supported
PEOU	←	CS	-0.222	-0.301	<0.001	Supported
PEOU	←	JO	-0.094	-0.139	0.070*	Supported
PU	←	RO	0.333	0.295	<0.001	Supported
PU	←	NS	-0.058	-0.063	0.444	-
PU	←	CS	-0.073	-0.087	0.293	-
PU	←	JO	-0.17	-0.22	0.005	Supported
PU	←	PEOU	0.242	0.214	0.027	Supported
U	←	PEOU	0.066	0.056	0.517	-
U	←	PU	0.499	0.48	<0.001	Supported

DISCUSSION AND CONCLUSIONS

By using a survey questionnaires data was collected among185 non-academic staff from four Malaysian private universities in order to look into the role of culture on email usage in Malaysian private universities through incorporating constructs of organisational culture (NS, RO, JO adn CS) with technology acceptance model (PEOU, PU, U). The finding of the hypotheses as illustrated in the table 4 earlier.

The study found that there was a significant negative relationship between need for security (NS) with perceived ease of use (PEOU) found in the study on email usage. As such the result is consistent with a recent study by Mahomed (2015). This finding supported the argument made by Ciganek *et al*. (2010) where acceptance of the system used relies on employees trust to reveal information to their co-workers using the technology. The conclusion would be the higher the level of security clearance in a university the lower the perception of the staff towards the regard the convenience of email usage.

However, the research only confirmed negative relationship between NS with PEOU, but there was link between NS and PU. This research also discovered a positive relationship between result-oriented (RO) with perceived ease of use (PEOU) and perceived usefulness (PU). This comes in line with earlier studies of Mahomed (2015) that suggested a positive relationship

between result-oriented (RO) with PEOU and PU, which supports Ciganek *et al*. (2010) earlier study which states that in result-oriented organisations, workers are more experience in using innovations in technology, as compared to process-oriented work environment where workers perceived technology as a threat. This concludes that in result-orientated universities the acceptance towards PU and PEOU is significantly higher when it comes to the usage of emails.

We discovered a significant negative relationship between job-oriented (JO) with perceived ease of use (PEOU) and perceived usefulness (PU) concerning email usage. Unlike an earlier study conducted by Mahomed (2015) where no relationship between JO with PEOU and PU was found. However, Cabrera *et al*. (2001) noted in employee-oriented cultures, major decisions belong to groups or committees where initiatives were taken to make new members fit in, unlike top-down decision-making found in most JO cultures. Ruppel and Harrington (2001) discovered that organisations with a culture that placed high priority on its employees adopted this system which is consistent with the finding of this study. This study also revealed the significant negative influence of closed-system (CS) on perceived ease of use (PEOU) which is in line with earlier study by Mahomed (2015) of a significant negative relationship with PEOU on email usage. Therefore, an organisations with a closed-system communication system are less ready to adopt technology compared to organisations with open communication system (Ciganek *et al*. 2010).

Lastly, there was a significant positive relationship between PU and email usage. Such results support earlier research on positive relationship of TAM constructs (Davies 1989; Venkatesh & Davis 2000; Akour *et al*. 2006; Park 2009; Baninajarian 2009; Ramayah 2010; Chen *et al*. 2011; Mutlu & Ergeneli 2012; Alharbi & Drew 2014; Mahomed 2015). Furthermore, PEOU was found to have significant positive impact on PU. These findings supported previous studies on the positive relationship of PEOU with PU (Davies 1989; Chau 2001; Ramayah & Aafaqi, 2004; Akour *et al*. 2006; Lallmahamood 2007; Park 2009; Yusoff *et al*.2009; Chen *et al*. 2011; Alharbi & Drew 2014, Mahomed 2015). Moreover, this study suggested that PU has a far stronger direct impact on actual usage ($\beta=0.480$) than impact of PEOU ($\beta=0.056$) on usage. Many studies in existing TAM research also show that PU is a better predictor of adoption than PEOU (Alhujran 2009; Davis 1989; Li 2013; Alharbi & Drew 2014; Mahomed 2015). In addition, this study also found that the variance explained by the model on PEOU accounted for 51.4 per cent, PU was 46.5 per cent and actual usage accounted for 26.4 per cent.

However, this study fails to show that PEOU has no relationship with email usage in Malaysian private universities. Mahomed (2015) explained, there were research that rejected any relationship PEOU and technology usage, such as, Saeed *et al*. (2012), that suggests PEOU fails to influence university students in Australia to use Twitter. The same is true from study done by Yusoff *et al*. (2009) and recently by Halim *et al*. (2016) which found that PEOU has no relationship with intention to use or actual usage of system. The reason could be due to TAM's inability to explain adoption in present highly interactive and multi-user technology environments (Holsapple and Wu 2007). Also suggested in this research is that there is a significant positive relationship with PEOU and PU on email usage. Earlier findings of positive relationship of PEOU with PU confirm this (Davies 1989; Chau 2001; Ramayah & Aafaqi 2004; Akour *et al*. 2006; Lallmahamood 2007; Park 2009; Yusoff *et al*.2009; Chen *et al*. 2011; Alharbi & Drew 2014, Mahomed 2015)., Malaysian private university staffs perceived email to be both useful and easy to be utilized.

