TECHNOLOGY LITERACY AMONG HOUSEWIVES IN CHENNAI

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Abstract
The last few decades showed an increasing desire of humankind to make the vast knowledge more accessible. This desire has led to changes in society, culture as well as the economy, based on the technology advancements like Internet, mobile networks and social networking. This development in technology is one of the major driving forces behind globalisation, which is also felt in India. India is in the race to be the next "Technological Super power". The "Digital India" campaign launched by the Prime minister on July 1, 2015 is the promise for rapid economic growth and empowerment of each and every Indian. Technology will be increasingly used in everyday live. The women in upper class might have enthusiastically embraced the technology while there are still many women, especially among the middle- and low- classes who are reluctant to use it or not even aware about it. At present, technology is used by women mainly for communication and entertainment. The objective of this paper is to study the level of technology literacy among housewives belonging to South Chennai. A survey is carried out among 75 randomly selected house-wives, using a structured questionnaire. The responses are analysed using the Unified Theory of Acceptance and Use of Technology (UTAUT). The results of the study will be useful for identifying measures to improve technology literacy of the housewives.

Keywords- Empowerment of women, Technology Literacy, Unified Theory of Acceptance and Use of Technology.

Introduction
Technology is of increasing importance in everyday lives and this presence will certainly increase in the future. It is an integral part of home, workplace, marketplace, government, and community. The world has become much smaller, so that anyone can contact any person in any part of the world within seconds. Therefore societies without access to technology may be in danger of being isolated and excluded from global development. Nelson & Clark, (1994) has pointed out that information and communication technologies support, facilitate, and often provide the impetus for global business development, making it possible for people to engage in any business with people in other parts of the globe. Brincat (2003) has observed that technological changes are the crucial driver of globalisation process. Borghoff (2011) also states that a major driver of globalization is technological progress. India too is going through a phase of digital revolution.

Importance of the Study
Technology literacy can help women to gain employment, obtain cost-effective health services and education. The year 2014 saw a boom in the number of internet users. According to IAMAI and IMRB, October 2014, there is an increase of 44% in computer literacy in 2014. There is a significant increase of 33% in the rural users online, majority accessing Internet through their mobile phones.

The Government of India launched the *Digital India* campaign on July 1st 2015, which aims at creating a digitally empowered society and knowledge economy. The programme comprises of various initiatives, each targeted to prepare India for becoming a knowledge economy and for bringing good governance to citizens through synchronized and co-ordinated engagement of the entire government. The campaign will be the game-changer for e-Governance, e-commerce and Electronics Manufacturing. By bringing broadband connectivity to every nook and corner of the country, it will empower people and lead to spurt in the demand for digital goods and services.

A study conducted by Google under the heading *'Women and Technology'* revealed that there is a huge *digital gender gap* in India. Only 1/3rd of women in India have access to internet technology. The survey concluded that Indian women consider education and technology as key drivers of success. Therefore it is essential to study about how efficient are the women to handle this digital advancement.
The objectives of this study are to:
- Identify the level of technology literacy among housewives in Chennai;
- Highlight the requirements and hindrances faced by women in adopting technology.

Literature Review
Empowerment of women
Empowerment of women helps to improve the socio-economic status of women in the developing world. According to the United Nation, the ultimate goal of women's empowerment is to convert women as the "the active agents of change" in

transforming gender relations. The participation of women is fundamental to strengthening women's rights and enabling them to have control over their lives and exert influence in society.

Malhotra et al. (2002) has defined empowerment as ''give power to'' or ''to invest with power''. The most comprehensive definition of empowerment is proposed by Batliwala (1995) who defined empowerment as ''the process, and the outcome of the process, by which women gain greater control over material and intellectual resources, and challenge the ideology of patriarchy and the gender-based discrimination against women in all the institutions and structures of society''.

Individual empowerment includes both control over resources (extrinsic) and ideology (intrinsic). The underlying idea as per this definition is - that empowerment is not just the power over others, but power to achieve goals and ends, so as to challenge the ideology of patriarchy and gender-based discrimination against women. World Bank (2003) highlights the economic empowerment of women as the prerequisite for sustainable development, and catalysts for multiplying development efforts. It is therefore important for authorities in governments and private organizations to recognise the pivotal role that women can play in all spheres of development.

Technology literacy- an opportunity for women
Hilbert (2011) has done the most extensive empirical study in this field. The sample consisted of data sets from 12 Latin American and 13 African countries from over a period of 4 years, that is, from 2005 to 2008. The study highlights the unfavourable conditions with respect to employment, education and income as the reason for not using technology when these variables are controlled; it results in women becoming more active users of digital technology. Technology provides a concrete and tangible opportunity to tackle the challenges of gender inequalities in developing countries, including access to employment, income, education and health services.

