UNIVERSITI PUTRA MALAYSIA

HOME COMPUTER USE AND SHIFTS IN FAMILY'S TIME-ALLOCATION PATTERNS

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FEM 1997 7

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By

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A Thesis Submitted in Partial Fulfilment of the Requirements for the Degree of Master of Science in the Faculty of Human Ecology, Universiti Putra Malaysia.

June 1997

In the Name of Allah, the Beneficient, the Merciful

ACKNOWLEDGEMENTS

First and foremost, I am grateful and owe this work to Allah s.w.t. who "teacheth man that which he knew not." (Al-Quran XCVI-5). I am undoubtedly indebted to a number of people whose assistance, time, energy, and knowledge helped me successfully complete this thesis.

I owe a great debt to Dr. Narimah Ismail, chairperson of my supervisory committee, who had provided useful advice, encouragement, and insights for my study. My sincere thanks to Dr. Hj. Musa Abu Hassan and Dr. Saodah Wok who had tirelessly provided valuable guidance, comments and suggestions. I am grateful to these experts, who taught me much of what I now know about the research process. I have learned a lot from them, they helped steer my learning experience into a new and fascinating horizon.

I am indeed deeply indebted to SEAMEO SEARCA (Southeast Asian Ministers of Education Organization - Regional Center for Graduate Study and Research in Agriculture) for awarding me a scholarship, without which the graduate study could had only remained a distant dream. I again want to thank SEAMEO SEARCA who had been kind in granting financial support for this thesis.

A special note of gratitude must go to the Director General of the Department of Agriculture, Malaysia and the Department of Civil Services, Malaysia for granting me a leave from regular duty, enabling me to devote myself to the graduate study. The Director General of MIMOS (Malaysian Institute of Microelectronics Systems, now known as MIMOS Berhad) really helped in the selection of subjects for this study; I value that help very much.

To those friends who were kind enough to offer valuable suggestions, inspiration and challenges, I offer thanks to them.

Finally, I owe a lifelong debt to my loving mother, Hjh. Hasnah bt. Hj. Samat, who endlessly prayed for the success of my study. Her constant encouragement and affection were primary sources of motivation.

My appreciation and very special thanks to my best friend, my wife: Norita, who deserves my deepest thanks for always being there whenever I needed support and understanding; and our four children - Muhammad Hazim, Muhammad Azfar, Nur 'Adilah and Nur Azyan, for being the loving core of everything I do.

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June 1997

Chairperson : Dr. Narimah Ismail

Faculty : Human Ecology

The Malaysian government's serious commitment to make computers more accessible to all would mean more personal computers are expected to move into the Malaysian homes. Since computers are effective time-consuming devices which force users to reallocate their limited time for doing various activities, computing particularly in the home, has the potential to change the way family members interact with each other. However, despite the increasing importance of computers, little attention seems to have been paid towards understanding computer use in relation to the household.

This study was conducted specifically to determine (1) the characteristics of home computer users, (2) the relationships between shifts in family's time-allocation patterns and indicators of computer use (actual time spent on home computing, frequency of computer use, and number of

software packages used), and (3) the relationship between home computing and family communication.

This study was conducted on active computer users, representing the principal users of family computers, on Internet services and other software packages, and/or both packages. A total of 109 individuals from the Klang Valley participated in this study.

Data were collected through self-administered mail questionnaires and analyzed by using statistical analyses, such as, frequencies, means, medians, standard deviations, percentages, Chi-square, and Spearman Rank-Order Correlation, by means of SPSS-WIN computer program.

The findings showed that home computer/Internet users were middle-aged, well-educated professional/managerial workers, males, heading average size households with high annual income.

Shifts in time-allocation patterns for eight activities were negatively related to time spent on home computing, frequency of computer use, number of software packages used, and overall home computer use. Time spent for taking family members to various services; time spent for sleeping; time for hobbies; time with friends; and time spent for using other media, that is, for watching television, listening to radio, reading newspapers, and reading books, were significantly reduced.

The amount of communication in the family was found to be positively related to the time spent and frequency of computer use, suggesting that using the family computer had enhanced communication among family

members. However, home computing had only occasionally helped family members communicate more effectively and achieved desirable communication environment in the family.

Based on the findings of this study, there is a need for family members to reallocate time and reprioritize household activities to satisfy the family's basic demands and functioning, and be able to cope with the increasing social implications of the technological innovations in communication.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi sebahagian daripada keperluan bagi mendapatkan Ijazah Master Sains.

PENGGUNAAN KOMPUTER DI RUMAH DAN PERUBAHAN CORAK PERUNTUKAN MASA KELUARGA

Oleh

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Jun 1997

Pengerusi : Dr. Narimah Ismail

Fakulti : Ekologi Manusia

Komitmen yang bersungguh-sungguh oleh Kerajaan Malaysia untuk membolehkan komputer lebih mudah diperolehi oleh semua lapisan masyarakat bermakna lebih banyak komputer peribadi akan digunakan di rumah. Penggunaan komputer memerlukan penggunanya memperuntukkan semula masa mereka yang terhad untuk aktiviti-aktiviti lain. Keadaan ini berupaya mengubah cara ahli keluarga berinteraksi sesama mereka. Walaupun penggunaan komputer menjadi semakin penting, hanya sedikit sahaja perhatian telah diberikan terhadap memahami penggunaan komputer di rumah.

