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A Study of the Use of Information and Communication Technology (ICT) Tools by Librarians

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Introduction

The world is undergoing a transition from a paper to a digital economy. It is essential for libraries in countries in the developing world to take part in this changing scene. Developing countries are being encouraged to invest in their national information infrastructure so that they can participate in knowledge-based development. Advances have brought many changes in libraries. Information and communication technology (ICT) has provided libraries with new opportunities to improve their resources and services. This study looks at the use of ICT tools by a population of library professionals in the Indian state of Tamil Nadu, exploring the use of various tools, cross-tabulated by gender and age, and compiling a list of uses for these tools in professional settings.

Literature Survey

The literature on this topic is voluminous. This survey focuses on recent works about the developing world. Bilawar (2004) looks at the nature of communication technology and modes of mass communication that have had an impact on library services. Wijayasundara (2005) reports on a research study on Sri Lanka, finding technological, managerial, infrastructure, human, political, social barriers to automation. Igun (2005) identifies the challenges faced by the libraries and information centres in Africa in the establishment of electronic publishing, finding that apart from information sources that can be downloaded online, acquisition of electronic books is not possible. Krishnamurthy (2005) shares the experience of designing a digital library. Ani, Esin, and Edem (2005) investigated the adoption of ICT in university libraries in Nigeria. The major obstacles that influence effective adoption of ICT in were found to be inadequate funds and the limited electric infrastructure in Nigeria.

Present Study

This study explores information literacy in use of ICT among library professionals in the Indian state of Tamil Nadu. 175 questionnaires were distributed with 170 responses (97%) received.

Objectives of the Study

1. To study the choice of ICT media among library professionals in Tamil Nadu;

2. To find and examine the patterns of use of ICT by the respondents in their professional activities;

3. To analyse respondents' perception of the appropriateness of different ICT tools;

4. To investigate respondents' evaluation of a spectrum of currently-available tools; and

5. To offer suggestions for the effective management of emerging tools.

Hypotheses

1. Library professionals use different ICT tools in their scholarly communication.

2. There is a difference among the respondents in the selection of tools.

3. There is a significant gender relationship in the choice of ICT tools.

4. There is a significant difference in the age of respondents in using ICT tools.

Use of ICT Tools

Table 1 shows the use of various ICT tools.

Table 1. Use of ICT Media

ICT Tool	No. of Respondents	%
E-Group	50	29.41
E-Mail	160	94.12
Fax	24	14.12
Internet	154	90.6
Intranet	26	15.30
Mobile Phone	157	92.35
Videoconferencing	20	11.76
Voice Mail	40	23.52

Table 1 and Figure 1 show that nearly all of the respondents use e-mail (94.12%), mobile phone (92.35%), and Internet (90.6%). The use of mobile phones is highly significant, because it is a fast and easy way to communicate without much infrastructure.

Figure 1. Use of Communication Media
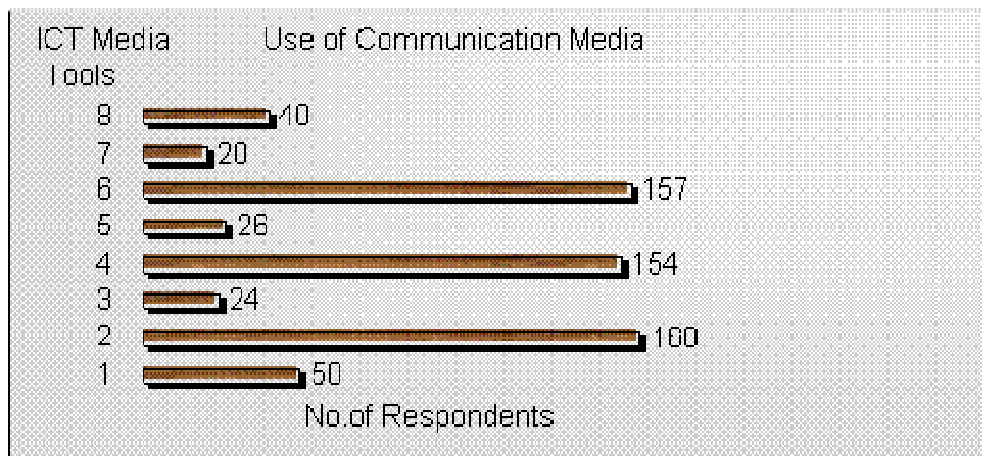

Tables 2 and 3 show the use of ICT tools by gender. Table 2 is a cross tabulation of ICT tools and gender and shows that male professionals are using mobile phones more than other media and female respondents use less videoconferencing.

