

## THE IMPORTANCE OF USABILITY FEATURES IN ENHANCING ONLINE COMMUNICATION SATISFACTION

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### **Abstract**

Web 2.0 is providing more responsive, interactive and online platforms of participation and engagement within users in organizations. The growth of the Internet gives a significant contribution to the development of online systems. The acceptance and usage of online system in organizations depend on various key factors such as ease of use, interactivity and usability. This study evaluates the importance of usability of online information management systems (IMS) in the context of user attitudes to online communication satisfaction which drives usage. Based on a survey of 223 employees at four research universities in Malaysia, this study adapted communication satisfaction and usability to examine online satisfaction in using IMS. The results indicate that there is a positive and significant relationship between usability and online communication satisfaction toward IMS usage. This study reveals the importance of usability in understanding the requirements in improving communication satisfaction, especially in developing online systems.

**Keywords:** *Usability, online, communication, satisfaction, Information Management Systems (IMS).*

## KEPENTINGAN CIRI KEBOLEHGUNAAN DALAM MENINGKATKAN KEPUASAN KOMUNIKASI DALAM TALIAN

### **Abstrak**

Web 2.0 menyediakan lebih responsif, interaktif dan platform penyertaan dan penglibatan dalam talian antara pengguna dalam organisasi. Perkembangan Internet memberikan sumbangan yang besar kepada pembangunan sistem dalam talian. Penerimaan dan penggunaan sistem dalam talian dalam organisasi bergantung kepada pelbagai faktor utama seperti kemudahan penggunaan, interaktiviti dan kebolehgunaan. Kajian ini menilai kepentingan kebolehgunaan sistem pengurusan maklumat dalam talian (IMS) dalam konteks sikap pengguna terhadap kepuasan komunikasi dalam talian yang mendorong untuk menggunakannya. Berdasarkan kaji selidik berasaskan kertas daripada 223 pekerja di empat universiti penyelidikan di Malaysia, kajian ini disesuaikan kepuasan komunikasi dan kebolehgunaan untuk mengkaji kepuasan dalam talian dalam menggunakan IMS. Keputusan menunjukkan bahawa terdapat hubungan yang positif dan signifikan antara kebolehgunaan dan kepuasan komunikasi dalam talian ke arah penggunaan IMS. Kajian ini mendedahkan kepentingan kebolehgunaan untuk memahami keperluan dalam meningkatkan kepuasan komunikasi, terutama dalam membangunkan sistem dalam talian.

**Kata kunci:** *Kebolehgunaan, dalam talian, komunikasi, kepuasan, Sistem Pengurusan Maklumat Dalam Talian (IMS).*

## **Introduction**

The adoption of information and communication technology (ICT) applications has been significant in ensuring a more efficient communication in working environment. Bekkers (2003) defines ICT as a set of devices to help government in institutional arrangements, transactions and interactions between government and its stakeholders. ICT provides the platforms and means for people and institutions to use computers, online systems, and Internet-based systems as part of their information management and communication channel.

ICT growth has changed people's lives in many ways, especially in interaction, socialization and distribution of digital information. Technology-enabled communication has improved efficiency of interaction and interactivity, especially at work and in personal lives. It also provides users with several platforms in accessing information from a wide range of people and communities through Internet and World Wide Web (WWW) capabilities.

For example, in Malaysia, all sectors are encouraged to use ICT applications such as information systems or online systems (Abdul Karim & Mohd Khalid 2003). The emergence of online systems has helped the growth of communication networks, mobile technologies and systems/applications, such as new media for online communication, teaching and learning, e-business, e-governance and online transactions. The use of online systems in any given organisation closes interaction and communication gaps between departments, eliminates physical distances and quick information delivery.

The government views ICT and online systems as the panacea for improving system delivery, as a bridge between the government and the public, and as creating a knowledge-

based economy and society, as stipulated in the high-level policy, Vision 2020. The government developed the over-arching national e-government project to accelerate the development of an online environment facilitating government-to-government and government-to-public services. This project also became the catalyst for transforming a paper-based environment into an electronic one, integrated through online system platforms across all agencies.

