Electronic publishing trends in India

This paper aims to study the electronic publishing (e-publishing) trends in India, to compare the results with another study conducted in Singapore, and to identify the challenges, opportunities and problem areas faced by the publishing industry in Asia. Findings of the survey show that about one-third (35%) of the Indian and about three-quarters (74%) of the Singaporean publishers are engaged in e-publishing, with a further 20% of Indian publishers likely to start e-publishing in the next three years. A slightly higher percentage of Singaporean respondents over Indian feel that e-publishing has a bright future, but with marketing problems in the region being cited as a barrier to entering into the business. The main reasons for not introducing e-publishing in the Indian publishing houses have been lack of awareness about the new technology on the part of publishers and poor acceptability of e-publications among users.

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Introduction

Electronic publishing (e-publishing) deals with the collection, modification and distribution of information, art and software in any form, such as on physical media or via computer networks. E-publishing may be broadly divided into two categories: online and offline publishing. Online publishing uses computer and communication networks including the Internet, intranet and extranet for delivery of the content. Offline publishing uses storage media such as CD ROM, CD-I, DVD, memory card and diskette for distributing the content. By definition, electronic publication (e-publication) is the publication of any form of electronic media. There is a wide variety of e-publications now on the market, including information resources, instructional aids, games and entertainment products. This study is mainly focused on various types of information resource such as e-books, e-journals, e-magazines, e-newspapers, e-reference works, databases and other types of institutional e-publications.

The aim of this research paper is to study the e-publishing trends in India and then to compare the results with those from a more developed country, Singapore, in the same continent of Asia.

In order to do this, some of the publishers in India were surveyed to identify the challenges, opportunities and problem areas faced there by the publishing industry. The objectives of this study are to: 1) find out the views of publishers in India on e-publishing; 2) find out the extent publishers in India are, or will be, engaged in e-publishing; 3) find out the problems faced by publishers in publishing electronically in India; 4) identify the role of publishers' associations and government agencies in promoting e-publishing; and 5) compare these results with the results of another survey conducted in Singapore[1].

Background

India has been one of the major publishing countries in the world of book publishing for a long time. In addition to English, India also publishes in 24 regional languages to meet the local needs of the population. There are almost 15,000 publishers registered in India, between them publishing 70,000 titles annually in 24 languages, 18 of which are more prominent and highly developed and used by millions of people[2].

However, though the registered number of publishers is high, the majority of them are inactive and not currently publishing at all, and some of them are publishing just their own institutional titles, so the average number of publications produced by such publishers is very low. Sanskrit is the mother of all Indian languages but it is the language least used by the people. However, many scholars are still publishing books in Sanskrit. In each state, the output of local publishers is mostly in the language of its own people. At the same time, there are national and international publishers publishing for the entire country and also exporting to other countries. The majority of the international publishing houses have branches in India and those either publish some of their titles locally or supply their publisher's titles to local distributors to cater for the needs of the local readers. In addition to their local language publications, the majority of them also publish many titles in English. India is the sixth largest book publishing country in the world and third among English language publishing nations. Indian books are well respected in terms of content and quality of production. They are mainly written to meet the educational needs of Asian, African and SARC countries (South Asian Regional Co-operation countries). Following the IT boom in India, many publishing companies set up branches and started publishing electronically in India. There are also a number of e-publishing service providers (such as Tata Infomedia, Mumbai; Dx Technologies, Pune; eMacmillan, Bangalore; Creative Graphics, New Delhi; Mizpaz Publishing Services Pvt Ltd, Chennai) that are involved in the production of e-publications and offer e-publishing-related services (such as data capture, online copy-editing, disk conversion, book production, graphic design, content writing, translation, indexing, web publishing, website development, website maintenance, interactive e-learning content, animation, interactive games, e-book conversion, etc.) to the rest of the world, particularly to the developed countries. The present total publishing outsourcing revenue of the Indian industry is estimated to be about US$ 200 million, whereas the global opportunity for publishing outsourcing is estimated at US$ 8.1 billion. According to a report by Value-Notes Database[3], the Indian publishing outsourcing industry will be worth US $1.1 billion by the year 2010. This report also predicted a dramatic increase in opportunities for India in the near future as an editorial and publishing base.

The value of the Indian publishing industry has grown to US$ 1.67 billion, of which exports comprise about US$10 million[4]. Some of the leading publishers, along with branches of international companies in India, including Prentice Hall of India, Pearson, Macmillan, Penguin, John Wiley, Thompson, and Tata McGraw Hill, have already started publishing electronically and exporting to international markets. Indian publishers are now waiting for the government to come up with a strategy on e-publications so that more publishers will also follow this path and start publishing electronically.

