
Role of ICT in U-Commerce and Examine the Field of Wireless Communication

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ABSTRACT:

Information and Communication Technology role in the field of wireless communication is vital as the technology shifts from conventional to electronic; electronic based to mobile way of commerce is also changed. But apart from all of these technologies and development we updated with another version field of wireless communication during this research, called U-Commerce. The vision of ubiquitous commerce (ucommerce) is realized through the convergence of electronic, mobile, television, audio and silent commerce application. The ubiquity, universality, uniqueness and unison of u-commerce will provide two principal benefits for single users and businesses: increased convenience as well as more personalized and modified services. However, ubiquity will also bring emerging issues such as a greater degree of privacy concerns that will impact individual users, companies and society at large. Also perform a detailed analysis of the research questions and identify the major factors on working by several stakeholders while adopting this newly invented technology within its business.

Keywords:

ICT, Wireless communication, ubiquitous, convergence, ubiquity

Introduction:

Information and communication technology have immense impact on association, specifically on organizations, businesses and buyers. Many stakeholders are taking more innovative ways to maximize the use of ICT and grab the advantages of Web information for their business activities. The rapid use of ICT is boosting U-Commerce.

Commercial activities on the internet are drastically increasing all over the world. U-Commerce becomes an effective and flexible way of quick business. For organizations in particular, the modern Economy brings infinite and extremely demanding competition and more opportunities on a universal scale. E-Commerce is unquestionably a corporate weapon, if it has been well utilized than it will lead to unstoppable success in terms of business profitability and competitive advantage in the marketplace.

Ubiquitous commerce, otherwise known as u-commerce, ultimate commerce and uber-commerce, extends traditional commerce to a world of u networks and universal devices (Junglas and Watson

2003¹). As an extension of e-commerce and m-commerce, Watson introduced the concept of ubiquitous commerce (u-commerce) in 2000. As the next generation business model, it got the business people attention. U-commerce emerges as a continuous, seamless stream of communication, ideas and services exchanged among businesses, suppliers, employees, customers, and products. It helps to interact and transact from any location and at any moment without being forced to stay connected through power and telephone connection. U-commerce described as: "The use of u-commerce networks to support customized and uninterrupted communications and transactions between a business and its different stakeholders to offer a level of value, above and beyond traditional commerce"²"

Conventional Marketing → E-Commerce → M-Commerce → U-Commerce

U-commerce can be considered as a necessary extension of E-commerce and M-commerce. It express the next stage of commerce, starts from E-commerce updated to M-commerce; U-commerce is will be the next wave in commerce – i.e., after E- Commerce and M-commerce Watson, (2000). Ubiquitous commerce or U-commerce is the combination of E-commerce and wireless, audio and silent commerce. It is not a substitute for other types of commerce, but an updated version of them.

Ubiquity - Reach ability + Accessibility + Portability
Universality - Mobile networks + Mobile devices
Uniqueness - Localization + Identification + Portability
Unison - Mobile application + Data synchronization

U-Commerce explains the generic term for all-inclusive business transactions through or by means of Information and Communications Technology. U Commerce is a product and service offered by Touch Net Information Systems, Inc. and it is registered under U.S. trademark (Reg. 4,069,063). The Influence and development of Ubiquitous Commerce is based on different information and communication technology. These technology developments were driving forces for the growth to business transactions at anytime and in anyplace.

U-Commerce computing is viewed less as a different area of technology, but rather as a developed application of information and communications technology that is combined into the everyday life more than before. The target is to meet the object of "anything, anytime, anywhere" for data processing and communication through the ubiquity of ICT systems³. Ubiquitous computation is a complementary model to virtual reality, rather than recreate and simulate the world with a computer, ubiquitous computation turns all objects in the actual world into part of an information and communications technology system. U-commerce computation is certainly changing the ways in which we use computers. In ubiquitous, a variety of process runs automatically (programmed) and interacts behalf of the user. The user does not have to provide instructions or make decisions. Ubiquitous involves smart environments that are predictable as an individual's cooperative companion. On the other hand, the clearly disappearance of the computer together with the delegation of complicated processes or tasks to a ubiquitous ICT infrastructure builds serious questions³. The anytime/ any place principle of ubiquitous computation development as the result of research and technological advance in wireless and sensor networks, embedded systems, mobile computation, distributed computation, agent technologies, autonomic computation and communication. Ubiquitous computation paradigm integrates computation into the environment⁴.

Features of Ubiquitous Computation:

Embeddedness: Small capable devices are installed in the physical world and connected to the wireless network.

Mobility: User devices must be operated under the mobile and flexible network infrastructure.

Nomad city: Provides a rich set of computation and communication capabilities and services to nomads as they move from place to place in a way that is transparent, integrated, convenient, and adaptively.

Pro activeness: The system needs to be self-active to capture what its users want to increase the service quality.

Invisibility: To be as modest as possible, enable the user to put as little data as possible.

Portability: Provides services with hands-free or at least single-handed light devices⁵.