In order to achieve that, online system become important in establishing Malaysia as an information technology and multimedia hub, through key strategies such as upgrading communication infrastructures, increasing human resources in ICT, creating local content and formation of a critical mass for ICT-based industries. Thus, this study aims to examine the importance of usability in enhancing employees' communication satisfaction in order to motivate them make full use of Internet Management System (IMS) among employees in four research universities in Malaysia.

### **Information management system usage and changes**

IMS refer to specific areas of online system: online database or information management systems that deliver and share information over the Internet between users in organizations, especially in creating different kinds of relationships and work cultures. For example, in universities, use of ICT has improved the digital infrastructure in order to reposition Malaysia competitively on the global map of the higher education industry. On the other hand, the government agencies also use other types of online applications, such as short messages systems (SMS) and social networking applications, to empower and engage the public (Bannister and Connolly 2011).

In addition to that, for several years online system development has changed and affected people's lives in many ways, especially in relation to process, exchange, and distribution of digital information. Online-enabled communication has improved reach, efficiency and accuracy, at work and in personal lives. It gives users quick access to data, information and knowledge at a very low cost and from a wide range of people, communities and cultures through IMS capabilities. It has also created virtual cultures that provide new forms of information sharing such as online applications, online database and portal.

While large scale changes to government and business practices such as those affected by the use of online systems, and IMS in particular, create potential acceptance and adoption problems, some users are uncomfortable with new and different work practices, and find it difficult to adapt to the online systems because of rapid technological changes in their organizations. The successful implementation is not simply a question of technology. This study shows that the degree of success in online systems implementation can be influenced by several factors, not just technology and infrastructure but, social and human factors.

Previous studies indicate there are many potential success factors leading to the acceptance of online system changes in various kinds of organizations. Benamati and Lederer (2001) claim that external and internal funding, are also significant factors in this regard. In addition, skills and training are important to enhance users' knowledge to facilitate system usage (Broos & Cronje 2009). However, other researchers indicate that users do not fully accept and use new technology because some lack knowledge and information about the usefulness, usability and satisfaction of the system.

From the discussion above, it is evident that key factors in online system and IMS acceptance, usage and changes in organisation can be investigated through contexts such as interface, content, ease of use, usefulness and usability. In order to understand online system acceptance and usage among end users, this study argues the importance of technological features such as usability to online communication satisfaction and IMS usage.

### **The importance of usability**

The published studies indicate there are many potential success factors leading to the adoption of communication technology in organizations. Dawson (1994) claims that several internal and external factors drive such changes. For example, technology features, skills among our society, government rules and regulations, political influences, the complexity of organizations and administrative structures. To understand system usage, this study argues the importance of several technological features such as usability of the system to enhance online communication satisfaction. Usability of the system is important to determine the quality of online systems and consequently how users employ it (Koohang & Ondracek 2005).

The lack of usability features may cause dissatisfaction for users in using any systems to complete their tasks. As claimed by Koohang and Ondracek, “usability is the degree to which users easily and effectively use a system” (Koohang and Ondracek 2005, pp. 408-409). They also indicate that usability is important in measuring user experiences, features and design of a system, especially for determining ease of use, effectiveness, efficiency and to understand their usage.

According to Preece (2001), usability is one of the features in examining the success of online system especially to evaluate how satisfied users are with the content design, navigation, and responsiveness. Wichansky (2000) also claims that usability testing is a suitable and important approach to examine users' satisfaction with systems. Usability is also a key feature for understanding users' needs when developing and purchasing a new system in organization (Robertson 2007).

From the studies cited above, it is evident that key factors in system usage can be investigated through various perspectives and contexts such as interface design, content and information, ease of use and so on. These arguments explain and in line with the importance of usability in providing online satisfaction with technology usage. It is also important to measure the impact of the system's usability on users' communication satisfaction in order to understand the use of a system. Therefore, this study seeks to understand the effect of usability on online communication satisfaction in using the system.

