

International Conference on Social Sciences & Humanities (ICOSH-UKM2012)
Theme: Knowledge for Social Transformation & Development in the 21st Century

MEASURING READINESS, ACCEPTANCE AND SATISFACTION OF INNOVATIVE DIGITAL ECONOMY: PRELIMINARY FINDINGS

Hazita Azman, Ali Salman, Supyan Hussin, Norizan Abdul Razak, Mohd Safar Hashim, Musa Abu Hassan, Samsinar Md Sidin, Rozhan Mohamed Idrus, Mohammad Radzi Manap, Satirah Ahmad

ABSTRACT

The paper addresses the need to investigate the social, cultural, and consumer environmental factors that help build a conducive digital ecosystem to enhance Malaysia's national competitiveness in the Digital economy while using technology to enhance societal well-being and wealth creations opportunities. This paper aims at determining the readiness and level of acceptance of current and proposed applications considered as constructs used in creating and validating Critical Success Factors Framework for innovative digital economy. This study employs quantitative method utilizing a set of questionnaire distributed to 50 respondents in Klang Valley. Convenient sampling technique was used as the selection method. However, to ensure a better representative, respondents are grouped into three different clusters based on age. The findings of this paper are derived from a pilot study conducted among 50 respondents. The findings indicate that the majority of the respondents are actively engaged in online transaction. As far as social networking is concerned, the data show that all the respondents are using internet for email, followed by social media activities (90%). Also email and social media are the most common facilities used by the respondents. Findings also show that majority of the respondents were satisfied with the technological advancement of ICT gadgets, internet speed and the quality of website contents. More initiatives such as tax reduction in digital gadgets, tax deduction in acquiring digital gadgets for every household, digital entrepreneurship training programs for marginalized communities, and legal advices to support people's digital economy activities should be provided by authorities including government linked agencies (GLC).

Keywords : Digital Economy, Critical Success Factors, readiness, acceptance, satisfaction

INTRODUCTION

The overriding intent of any technology initiative is to bring about improved change in the ability of people to satisfy their needs brought about by the use of the technology. This is commonly manifested through social and economic benefits and efficacy. In line with the country's improved digital economy ranking, from 38th to 36th place in 2010 (Dutta & Bilbao-Osorio, 2012), measuring the extent that the Innovative Digital Economy applications will bring about

socio-economic impact compliments the overall initiative of putting Malaysia as one of the leading countries in digital economy. In his opening remarks at the launch of the 23rd MSC Malaysia Implementation Council Meeting on 19 October 2011, the Prime Minister Datuk Seri Najib Tun Razak quoted from the Global Information Technology Report 2009-2010 that Malaysia ranked 6th in Asia, and urged for a solid push and a clear framework to build a digital economy, which will be an important enabler for the country's transformation. In fact, the next wave of economic growth would be based on the knowledge-based economy, with digital technologies as a key driver of progress.

In doing so, there is a prior need to first identify the trends in digital economy to understand the extent of existing internet computing environment in the current Malaysian society, how the society has been impacted, and how to engineer the situation to achieve the desired diffusion to influence sustainable usage of the envisioned networked environment for social and business adoption. The communities that will be included in the research are: youths, children, and the elderly. The aim of this paper is to determine the levels of readiness, acceptance, and satisfaction of digital economy as part of the larger computing and internet environment.

LITERATURE REVIEW: THEORETICAL FRAMEWORK

The study employs four corresponding theories: the Diffusion of Innovations theory (Rogers 2003), Technology Acceptance model (Davis, 1989), Uses and Gratification Theory (Katz, Blumler, & Gurevitch 1974) and also Social Informatics (Kling 2000, Loader & Keeble 2004). Each theory focuses on certain aspects (see Table 1.0). The constructs gathered from these four theories were synthesized to design the questionnaire in measuring readiness, acceptance, and satisfaction of digital economy.

The diffusion theory focuses on five elements: (1) the characteristics of innovation which influence its adoption; (2) the decision-making process that occurs when individuals consider adopting an innovation; (3) the characteristics of individuals that make them likely to adopt an innovation; (4) the consequences for individuals and society of adoption an innovation; and (5) communication channels used in the adoption process. The social informatics principles focus on the present and past of the computing environment in Malaysia to better understand which social change is possible, plausible and most likely to take place in the future in relation to development of an ensemble computing environment. Social informatics places social shaping of technology as central tenet (Kling 2000, Loader & Keeble 2004), looking at what people do with technology rather than what they have is pertinent for making effective use of digital technologies for social change and digital inclusion. The forecasted socio-economic impacts include creation of social and digital inclusion, improved lifestyle and well-being, social ethical impact, increased e-participation, more informed decision making processes and opportunities for higher income and wealth creation. An outcome of this predictive analysis is the list of indicators and impacts of an ensemble computing environment, and more importantly plausible mitigation measures to redesign or shape the technology based on this social informatics assessment.

