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Paper 10: (Mimds) – Giving The Mobile Phone The Finger

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Introduction

This paper presents findings on research conducted to determine factors influencing the uptake of Mobile Integrated Media Devices (MiMDs).

These smart devices offer advanced computing ability and connectivity, and typically combine the functions of a personal digital assistant (PDA), mobile phone, portable media players and camera phones with high-resolution touchscreens, e-book readers, GPS navigation, Wi-Fi and mobile broadband access using third-party and proprietary applications. According to Gartner (2010), in the first quarter of 2010, 17.3 percent of all mobile phones were smartphones, compared to 13.6 percent in 2009. The changing technology and environment has given rise to a number of competing mobile operating systems that support an integrated touch-screen application environment of which the three dominant players in the marketplace are Google (Android), the Apple (IOS) and Microsoft (Windows Phone) (Gartner 2011). The common features that differentiate these platforms from past offerings have been the touch screen interface and the variety and availability of relatively low

cost third-party applications. These applications provide increased functionality, flexibility and scalability. Anecdotal information suggests that the growing integration of a number of diverse applications into a single mobile platform and device has influenced the rapid uptake of MiMDs (O'Reilly & Duane 2010). While these mobile integrated media devices (MiMDs) possess the capacity to assimilate a number of uses in a single platform device for business, education, entertainment and productivity purposes, it raises the question as to the extent to which these and other factors affect their adoption and continued usage. The aim of this research is to identify factors and determine their likelihood to impact on the uptake of MiMDs, in particular, with regard to their usage and usability – Activity Based Usage (ABU) with other adoption constructs.

The research is presented in two stages, as the purpose of the paper is to identify factors and determine their likely impact on the uptake of MiMDs. Observational research in stage one set the parameters to conduct qualitative theory building research in stage two, which can then be used to present variables that can be used in a modified TAM model.

Primary data collection stage one

Observational research, conducted over a three month period, noted the situation and application used (when possible) for people using their MiMDs. The research identifies that when owners of MiMDs meet they usually discuss recent application findings that were found to be helpful. Further, application reviews are held against the

application itself, thus making the user, the buyer and reviewer of the various program applications that are uploaded to the device. The implications and consequences of this behaviour are such that the user tends to focus on the activities that they deemed necessary for their needs from the device. The device then becomes aligned to the users' needs as they select the applications that are consistent with their expectations and needs from the MiMDs.

The finding from this research is that activity-based usage drives the use of the device. Equally, the use of the device is driven by the applications that are chosen and loaded on the device. Given this perspective and the observational data we believe Activity-based usage (ABU) for MiMDs can be grouped as indicated in Figure 1 below, and then integrated into the modified TAM model described later.

Figure 1: Activity-based Usage

Primary data collection stage two
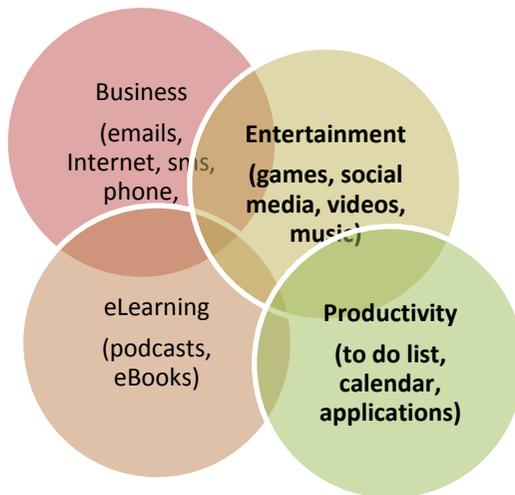
To identify, categorize, confirm and develop the types of activities that are used on these devices we adopted a qualitative methodology using a self-selecting focus group technique to review and refine the Activity Based Usage (ABU) concept for MiMDs. This approach ensures confirmability, transferability, dependability and credibility (Cooper & Emory 1995; Healy & Perry 2000; Lincoln & Guba 1985) and aids to complement the literature for the problem at hand.

Postgraduate students sitting an IT course were divided into groups, based on their interest, familiarity and experience with touchscreen technology and the more recent mobile media devices (See table 1). Segregation on this criterion was deemed appropriate as the profiles of students were similar in terms of demographic and socio-graphic characteristics. The table below shows the breakup of the demographic characteristics and shows the usage differences between the two groups

Characteristic	Range		
DEMOGRAPHIC			
Age	25 to 45 years		
Sex	13 males	5 females	
BEHAVIOURAL USAGE CHARACTERISTICS			
Familiarity and experience	11 experienced	7 less experienced	
Usage of device	11 heavy users	3 moderate users	4 non users

Table 1: Demographic details

The groups were introduced to the topic and asked to review and consider the uses for a MiMDs. They were not presented the finding from Stage one of the research. An analysis of the two groups revealed that the

experienced group recognised and used mobile media devices within four or more discreet activities (entertainment, education, work, business and social networking), while the less experienced group recognised the same technology, applications and mobility as two different groups (business and social) (see Table 2).

Table 2: Activity-based Usage Findings (Source: Developed for this study)

Groupings by less experienced users				
Social			Business	
Grouping by more experienced users				
Education	Entertainment	Social Network	Productivity	Business
All				
Common advanced mobile phone activates such as Notepad, GPS, Clock/Alarm, Email, Information, Telephone, and Camera.				

This initial inspection of the collected primary data from the two groups reflects the need to consider the activity based usage as likely driving variables on the acceptance of emerging mobile touchscreen technologies and applications. Further, the experienced user categorised closely replicated the findings from stage one of the research as social networking and entertainment were used for recreational and personal uses.

Conclusion

There is limited research in the IT implementation literature that deals with the role that the integration of a diverse range of applications and functionality into a

single device or platform plays in influencing the uptake of the technology. Coupled with a new paradigm shift in the ways the device is used and physically accessed there is a need to investigate the accelerating impact these factors have on the traditional paths to adoption and diffusion of mobile devices in particular. This paper identifies that Activity based usage is a variable that impacts on the adoption, usage and take up of MiMDs.

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