Technology provides women entrepreneurs access to worldwide e-business channels, which can be operated 24 hours a day from home. Ng and Mitter (2005) point out how women are able to advance in politics as well as society, thanks to technology.

Sharma (2003) points out that "women have less online access than men, for all the usual gender-related reasons—time, money, control, learning opportunities, other commitments, prioritizing others' needs" He further says that technology literacy can be "powerful tools for women to overcome discrimination, achieve full equality, well-being and participation in the decisions that determine their lives and the future of their communities. It opens up a direct window for women to the outside world. Information flows to them without distortion or any form of censoring, and they have access to the same information as their counterparts".

The empowerment of women is a necessity for the very development of a society, since it enhances both the quality and the quantity of human resources available for development. Enhancing women's status and their empowerment can play a decisive role in the success of many development programmes and bring about positive social changes. Women are the primary means by which social norms are transmitted to their children and thus are placed in a critical position to inculcate attitudes in favour of gender equality among their children and households. Additionally, if they have egalitarian attitudes towards gender, this orientation enhances their decisions to allocate empowerment resources to their children without gender discrimination. From this perspective, an individual woman's empowerment could trigger the empowerment process at the household, community and societal levels.

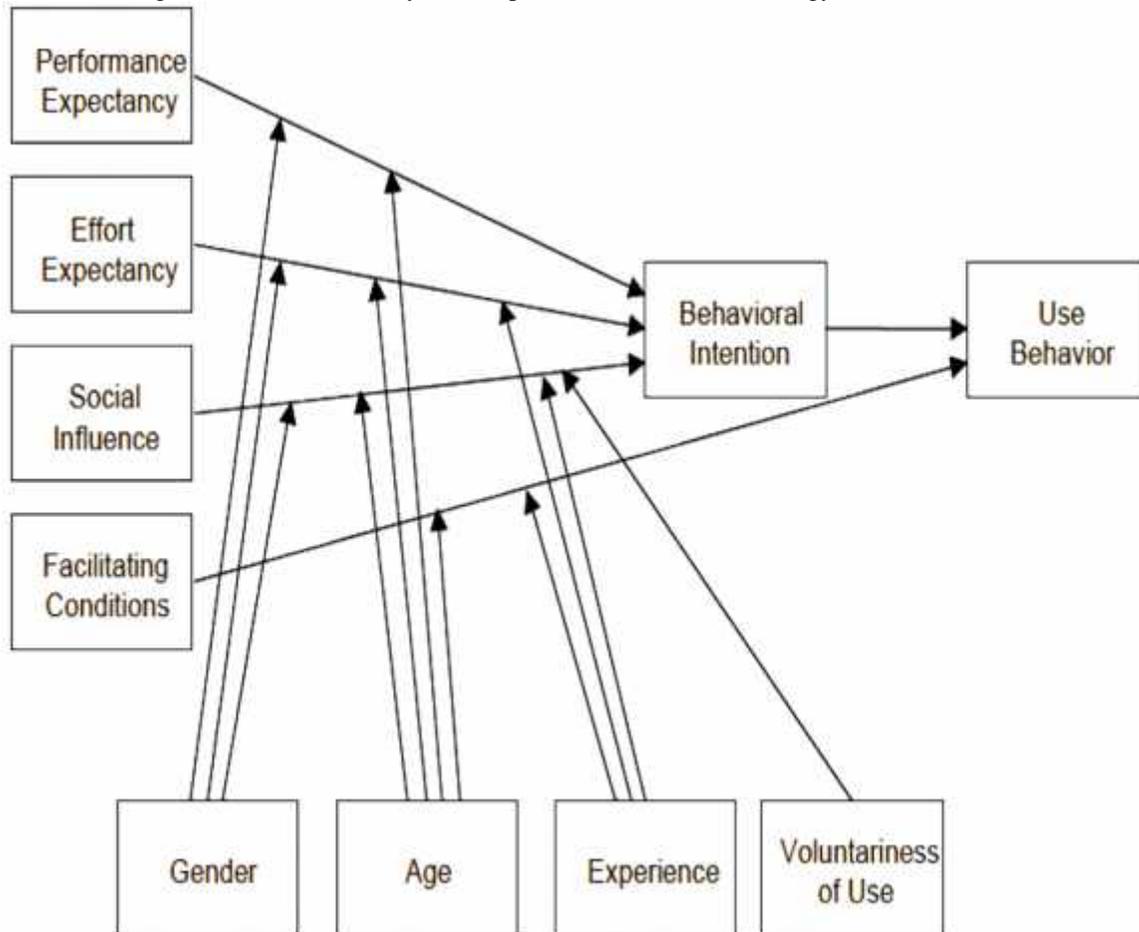### Unified Theory of Acceptance and Use of Technology (UTAUT)
The research on acceptance on information technology results in many competing models, each with different sets of acceptance determinants. The Unified Theory of Acceptance and Use of Technology (UTAUT) suggested by Venkatesh et al(2003) provides a useful tool to assess the likelihood of success for new technology introductions and understand the drivers of acceptance among users who may be less inclined to adopt and use new systems. The model has four core determinants of intention and usage, and up to four moderators of key relationships. The four constructs play a significant role as the direct determinants of user acceptance and usage behavior. The constructs have been defined as given below:
   a) Performance expectancy is defined as the degree to which an individual believes that using the system will help him or her to attain gains in job performance;
   b) Effort expectancy is defined as the degree of ease associated with the use of the system;
   c) Social influence is defined as the degree to which an individual perceives others who can influence him to that extent that he or she should use the new system;
   d) Facilitating conditions are defined as the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system.