Technology Acceptance Model (TAM) is employed to measure the actual use of technology. The acceptance of the technology, which is mostly related to the use of ICT and its applications, is embedded in the questionnaire seeking information on how ICT or internet used and how they are accepted by the respondents. Those elements are measured through the frequency of use of certain application, gadgets, internet connection and others. In addition, Uses and Gratification Theory (UnG) comprises 3 constructs: entertainment, informativeness and irritation. Entertainment represents the level of fun experienced by the users in using ICT while informativeness measures the ability of seeking information through the use of ICT. Last but not least, irritation is the level of difficulty the users face in applying ICT in terms of connection, convenience and functionality.

The combination of these three theories is used to develop the questionnaire in measuring the three elements: readiness, acceptance and satisfaction. Though some of the questions in the questionnaire are seen to be overlapping and subtle, it is hope that through this way social desirability bias in the questionnaire can be avoided of which it is not address properly may lead to inaccuracy of the findings.

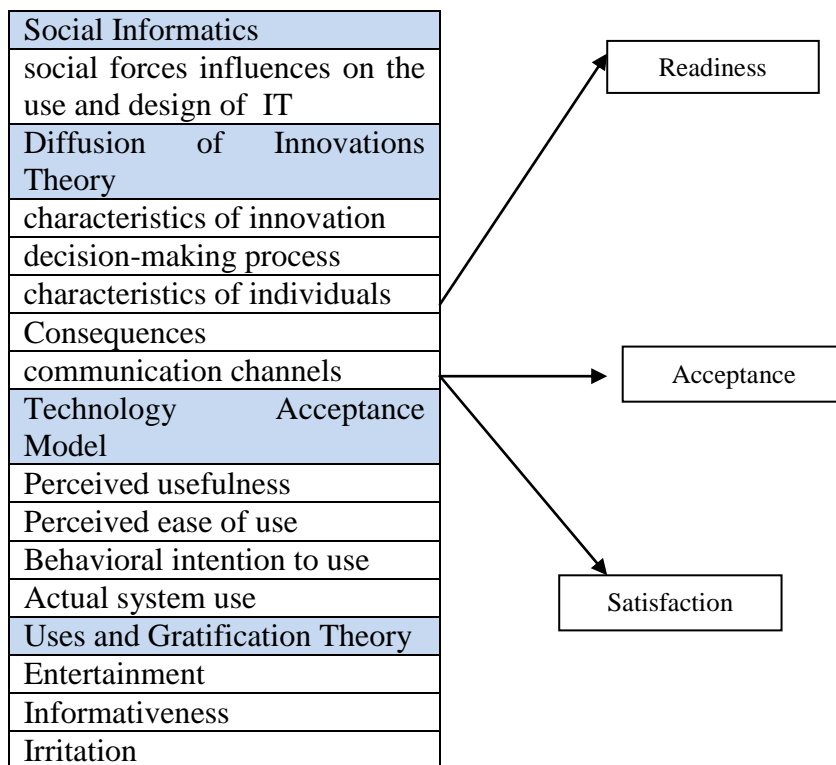


Figure 1: Constructs base on theories

METHOD

This quantitative study utilizes a set of questionnaire distributed to 50 respondents in Klang Valley. Convenient sampling technique was used as the selection method. However, to ensure a better representative of respondents in three different cluster, the study has outlined pre-selection criteria that are used in the selection as depicted in Table 1.

Table 1 Sampling Frame

	(15 – 17)			(18 – 25)			(26 and above)		
Gender	10 (M)	10 (F)		10 (M)	10 (F)		5 (M)	5(F)	
Race - For each Male/Female component (M)=Malay (C)=Chinese (I)= Indian	10 (M)	6 (C)	4(I)	10 (M)	6 (C)	4 (I)	5 (M)	3 (C)	2 (I)
Gender: male (m) / female (f)	5m/5f	3m/3f	2m/2f	5m/5f	3m/3f	2m/2f	3m/2f	1m/2f	1m/1f
Number of respondents	20			20			10		

FINDINGS

The analysis of the data is presented in frequency counts, means, and standard deviations. Table 2 presents the ICT ownership among the respondents. The results show that 92% of the total respondents have mobile phone as the most common device, followed by netbook or laptop (86%), and cable or satellite TV such as Astro (76%). With regard to bank card ownership, 64% of the respondents are frequently users of internet banking account followed by 40% debit card and 26% credit card. The results indicate that the majority of the respondents are actively engaged in online transaction. As far as social networking is concerned, the data show that 100% of the respondents are using internet for email, followed by social media activities (90%) and blog activities (24%). This trend means that most of the respondents turn to the web for emails and social media popularity is high among the respondents.