Indian e-users

The literacy rate in India has been going up[5] continuously since its Independence and so also has the thrust for various types of reading material amongst the literate population. For example, the circulation of *Hindustan Times*, a New Delhi-based newspaper, has gone up by 30% over the past five years[6]. The growth rate for other newspapers, such as *Times of India,* has gone up by a similar amount. The computer literacy rate in India is also growing in multiple proportions. Some of the newspaper publishers, including *Hindustan Times*, *Deccan Chronicle*, *Westender* (Australia), *Nava Bharat* and *Central Chonicle,* have tied up with BodhTree[7], a Hyderabad-based software solutions company, to launch 'e-paper', a new technology solution for use in the publication of their newspapers. This technology helps them instantly publish a digital replica of the original print version online, along with their original printed copy. According to an eTForecasts report[8], there are 13.71 million PCs in India (1.6%*) compared to developed countries like the USA, which has 232.3 million (27.2%), the UK with 37.4 million (4.37%), South Korea with 27.24 million (3.18%) and China with 55.1 million (6.44%). India was previously not ranked in the top 15 countries having PCs but in 2002 it reached 15th place in the world ranking. According to the Forrester report[9], India is expected to grow at the rate of 37% and add 80 million more PCs to its total

* The percentage given within the brackets along with the number of PCs indicates the percentage of PCs in the entire world.

by the year 2010. Similarly, the growth rate of Internet users in India is increasing at the rate of 684%, and has reached 3.6% of the total Indian population[10]. Though this percentage is much below the world average percentage of Internet usage (15.2%), India is slowly picking up and moving towards the e-environment, with the result that the demand for e-publications is also gradually increasing. Unfortunately, Indian publishers seem unable to attract local users towards e-publications by convincing them of the benefits and advantages over the print medium. In the year 2001, the InternationalTelecommunication Union (ITU) estimated the bandwidth availability in India was 1.5 Gbps, compared to 2.6 Gbps in Singapore, 5.4 Gbps in South Korea, 6.3 Gbps in Hong Kong and 7.6 Gbps in China[11].

Related work

Before commencing this particular study, a general study of e-publishing trends throughout the world, particularly in Asia, was undertaken. Developments in IT, communications and networking techno-logies were seen to have changed the nature of yesterday's publishing industry into the climate for e-publishing that exists today. Following the introduction of the Internet and World Wide Web, the use of electronic information by the general public increased drastically in almost all countries[12]. Briefly, findings from this research illustrated the increase in the provision and use of e-resources. (A number of authors reviewed the latest trends in e-publishing in the recent past from various view-points[13]. Others also reviewed the developments in e-books[14], e-zines[15], e-journals[16], e-newspapers[17] and e-publications[18], interfaces of e-publications[19] and the acceptance of e-publications by users in libraries[20].)

Research findings in the literature were mixed. They showed that some authors believe that e-book reading has a brighter future[21] and people prefer e-publications over print versions[22], whereas others feel that reading long texts on a screen is tedious and tiresome to the eyes and not everyone likes to do so[23]. On the other hand, e-book evaluation studies found that their interface design plays an important role in the use of e-book reading devices and e-books[24, 25]. The present generation of children that are educated in the technological environment of today are more inclined to use e-resources than previous generations. Recent studies show that

Internet usage in Asian countries has increased by 191% during the year 2005, compared to the rest of the world growth (of 34.2%)[26]. Some studies also found that the younger users tend to get attracted more than older users to new forms of e-publications[27]. Some interesting findings from gender studies were that 80% of the e-book users in Spain were men[28], the number of Asian females using the Internet had increased recently[29], and, perhaps somewhat controversially, they also found that men mastered electronic applications better than women.

Recent developments in ICT have enabled a higher bandwidth to be made available to support online multimedia applications. E-ink technology and the introduction of e-paper have made possible the high contrast appearance interfaces required for future e-publications. E-ink combines the look of ink on paper with the dynamic capability of an electronic display[30]. Such displays are being designed for many applications, including hand-held devices, outdoor billboards, e-books and e-newspapers. Current hand-held devices with LCD displays are expected to be replaced by a new generation of mobile devices with e-ink displays and highly graphical mobile applications using 3G technologies.