### **Methodology of the study**

This study adopts the quantitative approach using a survey technique (questionnaire) to obtain data from employees of four research universities in Malaysia. The pioneer research universities were selected in this study on the basis of their wide use of Internet-based system in their administrative, teaching and learning and research management. Data for the survey was gathered from 223 respondents through face-to-face interviews with a paper-based survey. This study uses random purposive sampling to select samples from among administrative officers and academic. Items for the instrument were adapted and reworded from a highly valid usability measurement tool developed by Koohang and Ondracek (2005)

and Down and Hazen (1977). The scaled items were measured using a five-point Likert scale to measure the level of agreement (1 = strongly disagree and 5 = strongly agree).

The factor analysis shows a one factor solution and explains that the factor loading for usability is valid and exceeds the cut-off level of 0.4 and no cross-loading. This factor analysis was performed on the validity and to confirm that the items and variables within the factor loading were significant. The KMO was 0.931, thus indicating sufficient inter-correlations, and the Bartlett's test for sphericity proved to be significant (Chi-Square = 1737,  $p < 0.01$ ). These results confirm that all the items for usability are consistent and valid.

Furthermore, a reliability analysis was conducted to examine the internal consistency of the research tools, and this study indicates alpha values for usability (0.938) and online communication satisfaction (0.947) also exceed the minimum value of acceptability in the social sciences, 0.60 (Hair et al. 1998). These values show that all items in the instrument are reliable, consistent and valid for this study. This study uses a usability to understand the online communication satisfaction when accessing the IMS.

### **Results of the study**

The study shows (Table 1) that majority (86.1%) of respondents is aged 20 – 49 years, and 85.7% of respondents are Malay. In terms of gender, the ratio of male to female respondents is almost equal. With respect to employment position, 44.4% of the respondents are part of the executive staff and 48.9% are lecturers. The other respondents are language teacher academic and research officer.

Table 1: Demographics

Demographics	Items	Frequency (f)	Percent (%)
<b>Age</b>	Less than 20 years	0	0
	20 – 29 years	46	20.6
	30 – 39 years	70	31.4
	40 – 49 years	76	34.1
	50 – 59 years	29	13.0
	More than 60 years	2	0.9
<b>Ethnicity</b>	Malay	191	85.7
	Chinese	10	4.5
	Indian	9	4.0
	Bumiputera Sabah and Sarawak	4	1.8
	Others	5	2.2
<b>Sex</b>	Male	110	49.3
	Female	113	50.7
<b>Position</b>	Executive (Management and Professional)	99	44.4
	Lecturer (academics)	109	48.9
	Others	15	6.7

Furthermore, the study also shows (Table 2) that majority of the respondents have used computers and Internet for more than seven years in their daily work, so they are able to execute their tasks using IMS. In line with that, majority of the respondents have the expected experience, knowledge and skills in both computers and Internet to execute their works through Internet-based system in organization.



Table 2: Experience in using computers and the Internet

Statements	Frequency (f)	Percent (%)
<b>Experience in using Computer</b>		
Less than 2 years	2	0.9
3 – 4 years	13	5.8
5 – 6 years	13	5.8
More than 7 years	194	87.0
<b>Experience in using Internet</b>		
Less than 2 years	0	0
3 – 4 years	15	6.7
5 – 6 years	24	10.8
More than 7 years	183	82.1

This study reveals that employees perceived usability and significant have direct effect on their online communication satisfaction in using IMS in their university. The results show that the standardized coefficient (beta) value is positive and the significance level is 0.018 (<0.05). The result supported the relationship between usability and communication satisfaction when using the system and therefore was accepted.

Usability features are important in enhancing employees experience to access the system. They claim that simple, easy-to-use and user-friendly systems are key features for creating user satisfaction. In addition to that, simplicity of use helps employee's ability to execute their daily tasks and improve satisfaction. The other factors which contribute to employees' satisfaction include user-friendliness, better downloading speed, and simple content. These results provide better understanding for usability features when accessing the system in organization.

This study reveals that staff has gained and are satisfied with online communication satisfaction through IMS when they carried out their daily tasks, especially when communicating and managing daily data and information to provide efficient service outcomes to other people. For example, IMS helps to improve organization efficiency and effectiveness when sharing data and information. Usability of IMS helps the efficiency of human-computer interaction and the communication process in minimizing or negating distances between people in order to increase online satisfaction when using IMS.