Table 2 ICT – Ownership / Readiness (N=50)

Gadget	f	%
Desktop Computer	25	50
Notebook Computer/Laptop	43	86
Tablet/iPad	13	26
Ordinary Mobile Phone	46	92
Smart phone	27	54
Cable/Satellite T.V. (Astro)	38	76
Accessories (fax, printer)	34	68

Credit Card	13	26
Debit Card	20	40
Internet Banking Account	32	64
Online Payment Facilities (eg. Paypal)	7	14

Email Account	50	100
Social Media Account	45	90
Professional Network Account	6	12
Blog/Homepage	12	24

N=50

In terms of the actual usage or acceptance of the internet, Table 3 depicts that email and social media are the most common facilities used by internet users (M=6.08), followed by software downloading (M=6.02), and hobbies such as games or entertainment (M=5.69). Overall the mean score of the actual usage shows that the majority of the respondents are incline to agree or somewhat to agree (M > 3.6). It means they are completely sure about it. Overall, the data show

Table 3 Acceptance (Actual Usage) of the Internet

	<i>Mean*</i>	SD
Communication (email/social media)	6.08	1.39
Selling Online	3.67	2.03
Buying Online	3.94	2.16
Online Banking Transactions	4.13	2.13

Reading Newspaper/Information Search	5.72	1.69
Downloading software	6.02	1.42
Access govt services	4.69	2.14
Educational/School use	5.61	1.51
Hobbies/Games/Entertainment	5.69	1.61
Related to Work/Job	4.47	2.25
Vacation planning/booking and buying ticket online	5.06	2.04
Religious Activities	4.71	2.11
Reading Blogs	5.22	1.85

*Mean = Rating of 1 (Never) to 7 (Very Frequent)

With regard to satisfaction from using ICT, Table 4 shows that the majority of the respondents were satisfied with their technological advancement of ICT gadgets (M=4.78), followed by internet speed (M=4.72), and the quality of website contents (M=4.68).

Table 4 Satisfaction from ICT Use

	<i>Mean*</i>	SD
Internet speed	4.72	1.56
Quality of website contents	4.68	1.59
Gadget design	4.69	1.55
Price of new ICT products	3.94	1.93
Internet subscription cost	4.17	1.75
Internet access quality	4.39	1.59
Service quality of ISPs	4.16	1.70
Technological advancement of ICT gadgets	4.78	1.70

*Mean = Rating from based on 0 (not satisfied) – 5 (Very Satisfied)

DISCUSSION AND CONCLUSION

Overall, although the level of digital users is high, the findings show that respondents are moderately ready when it comes to internet banking and e-commerce (online shopping). This phenomena is considered normal and evolutionary. As technology is continuously improving and the level of security in online transaction is more convincing, more business and profit making activities can be observed in new digital economy in Malaysia. The findings also show a positive trend in global communication as respondents seem to engage remarkably in social media, a platform that allows for information exchange and sharing including viral product marketing. In Facebook for example, a network of network of individuals will open up a wider marketing of products and services with minimal investment in advertisements. This new

powerful global communication will expedite to establish digital economy in Malaysia; thus, making Malaysia to posit herself in the top 20 countries of digital economy ranking in the near future.

The preliminary findings in the study show a positive trend of digital economy readiness. Having established great infrastructure in Multimedia Super Corridor in 1996, a continuous improvement in the internet bandwidth and online services will alleviate the people's trust to participate in the digital economy in Malaysia. More initiatives such as tax reduction in digital gadgets, tax deduction in acquiring digital gadgets for every household, digital entrepreneurship training programs for marginalized communities, and legal advices to support people's digital economy activities should be provided by authorities including government linked agencies (GLC).

ACKNOWLEDGEMENT

The research is made possible by the Longitudinal Research Grant Scheme Grant (LRGS) (LRGS/TD/2011/UKM/ICT/05) from the Ministry of Higher Education, Malaysia.

REFERENCES

Davis, F.D. (1989). "Perceived usefulness, perceived ease of use, and user acceptance of information technology". *MIS Quarterly*, 13 (3), pp. 318-340.

Digital Economy Rankings : Beyond e-readiness. Economist Intelligence Unit

Dutta, Soumitra & Bilbao-Osorio Beñat, (2012). World Economic Forum World Economic Forum and INSEAD, 2010. The Global Information, *Technology Report 2012*. Living in a Hyperconnected World. http://www3.weforum.org/docs/Global_IT_Report_2012.pdf [20 Sept 2012]

Katz, E., Blumler, J. G., & Gurevitch, M. (1974). Utilization of mass communication by the individual. In J. G. Blumler, & E. Katz (Eds.), *The uses of mass communications: Current perspectives on gratifications research* (pp. 19–32). Beverly Hills: Sage.

Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). New York: Free Press.

Hazita Azman, Ali Salman, Supyan Hussin, Norizan Abdul Razak, Mohd Safar Hashim
Universiti Kebangsaan Malaysia

Bangi, Selangor

Malaysia

Correspondence: asalmanphd@gmail.com

Musa Abu Hassan, Rozhan Mohamed Idrus
Universiti Sains Islam Malaysia
Nilai, Negri Sembilan
Samsinar Mad Sidin
Universiti Putra Malaysia
Serdang, Selangor

Mohammad Radzi Manap, Satirah Ahmad
Graduate Research Assistants