Contributions and implications

This research contributes to reduce gaps in knowledge of existing literature as well as the development of ICT in higher Malaysian education institutions. As mentioned by Mahomed (2015), by including organisational culture, it will help to understand the reason behind accepting or rejecting a technology. On theoretical contribution, the model developed in this study will able to help future study to use it as a model for analysing the adoption of system and technology in the context of organisational culture and the technology usage. On practical contribution, the finding of this study demonstrates that PEOU and PU are major contributing factors when it comes to the usage of emails. A worker will opt to use the email at work if he or she views it as convenient to handle and sees it as an advantageous item when it comes to communicating inside and is institution.

As such policy-makers are suggested to adopt more these steps in order to encourage confidence of the staff towards the advantages of using the email system at work. This as well as the call to look into the layout and features that make up the emailing system used in individual universities around Malaysia that will make it easier for user to use it subsequently encourage them to use it frequently.

Limitations and Future Directions

The first limitation is the research model only accounted for 26.4% of actual email usage. Only peninsular Malaysia is covered in the research and Borneo regions are not covered. The measurement items for most of the organisational culture dimensions showed an acceptable level of reliability. Yet items (only under Need for Security construct) such as NS2 and NS5 were dropped due to their low-level of factor loading, particularly lower than 0.5. Finally, this research used survey questionnaires to measure organisational culture. While this method has been used widely in many studies (McCoy *et al*. 2007; Taras *et al*. 2009; Mahomed 2015), some researchers such as Triandis (1993) and McSweeney (2002) doubt the validity of measuring culture using survey questionnaires. The model explained only 26.4% of the variance in email usage. Future study need to refine the actual usage and improve its measurement as it is insufficient and needs more actual usage to explain the overall model. Secondly, it is essential to look into recent ICT channel such as WhatsApp, Twitter etc in terms of influencing culture on technology acceptance study.

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APPENDIXS

Table 1: Organisational Culture Items

No	Construct	Code	Statement
1.	Need for security (NS)	NS1	"Having little tension and stress at work is important" (Hofstede et al. 1990, p. 300).
		NS2	"Employees are afraid to disagree with superiors" (Hofstede et al. 1990, p. 300).
		NS3	Being consulted by my boss is important (Hofstede et al. 1990, p. 300).
		NS4	Having a job you like is not more important than a career (Hofstede et al. 1990, p. 300).
		NS5	Most people can be trusted (Hofstede et al. 1990, p. 300).
2.	Results-oriented (RO)	RO1	People are comfortable in unfamiliar situations at my workplace (Hofstede et al. 1990, p. 303).
		RO2	Each day brings new challenges to employees at my workplace (Hofstede et al. 1990, p. 303).
		RO3	People put in maximal effort at my workplace (Hofstede et al. 1990, p. 303).
3.	Job-oriented (JO)	JO1	Important decisions are made by individuals at my workplace (Hofstede et al. 1990, p. 303).
		JO2	The organisation is interested only in the work of employees at my workplace (Hofstede et al. 1990, p. 303).
		JO3	There is little concern for personal problems of employees at my workplace (Hofstede et al. 1990, p. 303).
4.	Closed system (CS)	CS1	Only specific kinds of people fit in at my organisation (Hofstede et al. 1990, p. 303).
		CS2	The organisation and people are closed and secretive (Hofstede et al. 1990, p. 303).
		CS3	"New employees need more than a year to feel at home" (Hofstede et al. 1990, p. 303).

Table 2: TAM Items

No	Constructs	Code	Statement
1.	Perceived usefulness (PU)	PU1	Using email for work enables me to accomplish tasks more quickly (Davis 1989, p. 324 & 340).
		PU2	Using email for work improves my job performance (Davis 1989, p. 324 & 340).
		PU3	Using email for work increases my job productivity (Davis 1989, p. 324 & 340).
		PU4	Using email for work enhances my effectiveness (Davis 1989, p. 324 & 340).

Table 2 (Cont.)

		PU5	Email for work is useful in my job (Davis 1989, p. 324 & 340).
2.	Perceived ease of use (PEOU)	PEOU1	Learning how to use email is easy (Davis 1989, p. 324 & 340).
		PEOU2	My interaction with email is clear and understandable (Davis 1989, p. 324 & 340).
		PEOU3	I find email to be very flexible (Davis 1989, p. 324 & 340).
		PEOU4	I find it easy to get email to do the work I want it to do (Davis 1989, p. 324 & 340).
		PEOU5	Overall, I find that email is easy to use (Davis 1989, p. 324 & 340).
3.	Usage (U)	U1	Currently, I use email frequently at my workplace (Hart & Porter 2004, p. 50).
		U2	Currently, I use email more than any other communication channels (Hart & Porter 2004, p. 50).
		Actual Usage	The actual email usage (received and sent).