Secara khususnya, kajian ini dijalankan untuk menentukan (1) ciri-ciri pengguna komputer di rumah, (2) perkaitan antara perubahan corak

peruntukan masa keluarga dengan penggunaan komputer, dan (3) perkaitan antara penggunaan komputer di rumah dengan komunikasi dalam keluarga.

Kajian ini dijalankan ke atas pengguna aktif komputer, yang mewakili pengguna utama komputer di rumah yang menggunakan perkhidmatan Internet, pakej lain, dan/atau program-program daripada kedua-dua pakej. Sejumlah 109 individu dari Lembah Kelang telah menyertai kajian ini.

Data dikumpul melalui borang soalselidik, dan dianalisis dengan menggunakan analisis statistik seperti kekerapan, purata, median, peratusan, sisihan piawai, Chi-square, dan korelasi "Spearman Rank-Order" dengan menggunakan program SPSS-WIN.

Hasil kajian menunjukkan pengguna komputer/Internet terdiri daripada mereka yang berada dalam golongan umur pertengahan, berpendidikan tinggi, pekerja profesional/pengurusan, lelaki, ketua keluarga, dan mempunyai pendapatan tahunan yang tinggi.

Perubahan corak peruntukan masa terhadap lapan aktiviti didapati berkait secara negatif dengan masa penggunaan komputer, kekerapan penggunaan, bilangan pakej perisian yang digunakan, dan penggunaan komputer di rumah secara am. Akibat penggunaan komputer di rumah, masa untuk membawa ahli keluarga mendapatkan pelbagai perkhidmatan; masa tidur; masa untuk hobi; masa bersama rakan; dan masa menggunakan media lain, iaitu menonton televisyen, mendengar radio, membaca akhbar, dan membaca buku, telah berkurang.

Komunikasi dalam keluarga didapati berkait secara positif dengan masa dan kekerapan menggunakan komputer di rumah, menggambarkan bahawa penggunaan komputer telah meningkatkan komunikasi antara anggota keluarga. Namun demikian, penggunaan komputer di rumah hanya sekali-sekala sahaja membantu ahli keluarga berkomunikasi dengan lebih berkesan.

Berdasarkan kepada penemuan kajian, ahli keluarga perlu memperuntukkan masa dan menyusun semula keutamaan aktiviti-aktiviti rumah supaya dapat memenuhi tuntutan dan fungsi keluarga, serta berupaya menangani implikasi sosial akibat teknologi baru dalam komunikasi.

CHAPTER I

INTRODUCTION

The Malaysian government's serious commitment to make personal computers more accessible to all is in line with its effort to increase the level of computer literacy among members of the society. This is reflected when in late October of 1995, the Finance Minister who is also the Deputy Prime Minister, Datuk Seri Anwar Ibrahim in his 1996 budget speech, announced his proposal to abolish the imposition of sales tax on computers and related peripherals.

The subsequent 1997 budget further stresses the Government's serious commitment in terms of encouraging more widespread use of information technology (IT) equipment (*"Computimes,"* 1996f). Sales tax and import duties of more computer and related items continued to be abolished, thus making computers more pervasive to help propel the country towards a knowledge-based society.

More personal computers are expected to move into the Malaysian home (Prathaban, 1995b) and this means that the country would benefit in the long run as computers would help realize the Government's vision of an information-rich society (A. Shukor & Ahmad, 1995). Tzen (1995a) points

that more computer purchases are for the use of the entire family, where the father may want to use the family computer to balance the family's cheque-book, the mother to write letters, the sons and daughters to learn about school topics. Another reason for the increasing computer purchases could be that parents are being forced to keep up not only with the neighbours but with their children.

Apart from the limitless wonderment about the technical capabilities of personal computers, PCs, microcomputers, or **home computers** (Dutton et al., 1987; Fitzgerald, 1993; Rice, 1984), have we ever give it a thought of what could the machines do to members of our family? To what extent would the utilization of home computers change the existing communication behaviour and other household activities of family members? For instance, how do family members allocate their time for other activities besides being glued to the Internet trying to look for some information from the Net? Has any unanticipated conflict cropped up as a result of the individual's addiction towards personal computers rather than engaging in face-to-face interactions with other members of the family? Has any disagreement surfaced due to such changes in family members' communicative behaviour? These are some of the problems that beset families in today's information technological age that need to be addressed. Therefore, this study aims to explore the relationship between the utilization of home computers by family members and changes in their time allocated for other household activities, particularly in the Malaysian computer/Internet community.