Table 2. Use of ICT Tools by Gender

ICT Media	Male	Female	Total
E-Group	26 (15.30)	24 (14.12)	50 (29.41)
E-Mail	85 (50.00)	75 (44.12)	160 (94.12)
Fax	12 (7.06)	12 (7.06)	24 (14.12)
Internet	85 (50.00)	69 (40.59)	154 (90.6)
Intranet	12 (7.06)	14 (8.24)	26 (15.30)
Mobile Phone	87 (51.18)	70 (41.18)	157 (92.35)
Video Conferencing	11 (6.47)	9 (5.3)	20 (11.76)
Voice Mail	21 (12.35)	19 (11.18)	40 (23.52)

Figure 2. Use of ICT Tools by Gender
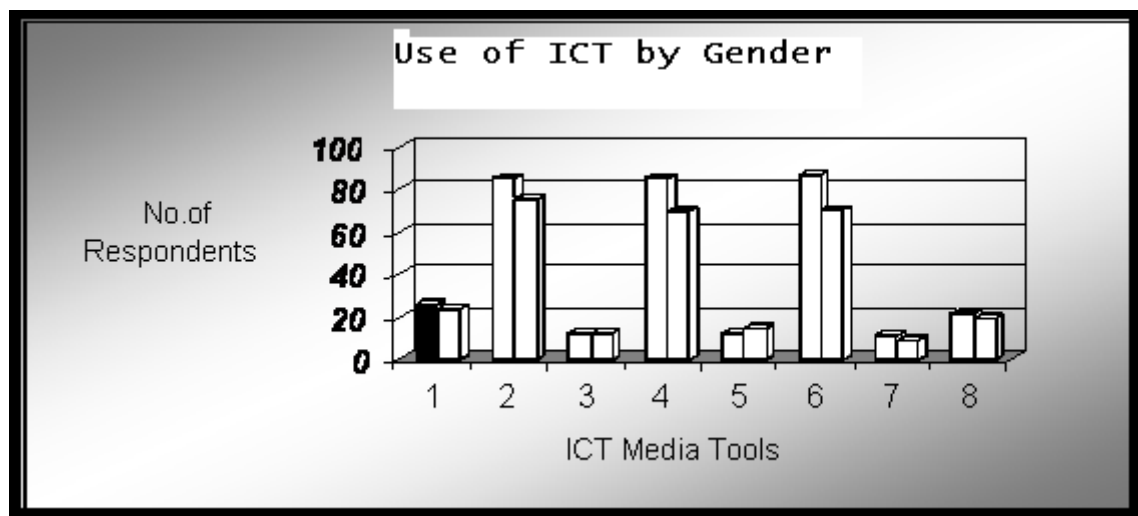
Table 3. Use of ICT Tools by Age

ICT Tools	Age below 40	Age above 40	Total
E-Group	28 (16.47)	22 (12.94)	50 (29.41)
E-Mail	87 (51.18)	73 (43)	160 (94.12)
Fax	18 (10.6)	6 (3.53)	24 (14.12)
Internet	82 (48.24)	72 (42.35)	154 (90.6)
Intranet	16 (94.12)	10 (5.9)	26 (15.30)
Mobile Phone	80 (47.06)	77 (45.29)	157 (92.35)
Video Conferencing	8 (4.7)	12 (7.06)	20 (11.76)
Voice Mail	17 (10)	23 (13.53)	40 (23.52)

Table 3 is shows that those under 40 use comparatively more ICT tools.

Figure 3. Use of Communication Media Tools by Age
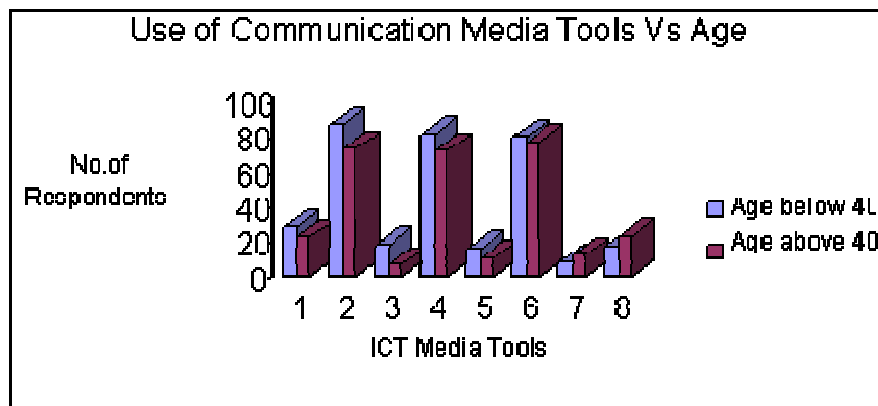
Uses of ICT in Professional Settings

Ten variables regarding the utility of ICT in day-to-day work were analysed using a five-point Likert Scale from "Strongly Agree" (1) to "Strongly Disagree" (5).

Table 4. Uses of ICT Tools

	1	2	3	4	5
Professional issues	102(60)	56 (32.94)	12 (7.06)	0	0
Professional development	108 (53.53)	62 (36.47)	0	0	0
Update knowledge	148 (87.06)	13 (7.6)	5 (2.94)	4 (2.4)	0
Interact with friends and experts	142 (83.53)	15 (8.82)	6 (3.53)	7 (4.12)	0
Resolve disagreements	24 (14.12)	70 (41.18)	30 (17.65)	38 (22.35)	8 (4.71)
Facilitates important decisions	27 (15.88)	64 (37.64)	32 (18.82)	38 (22.35)	9 (5.29)
Get to know someone	25 (14.7)	83 (48.81)	52 (30.6)	8 (4.70)	2 (1.2)
Confidential or sensitive information	27 (15.88)	45 (31.76)	27 (15.88)	49 (28.82)	22 (12.94)
Communicate with old friends	106 (62.35)	54 (31.76)	8 (4.71)	0	2 (1.18)
Time saving	101 59.41)	67 (39.41)	0	2 (1.18)	0

Most respondents use ICT in a professional setting to update their knowledge.