The study indicated that when both performance expectancy constructs and effort expectancy constructs are present, facilitating conditions becomes non-significant in predicting intention. The facilitating conditions have a significant influence on usage behavior. The model suggested by Venkatesh et al (2003) is given below.

Fig .1. The Unified Theory of Acceptance and Use of Technology (UTAUT) Model

Methodology
Details of respondents - Chennai is divided into a number of zones because of its vast area. The southern part of Chennai is fragmented into small localities which are mostly residential areas. It is the oldest part of the city. The area selected for the purpose of the study is South Chennai which includes areas such as Adyar, K.K Nagar, Mylapore, Velachery, Saidapet and Tambaram. The samples are collected randomly. The respondents are from different parts of India.
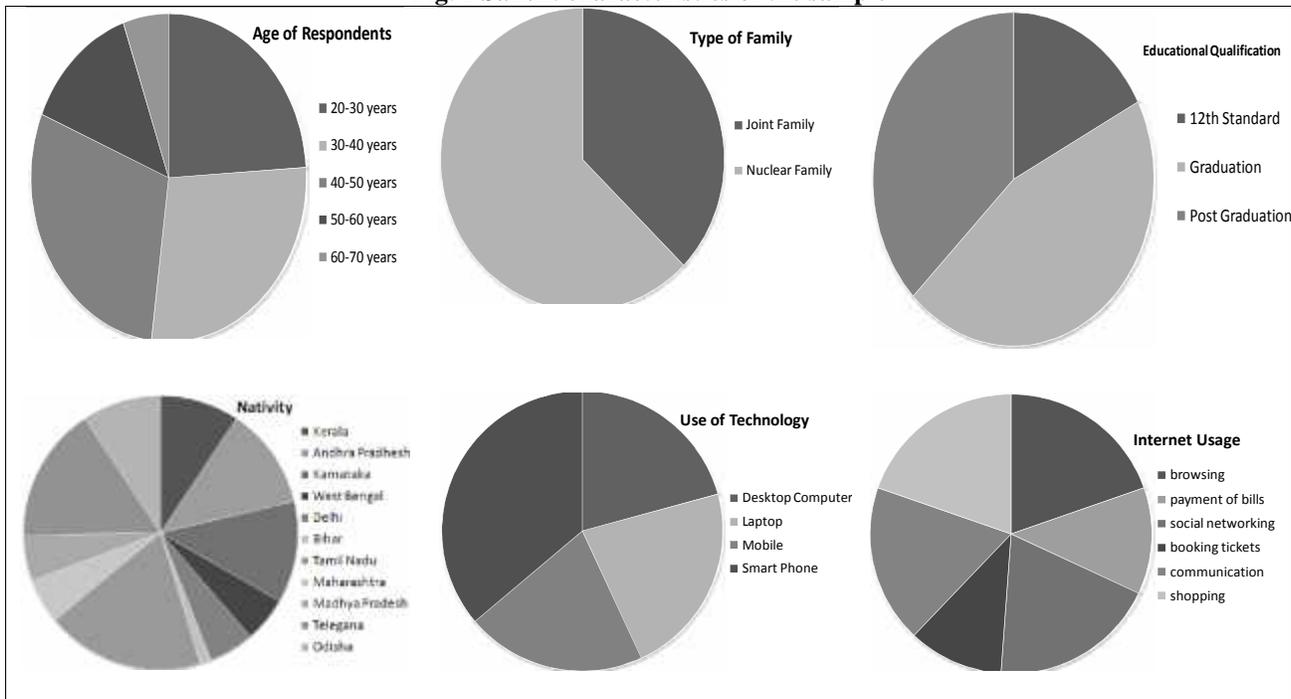
Research design - The country is heading towards complete digitalization. It is the need of the hour to address the most important question: are the housewives ready for this change? Are they technology literate? The research problem addressed in the study is to identify the technology literacy among house wives in Chennai.