Considering the adaptive capability of these process, the ubiquitous concept can be introduced in several areas such as learning, cultural heritage and tourism, becoming a new tool for promotion, retailing by predicting the u-commerce as an innovation able to make traditional e-commerce obsolete and to force business people to develop new capabilities for fast responding to the market trend ⁶. In the U-commerce environment, figure out devices can be embedded in ordinary objects to make them intelligent and interactive. Ubiquitous is based on the four U's – ubiquity, uniqueness, universality, and unison – U-commerce described as a new measure environment (also known as ubiquitous computing environment) ubiquitous computing environment, applications will become independent of the essential network, data, or the device used⁷.

Objective of the Study:

1. To Examine and evaluate the individuals and stakeholders favor of adopting the new technology

2. To Observe and analyze the factors identified by stakeholders to better understand the value of U-commerce in the near future

3. To find the important factors that increase the customer satisfaction, security, trusted transaction and to develop the company loyalty

4. Role of Information and Communication Technology in U-Commerce

Research Methodology:

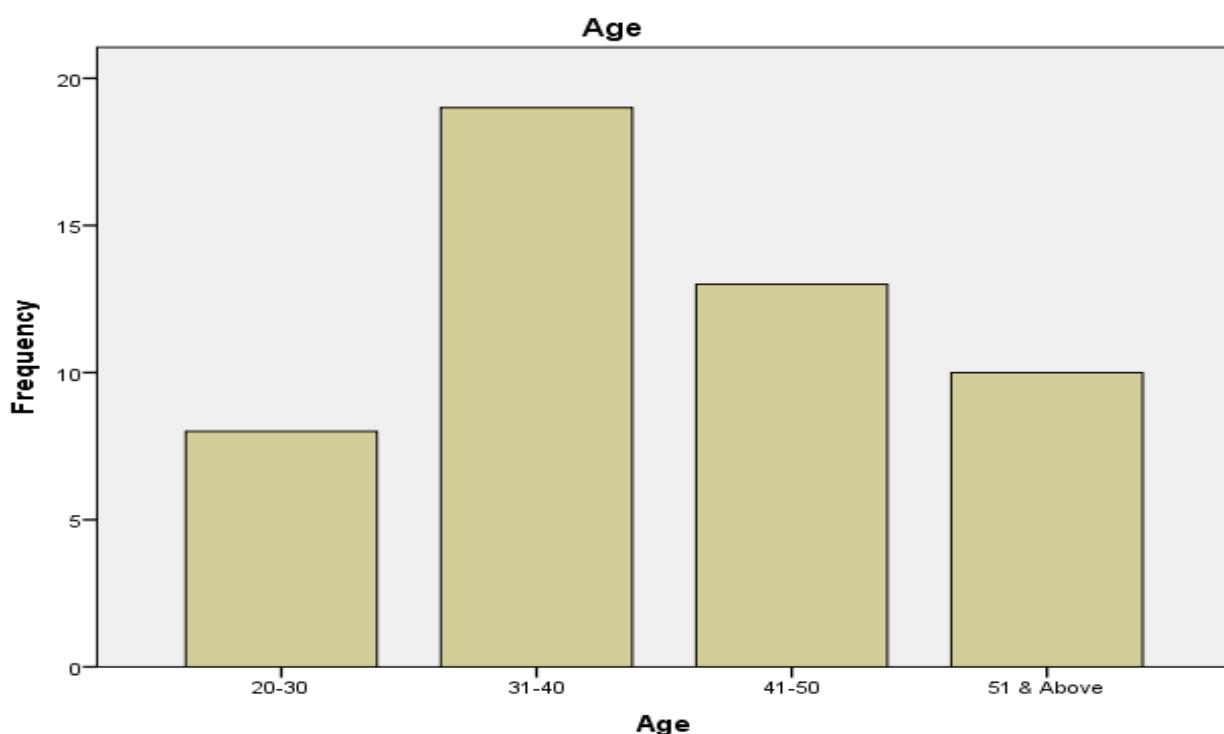
The research work is empirical in nature. A survey questionnaire designed and distributed under Random sampling method. 50 valid samples are considered for the study. Books and websites constitute the secondary data.

Review of Literature:

Holtjona Galanxhi-Janaqi, Fiona Fui-Hoon Nah, (2004)⁸ reveled Ubiquitous commerce or U-commerce is the mixture of recognized e-commerce and wireless, television, audio and silent commerce. U-commerce includes ubiquity, universality, uniqueness and unison. It is not a substitute for other types of commerce, but an updated version of them. While bringing many benefits, there are issues and obstacles to overcome. Research is needed to assess the value of u-commerce and to address its related issues and challenges. Questions which are need to be answered are: the value of u-commerce, the ways to maximize the advantages and value of u-commerce, it is the right technology and which directions need to be considered, the privacy issues and risks involved in it, about trust and security, the strategies for businesses in utilizing and implementing u-commerce.