Table 3: Skewness and Kurtosis values

Assessment of normality (Group number 1)						
Variable	min	max	skew	c.r.	Kurtosis	c.r.
Actual_Usage	3.750	7.000	-2.936	-16.304	6.854	19.029
U2	2.000	5.000	-1.250	-6.940	1.546	4.291
U1	2.000	5.000	-1.066	-5.918	1.222	3.392
PU5	2.000	5.000	-.661	-3.673	-.008	-.023
PU4	1.000	5.000	-1.194	-6.633	1.129	3.136
PU2	2.000	5.000	-.581	-3.228	.077	.213
PU1	2.000	5.000	-.631	-3.501	-.165	-.458
PEOU5	2.000	5.000	-.888	-4.932	.295	.819
PEOU4	3.000	5.000	-.548	-3.044	-.682	-1.894
PEOU3	3.000	5.000	-.349	-1.936	-.859	-2.384
PEOU1	2.000	5.000	-.667	-3.702	-.256	-.710
EJ3	1.000	5.000	-.292	-1.621	-.574	-1.594
EJ2	1.000	5.000	-.140	-.778	-.558	-1.550
EJ1	1.000	5.000	-.601	-3.335	.011	.031
OC3	1.000	5.000	-.055	-.305	-.576	-1.600
OC2	1.000	5.000	.022	.124	-.411	-1.142
OC1	1.000	5.000	-.048	-.264	-.598	-1.660
NS4	1.000	5.000	.251	1.393	-.280	-.777

Table 3 (Cont)

NS3	1.000	5.000	.477	2.646	-.156	-.432
NS1	1.000	4.000	.263	1.460	-.669	-1.858
PR3	1.000	5.000	-.600	-3.333	-.447	-1.242
PR2	2.000	5.000	-.412	-2.287	-.638	-1.770
PR1	2.000	5.000	-.112	-.621	-.502	-1.394
Multivariate					25.532	5.120

Table 4: Mahalanobis distance

Observation number	Mahalanobis d-squared	p1	p2
60	53.086	.000	.064
86	47.202	.002	.059
182	44.748	.004	.046
166	44.107	.005	.015
95	43.646	.006	.005
23	43.636	.006	.001
59	42.089	.009	.001
20	40.374	.014	.005
146	39.773	.016	.004
150	39.500	.017	.002
7	38.456	.023	.004
38	37.880	.026	.004
4	36.987	.033	.008
8	36.547	.036	.008
85	36.343	.038	.005
13	34.396	.060	.088
65	34.312	.061	.059
169	33.758	.069	.087
14	33.635	.071	.065
18	33.229	.077	.080
101	33.214	.077	.050
75	33.039	.080	.042
3	33.002	.081	.027
42	32.981	.081	.016
112	32.700	.086	.017
180	31.240	.117	.187
167	31.228	.117	.137
102	30.886	.126	.171
36	30.587	.133	.201
35	30.580	.133	.149

Table 4 (Cont)

163	29.665	.159	.409
98	29.661	.159	.336
177	29.361	.169	.391
103	29.015	.180	.474
136	28.852	.185	.475
96	28.789	.187	.431
168	28.372	.202	.557
67	28.202	.208	.567
93	28.067	.213	.562
82	27.946	.218	.550
108	27.891	.220	.507
62	27.761	.225	.502
72	27.664	.229	.481
172	27.485	.236	.503
155	27.471	.236	.442
73	26.784	.265	.721
185	26.490	.278	.792
107	26.361	.284	.794
29	26.303	.287	.769
10	26.302	.287	.716
121	26.203	.291	.706
34	26.200	.292	.649
183	26.157	.294	.610
50	26.076	.297	.591
53	25.900	.306	.624
105	25.846	.308	.592
9	25.812	.310	.547
31	25.292	.335	.759
12	25.226	.339	.739
49	24.979	.351	.801
170	24.888	.356	.795
151	24.751	.363	.808
176	24.732	.364	.772
6	24.698	.366	.739
109	24.652	.368	.710
46	24.575	.373	.697
156	24.485	.377	.690
140	24.483	.377	.636
52	24.328	.386	.667
30	24.304	.387	.623

Table 4 (Cont.)

128	24.218	.392	.616
143	23.824	.414	.773
173	23.646	.424	.808
129	23.239	.447	.913
120	23.132	.453	.916
70	23.109	.454	.897
116	22.983	.462	.906
89	22.809	.472	.926
110	22.746	.476	.919
113	22.703	.478	.907
1	22.698	.479	.882
147	22.604	.484	.882
91	22.486	.491	.890
92	22.469	.492	.866
27	22.382	.497	.865
132	22.373	.498	.834
83	22.226	.507	.856
127	22.067	.516	.880
133	22.035	.518	.861
11	22.007	.520	.837
131	21.971	.522	.814
144	21.911	.526	.801
2	21.906	.526	.760
137	21.794	.533	.772
159	21.676	.540	.786
76	21.644	.542	.758
51	21.555	.547	.758
80	21.544	.548	.716
87	21.535	.548	.670
54	21.473	.552	.654