Table 5. Uses of ICT Tools by Gender

	Male					Female				
	1	2	3	4	5	1	2	3	4	5
Professional issues	60 (66.66)	28 (31.11)	2 (2.73)	0	0	42 (52.5)	28 (35)	10 (12.5)	0	0
Professional development	63 (70.00)	27 (30.0)	0	0	0	45 (56.25)	35 (43.75)	0	0	0
Update knowledge	82 (91.11)	4 (4.44)	2 (2.22)	2 (2.22)	0	66 (82.5)	9 (11.25)	3 (3.75)	2 (2.5)	0
Interact with friends and experts	82 (91.11)	5 (5.56)	1 (1.11)	2 (21.22)	0	60 (75)	10 (12.5)	5 (6.25)	5 (6.25)	0
Resolve disagreements	20 (22.22)	34 (37.73)	14 (15.56)	18 (20)	4 (4.44)	4 (5)	36 (45)	16 (20)	20 (25)	4 (5)
Facilitates important decisions	20 (22.22)	30 (33.33)	14 (15.56)	24 (26.67)	2 (2.22)	7(8.75)	34 (42.5)	18 (22.5)	14 (17.5)	7 (8.75)
Get to know someone	19 (21.11)	40 (44.44)	27 (30)	4 (4.44)	0	6 (7.5)	43 (53.75)	25 (31.3)	4 (5)	2 (2.5)
Confidential or sensitive information	21 (23.33)	20 (22.22)	16 (17.78)	21 (23.33)	12 (13.33)	6 (7.50)	25 (31.25)	11 (13.75)	28 (35)	10 (12.5)
Communicate with old friends	62 (68.89)	24 (26.67)	4 (4.44)	0	0	44 (55)	30 (37.5)	4 (5)	0	2 (2.5)
Time saving	60 (66.6)	30 (33.33)	0	0	0	41 (51.25)	37 (46.25)	0	2 (2.5)	0

Table 6. Uses of ICT Tools by Age

	Below 40					Above 40				
	1	2	3	4	5	1	2	3	4	5
Professional issues	60 (63.16)	30 (31.58)	5 (5.26)	0	0	42 (56)	26 (34.67)	7 (9.33)	0	0
Professional development	62 (65.26)	33 (34.74)	0	0	0	45 (60)	30 (40)	0	0	0
Update knowledge	82 (86.32)	7 (7.37)	3 (3.15)	3 (3.15)	0	66 (88)	6 (8)	2 (2.67)	1 (1.33)	0
Interact with friends and experts	80 (34.21)	9 (9.48)	3 (3.15)	3 (3.15)	0	62 (82.67)	6 (8)	3 (4)	4 (5.33)	0
Resolve disagreements	18 (18.94)	40 (42.10)	10 (10.53)	23 (24.21)	4 (4.21)	6 (8)	30 (40)	20 (26.67)	15 (20)	4 (20)
Facilitates important decisions	21 (22.1)	33 (34.73)	15 (15.79)	23 (24.21)	3 (3.15)	6 (8)	31 (41.33)	17 (22.67)	15 (20)	6(8)
Get to know someone	18 (18.94)	46 (48.42)	26 (27.36)	3 (3.15)	2 (2.1)	7(9.33)	37 (49.33)	26 (34.67)	5 (6.67)	0
Confidential or sensitive information	22 (23.15)	25 (26.31)	14 (14.73)	24 (25.26)	10 (10.53)	5 (6.67)	20 (26.67)	13 (17.33)	25 (33.33)	12 (16)
Communicate with old friends	70 (73.68)	20 (21.05)	3 (3.15)	0	2 (2.1)	36 (48)	34 (45.33)	5 (6.67)	0	0
Time saving	61 (64.21)	33 (34.74)	0	1 (1.05)	0	40 (53.33)	34 (45.33)	0	1 (1.33)	0

Conclusion

The results of the study indicates that all respondents use some kind of ICT tools, particularly the Internet and mobile phones. The use of ICT by the female respondents is somewhat higher than that of male respondents. There is no significant relationship between the use of e-mail and Internet and gender nor between age (below or above 40) and the use of ICT, although there is some variation. Respondents strongly believe that ICT tools play a significant role in supporting and enhancing their professional and research activities. Their comments also suggest that they see the use of ICT as potentially going well beyond the use of the Internet to search for resources and the use of e-mail to stay in touch with friends, colleagues, and experts. Thus, hypothesis 1 and hypothesis 2 are accepted, and hypothesis 3 and 4 rejected.

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