Methodology

India is a very big country with, as mentioned previously, 15,000 publishers in 24 different languages, and it has more than two dozen publishers' associations. However, this industry is not as systematic and organized as is the case in developed countries like the USA and the UK. The overriding concern of traditional Indian publishers is their business interests, not the application of new technology or the development of new tools to improve the quality of their published output. So, in order to try to ascertain their views on e-publishing, a survey of publishers in India was carried out using a questionnaire as a tool for data collection. Data was collected during the period from October to December 2005. The questionnaire had 35 questions broadly covering: publisher's profile, publisher's involvement in e-publishing (including present and future plans), e-publishing in an Indian context, involvement of publishers' associations, national library and government, and future predictions of Indian publishers. Question-naires were sent both by e-mail and snail mail to

most of the different types of publisher including commercial, academic and scholarly publishing houses, universities, societies, government organizations, etc., listed in the Indian publishers' associations' directories. Responses from 32 Indian publishers were analysed in the study. The response rate to this survey was poor because many publishers did not give data due to business sensitivities and a habitual unwillingness to share their company information with other research agencies/ researchers. In the survey sample, distribution of publishers according to their type is given in Figure 2 (featured and discussed in more detail later). These results were compared with another study conducted in the year 2001 in Singapore[31] and the comparative results of the research outcome are presented in this paper. It proved very difficult to get responses both from Indian and Singaporean publishers. The main limitation of this study is therefore the smaller than ideal sample size in both the countries, making it difficult to generalize the results at the Asian continent level. However, it nevertheless serves as a valid study of the ongoing activities in the area of e-publishing, and it may serve to motivate the professionals to start working towards the improvement of their profession. This study may become a platform from which future researchers can study a larger sample size, to understand the underlying problems in the industry and provide suggestions for the future direction of the publishing industry.

Results and discussion

Profile of publishers

Of the 32 publishers responding to this survey, 27 were Indian publishing companies and five were the branches of foreign publishing companies based in India. Most of these publishers were members of both national and their state publishers' associations. Almost two-thirds of the publishers surveyed have been operating in India for the past 25 years and one-third only started during the 1990s. A quarter of these publishers were in this business in the 1950s in India; however, there were hardly any publishers operating during that era in Singapore. In both India and Singapore most of the publishing industry growth took place during the period 1970–90 (Figure 1). It is surprising that there were not many publishers before the Independence of Singapore but in India almost a quarter of the publishing houses were started a number of years before its Independence. Due to its strategic location, good governance and western orientation, many foreign publishing companies started opening their branches in Singapore during the 1990s, although the native publishing houses are very few, even now.

About half (47%) of the publishers surveyed in India and the majority (87%) of the publishers surveyed in Singapore were commercial. A small percentage of learned and professional societies (13%) and about one-third (35%) of non-governmental organizations (NGOs) in India also had publishing houses, but not in Singapore. However, the university presses in India are not as active as those attached to Singaporean universities. These results may be because the composition of the survey samples in both the studies are not identical, so it is not easy to compare the data directly, and the inferences drawn from this study are therefore possibly flawed, although general conclusions can be drawn. Most of the publishers in Singapore were involved in
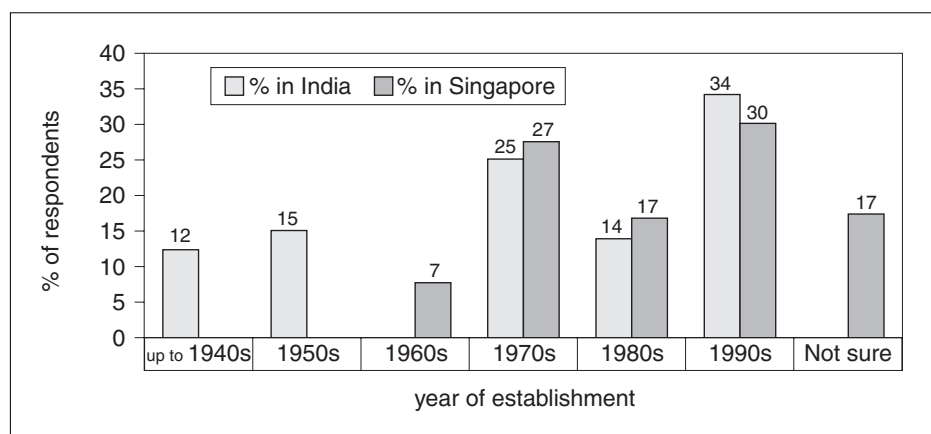

Figure 1. Establishment of publishing houses in India vs. Singapore

academic/educational/professional publications (Figure 2). This shows that there is a great demand for textbooks, assessment books, educational books, computer books and business books in Singapore.