Most research to date on computing in the home has been conducted by marketing organizations interested in the number of units they can sell and the buying behaviour patterns of the market or speculations about the home market of the future (e.g., *"Computimes,"* 1995a; *"Computimes,"* 1995b; *"MIMOS & Beta,"* 1995). Although some researchers have discussed the relationship of computer use and time allocation, it is limited to industrial and governmental organizations with little emphasis focused on the home computer as a computing package embedded in a social organization (Vitalari et al., 1985).

Igbaria (1992), and Mohd. Hasan and Md. Mahbubur (1995) found that there is a scarcity of information concerning microcomputer usage in the South East Asian countries. Nevertheless, a study by Igbaria (1992) provides limited empirical evidence of microcomputer usage in Taiwanese corporations. Another study by Mohd. Hasan and Md. Mahbubur (1995) gives minimal insight on microcomputer usage within organizations in Malaysia. In Japan, a study was conducted to examine the effects of computer networking on the psychological process, interpersonal relationship, and communication behaviour of the users (Miyata, 1995).

Statement of Problem

The computer revolution is becoming widespread, and this will have more impact than the industrial revolution. Long (1982) speculates that

computer would invade our lives through the labour force, the education system, the family, and society; and she reminds that society should anticipate its impact, failing which, members of the society could suffer socially, educationally, and economically.

Computers are very effective time consuming devices which force users to reallocate their limited time and change the ways they perform tasks (Vitalari et al., 1985). Personal computing, particularly in the home, has the potential to change the way family members interact with each other. In the US the amount of time spent on home computing had been found to cause shifts in other home activities (Dutton et al., 1987).

The effects of computer use on the lives of the users have been quite extensive. A study on 1,000 American adult Internet users showed that nearly a third of the users spent less time watching television; a quarter spent less time on long-distance telephone calls; 15 per cent spent less time watching videos; and 10 per cent spent less time listening to the radio (*"Computimes,"* 1996a). Twelve per cent and 13 per cent reported a decrease in time spent reading newspapers and magazines, respectively. Although this study did not provide any impression on the changes in time spent for communication among family members and the other household activities, nevertheless based on the reported trend, we could safely assume that family communication as well as other home activities might show similar trends.

Members of a family need to communicate with each other in order for them to manage their daily activities and the normal routines of their everyday

life. As Malaysia enters the industrial age and becomes a fully developed nation by the year 2020, the lives of her people would undoubtedly go for a revolutionary change. Although a more widespread adoption and utilization of a handful of new communication technologies would then seem normal, the technological blitz might affect the people's working environment and their day-to-day family life.

Miyata (1995) provides a vivid description of home computer users who expanded their interpersonal relationship outside the family circle by using computer networking. This rising phenomenon of "bonding people across many miles through the computer," such as, using the electronic mail, may suggest family members might spend less time with each other, which in turn might affect their communication and other non-computing household routines.

The present rapid growth of Internet which has somewhat shaped the use of personal computers in Malaysian offices and homes, inspired the present study to determine the relationship between home computing and shifts in family's time- allocation patterns for their non-computing activities. As suggested by Halloran (1986), it is important to identify and evaluate the wider social implications of the technological innovations in communication in relation to institution, such as, the family. The media had frequently stressed on the importance of the preservation of essential family values to curb social problems in the Malaysian society, such as, drug abuse and addiction, loafing, and juvenile delinquency. An important question worths

considering is that could the technological changes brought about by home computers lead to social misfortunes, such as, reduced interpersonal relationships in the family and more man-machine interaction? Thus, the present study attempts to provide an insight of the new technological onslaught and its link to family's life and activities.

Objective of the Study

To better understand computer use and shifts in time-allocation patterns, this study attempts to investigate the time shifts that occur when household members use personal computers. This exploratory study makes use of today's popular and growing trend, that is, the use of household computers both for surfing the Internet, and for executing the nonInternet-based application programmes.

The specific objectives of the study are:

(1) To determine the characteristics of home computer users;

(2) To determine the relationship between the actual time spent on home computing and shifts in time-allocation patterns for the non-computing activities that take place in the family;

(3) To determine the relationship between frequency of computer use and shifts in family's time allocated for non-computing activities;

(4) To determine the relationship between the number of computer software packages used and changes in time-allocation patterns for the non-computing activities in the family; and

(5) To examine the relationship between home computing and overall communication in the family.

Significance of the Study

This study is meant to provide a better understanding of the social implications that extend from the widespread use of computer in the household. This is especially so since there is an acute scarcity of information concerning home computer use in Malaysia. The findings from this study would provide home computer users with information specifically on what the associations might be between home computing and time allocated for the various household activities. This would in turn caution them on how they should react to this inevitable technological onslaught, in the context of family obligations and duties. For computer sales companies, the findings of this study might help to make them realize the importance of promoting software packages that are appropriate for the use of the entire family, thus enhancing family interactions in positive and meaningful ways.