Sampling Frame - The sample consists of housewives. The samples are collected randomly. A simple questionnaire is used to collect the data. The respondents are from different parts of India. 23 women are self employed while the rest are housewives.

The technology literacy among women is studied using their access to computer, mobile phone and internet. The "computer" includes desktop computer and laptop. "Mobile phones" include both basic handset and smart phones. The number of respondents who have access to internet is 57, which is nearly three fourth of the sample size.

Fig. 2 Salient characteristics of the sample

- **The independent variables are**
  - Performance expectancy- ability to accomplish things using technology
  - Effort expectancy- ease of use and easy to learn
  - Social influence- role of opinion of people important for the respondent such family, friends, relatives and opinion leaders such as government and celebrities.
  - Facilitating conditions- necessary resources such access to technology, affordability of internet

- **Hypotheses framed are**
  Hypothesis 1: **Performance expectancy has positive impact on continuation of usage of-**
  - Computer for daily activities
  - Computer for accomplishment of things quickly
  - Mobile phone for daily activities
  - Mobile phone for accomplishment of things quickly.

  Hypothesis 2: Effort expectancy has positive impact on intention to use-
  - Computer on the basis of ease to learn
  - Computer on the basis of ease to use
  - Mobile phone on the basis of ease to learn
  - Mobile phone on the basis of ease to use.

  Hypothesis 3: The following facilitating conditions has a positive impact on-
  - Availability of resources has positive impact on intent to use of computer
  - Availability of resources has positive impact on continuing the use of computer
  - Affordability of internet has positive impact on intent to use of computer
  - Affordability of internet has positive impact on continuing the use of computer
  - Availability of resources has positive impact on intent to use of mobile phone
  - Availability of resources has positive impact on continuing the use of mobile phone
  - Affordability of internet has positive impact on intent to use of mobile phone
  - Affordability of internet has positive impact on continuing to use of mobile phone.

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Hypothesis 4: Social influence has the following

- Important people have positive impact on intent to use of computer.
- Opinion leaders have positive impact on intent to use of computer.
- Important people have positive impact on continuing to use of mobile phone.
- Opinion leaders have positive impact on continuing to use of mobile phone.

- The dependant variables are - intention to use and continuity of use of technology.
- Techniques used for analysis - The study is made using very simple statistical techniques like correlation.

a) Findings

The findings are given in Table 1

Table - 1 Significance of independent variables considered in the study

Hypothesis	Significance	
	Computer	**Mobile**
Influence of performance expectancy on continuation of usage: a) for daily activities. b) for accomplishment of things quickly	***Very High*** (R = 0.915) ***High*** (R=0.715)	***Moderate*** (R=0.691) ***Moderate*** (R=0.536)
Influence of effort expectancy on intention to use: a) On the basis of ease to learn. b) On the basis of ease to use.	***High*** (R=0.857) High (R=0.849)	***Moderate*** (R=0.642) Moderate (R=0.675)
Influence of the facilitating conditions: a) Availability of resources on intent to use. b) Availability of resources on continuing the use. c) Affordability of internet on intent. d) Affordability of internet on continuing the use.	***Moderate*** (R=0.505) ***Less*** (R=0.417) ***Insignificant*** (R=-0.031) ***Insignificant*** (R=-0.096)	***High*** (R=0.845) ***High*** (R=0.754) ***Insignificant*** (R=0.089) ***Insignificant*** (R=0.142)
Impact of social influence: a) influence of important people on intent to use b) influence of opinion leaders on intent to use	***Insignificant*** (R=-0.110) ***Insignificant*** (R=-0.164)	***Insignificant*** (R=0.235) ***Insignificant*** (R=0.081)

(Note: R – correlation coefficient; Scales used: Very high significance – R 0.9, High significance - 0.7 R < 0.9, Moderate significance - 0.5 R < 0.7, Less significance - 0.3 R < 0.5, Insignificant - R < 0.3)

The analysis of the data reveals the following:
- Performance expectancy is relevant for the housewives. They will continue the use of computer and mobile phones as it tends to help them in their day to day activities and accomplish things quickly.
- The role of social influence is negligible. The housewives adapt technology on their own wish.

f) Implications and scope for further research

The study is an attempt to identify the technology literacy among housewives in South Chennai. The technologies investigated in this study are computer and mobile phone.

The limitations are as follows:
- The sample size is small.
- Time was a constraint
- The respondents are from different parts of India. The study could have concentrated on this factor to get a clearer picture of the technology literacy among Indian housewives rather than restricting the study to Chennai.

- Culture is an important factor that needs to be studied along with the UTAUT model. This will provide valuable insight into understanding how the housewives adopt and use technology.

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