The above results show users' feelings and demands for usability features through online system in enhancing their online satisfaction. This study indicates that there is a positive relationship between systems' usability and online communication satisfaction. Thus, system developers should develop a system with better usability features to improve users' feelings, adoption, usage and the system's functionality.

### **Discussion & Conclusion**

Usability of the system has a positive relationship with user satisfaction when using IMS in the workplace. The findings reveal that usability of the IMS is an important factor that can enhance satisfaction and system usage. Simplicity and user-friendliness are two usability features that bring significant effect on users to use the system in organization.

Employees also feel that the system offers full control of their work and adequate information to do their daily tasks. Usability of the system contributes key features to which end users easily control and search information in the system. Koohang and Ondracek (2005) argue that the usability of a system is important to effectively use a system in order to complete tasks and understand employee's satisfaction. This study also reveals that usability

is a relevant and important technique to measure users' online communication satisfaction with which to understand user acceptance of an online system.

Preece (2001) claim that usability audit is important to measure the success of a system, especially in investigating user satisfaction with system usage. Robertson (2007) also reveals that usability is one of the elements in enhancing users' satisfaction towards online communication satisfaction. The study provides evidence on the importance of perceived usability to gain communication satisfaction in the use of IMS.

This study helps to bridge the gap and extend our understanding on usability and communication satisfaction when accessing online system through IMS environment in their organization. Thus organizations should understand the effect of usability on individual users to use Internet bases system, and also system design and development.

Users' adoption and usage of new technology/system such as Internet-based system is strongly affected by several key factors, especially usability features of the system. Usability features significantly contribute to users' attitude and intention to use a system in their organization. Oye, Iahad and Ab. Rahim (2012) argue that users' attitudes will affect behavioural intention and actual behaviour of technology use.

It shows the importance of usability features in enhancing online communication satisfaction, and behavioural intention to positively influence users to access Internet-based system. Neill and Richard (2012) indicate that behavioural intention significantly influences users to access the Internet portal. In line with that, Lim and Ting (2012) also agree that attitudes to use have a positive relationship with intention to use the system.

Al-Busaidi and Al-Shihi (2012) claim satisfaction is important to create individual users' intentions to use the systems. This study highlights how usability become important in these areas, especially in understanding users' communication satisfaction in online environment, and how it contributes to our understanding of individuals users' adoption and usage of Internet-based system in the workplace, especially for research universities in managing their information. Usability features appears to be the key factor in developing a positive online communication satisfaction, attitude to use new technologies such as Internet-based system and other online systems (Wang 2012).

Therefore, organizations should focus more on usability features discussed above in order to provide better online system and applications such as IMS. It is important to understand the needs of system characteristics among users to significantly increase their online communication satisfaction in using IMS. For example, system developers could improve IMS with usability features such as easy to use in order to enhance users to perform their work. Thus, it helps to increase communication satisfaction for individual users using the systems in organization.

In addition, this study highlights how online communication satisfaction become important in these areas, especially in understanding users' satisfaction online, and how it contributes to our understanding of individual users' usage of new technologies in the workplace. Online satisfaction appears to be the key factor in developing a positive attitude to, and intention to use, technologies such as IMS and other online systems (Park, Son and Kim 2012). It shows that a high score for online communication satisfaction has a greater effect on users' attitudes towards online systems in organization. Organizations should

actively conduct several online satisfaction audits in order to understand end-users' feelings and satisfaction in relation to online system usage.

This study enhances the understanding and collection of literature in explaining the importance of usability features in improving online communication satisfaction in the use of Internet-based system/online system. However, future research is required to further examine and evaluate the findings of the study with different types of respondents and in other organizations/institutions. Second, conducting a qualitative study with wide range of respondents would show how individual users' perceptions and experiences about usability features to enhance online communication satisfaction. Thus, what is revealed about usability features and online communication satisfaction could be transferable to the design of systems in software development life cycle.

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