Analysis and Interpretation:**Classification of Respondent's on the basis of Age**

Age	Frequency	Percent
20-30	8	16.0
31-40	19	38.0
41-50	13	26.0
51 & Above	10	20.0
Total	50	100.0

Bar Chart on the Basis of Respondent's Age

Interpretation:

The frequency table shows 38% of Respondents are in 31-40 age group and 16% of Respondents are below 20-30 age group.

Table showing Chi square between groups based on Age and Level of agreement on New Technology U-Commerce requirement

Age * Level of agreement on New Technology U-Commerce requirement Cross tabulation						
	Level of agreement on New Technology U-Commerce requirement					Total
	Strongly Agree	Agree	Neutral	Dis agree	Strongly disagree	
Age	20-30	0	0	2	5	1 8
	31-40	2	4	10	3	0 19
	41-50	0	4	0	4	5 13
	51 & Above	2	4	0	4	0 10
Total		4	12	12	16	6 50

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	34.108 ^a	12	.001
Likelihood Ratio	41.314	12	.000
Linear-by-Linear Association	1.227	1	.268
N of Valid Cases	50		

a. 19 cells (95.0%) have expected count less than 5. The minimum expected count is .64.

Interpretation:

H0- There is no association between groups based on Age and Level of agreement on New Technology U-Commerce requirement

H1- There is association between groups based on Age and Level of agreement on new Technology U-Commerce requirement

The Chi Square table value shows p value as 0.001 which is less than 0.05. Hence, Null hypothesis is rejected. There is an association between groups based on Age and Level of agreement on new Technology U-Commerce requirement. Respondents of Age group are dependent towards Level of agreement on new Technology U-Commerce requirement.

Table indicating important factors influencing stakeholders towards U-Commerce

Communalities		
Factors influencing stakeholders	Initial	Extraction
Ease Availability	1.000	.773
Convenience	1.000	.577
Reliability	1.000	.618
IT and data security	1.000	.721
Increase in Efficiency	1.000	.836
Make the work more interesting	1.000	.695
Increase the quality of project	1.000	.741
Infrastructural Readiness	1.000	.692
Increase in Productivity	1.000	.674
Project presentation	1.000	.850
Financial Readiness	1.000	.795
Ease learning Technology	1.000	.574
Updated to Current Technology	1.000	.826
Supportive Software	1.000	.707
Extraction Method: Principal Component Analysis.		

Interpretation:

From table it is found that the 14 variables exhibit the variance limitation from 0.574 to 0.850 which is 57% to 85%. Thus these variables can be reduced to predominant factors.

Indicating Mean and Standard deviation for factors that increase the Stake holders' satisfaction, security, trusted transaction and to develop the company loyalty

Factors Influencing	Mean	N	Std. Deviation
Improving communication between consumer	2.52	50	1.199
Remove Security Concern	3.48	50	1.249
Trusted Transaction	2.92	50	1.158
Build Company Loyalty	2.66	50	1.319

Interpretation:

Above table shows there is a difference in level of agreement among respondents hence using the rate scale (1) Strongly Agree (2), Agree (3), Neutral, (4) Disagree, (5) Strongly disagree. Below 1 to less than 1.5 considered to be - Strongly agree, more than 1.5 to less than 2.5 - agree, more than 2.5 to less than 3.5 - Neutral, more than 3.5 to less than 4.5 - Disagree, more than 4.5 - Highly Disagree. Improving communication between consumer (2.52), Build Company Loyalty (2.66), Trusted Transaction (2.92) and Remove Security Concern (3.48) therefore all the factors are dominate on Neutral. Hence it's dominantly proved factors that increase the Stake holders' satisfaction, security, trusted transaction and to develop the company loyalty are Neutral.

Suggestion and Conclusion:

This research paper reveals that U-Commerce is a continuously emerging field of wireless communication in the present scenario and one of the non-negligible technologies in the market place. We have seen in the whole research, U-Commerce enable users to connect the whole world anytime and from any moment. There has been mix opinion of stakeholders about this technology but most of them are in favor of it. The major findings are:

- 16 Stakeholders said technology updating is required, 12 of them are Neutral and 22 of the reveals E-Commerce and M-Commerce is enough to meet the business challenges.
- Respondents of Age group are dependent towards Level of agreement on new Technology U-Commerce requirement.
- 14 variables exhibit the variance limitation from 0.574 to 0.850 which is 57% to 85%. Thus these variables can be reduced to predominant factors. None of the factors are dominant on influencing Stakeholders towards U-Commerce.
- Factors that increase the Stake holders' satisfaction, security, trusted transaction and to develop the company loyalty are neutral.

U-Commerce is the updated tool of technology for a marketplace and a landmark of wireless technology, which reaches individuals where they are at using the devices that they want to use, with the networks doing the work, Factors Influencing U-Commerce is not been a Inspiring measures, stakeholder's feels E-Commerce and M-Commerce are well known technologies. U-Commerce was not been a well known technology in India. U-Commerce should seek much more supportive factor from ICT to be an updated version of Technology.

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