On the other hand, Indian publishers are concentrating more on textbooks, scholarly works in local languages, academic, spiritual and competitive examination books, along with commercial books. It was noted that the majority of the Singaporean publishers were not interested in publishing scholarly books (such as research and academic books). Almost half of them surveyed were involved in commercial publications such as coffee-table books, fiction, magazines and comics. This shows that there was a greater demand for light reading books in Singapore than in India. This could be due to the cultural and economic conditions of the Indian population, to whom these types of books were not deemed so important (37%).

Publishers were then asked to indicate in which formats they were currently publishing. Most of the publishers surveyed in Singapore (90%) and about three-quarters (75%) of Indian publishers were publishing books (Figure 3). This shows that

Figure 2. Types of publication in India vs. Singapore

Figure 3. Publication formats in India vs. Singapore

book publishing is still the mainstay of the publishing industry in these parts of Asia. Journal publishing is the second pillar (33% in Singapore vs. 50% in India), followed in third place by magazines (23% in Singapore vs. 32% in India). Other important formats published by the Indian publishers were newspapers (24%), CD ROMs (18%), conference proceedings (11%), reports (8%) and newsletters, but all these formats were less important to Singaporean publishers.

Involvement in e-publishing

Many publishers surveyed in both countries were using the Internet as the medium for their e-publishing. It was found that more than two-thirds (70%) of the Singaporean publishers were involved in e-publishing but only half this percentage (35%) was involved in India. Compared to their Indian counterparts, the majority of the Singaporean publishers had websites and operated their sales through Internet bookshops. In Singapore, the majority (80%) of the publishers started publishing electronically long before 1999, whereas in India only a fifth (22%) of the publishers surveyed started publishing electronically during the same period (Figure 4). Overall, the majority of the e-publishers started publishing electronically in between 1995-99 but the number is almost three-fold in Singapore compared to its Indian counterpart. Of the total for India, most started publishing electronically only over the past ten years, and the concept of e-publishing is still new for these publishers as compared to developed countries like the USA and the UK, where it is already an established industry.

The findings of this study show that 34% of the respondents were engaged in e-publishing in India up to 2005, and a further 20% are expected to start in the next three years. (Since many of the big
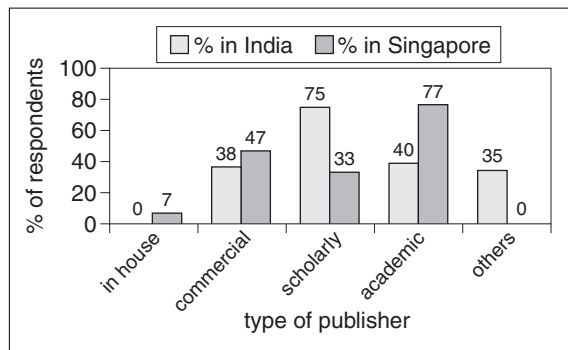

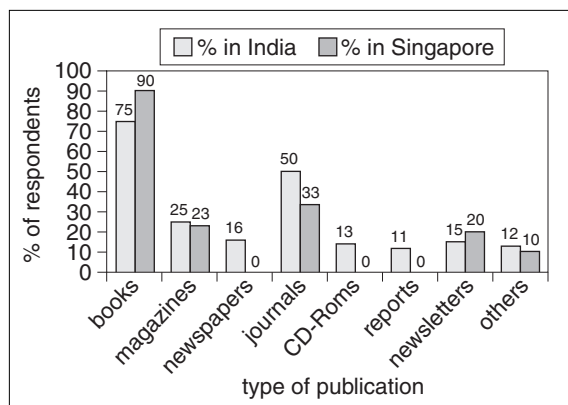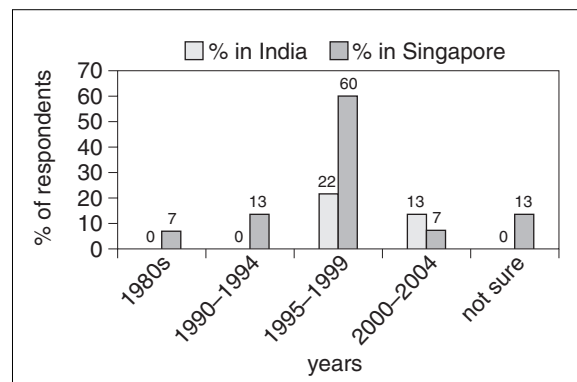*Figure 4. Involvement in e-publishing in India vs. Singapore*

publishers did not participate in this survey, the expected actual percentage of e-publishers in India is likely to be higher.) According to a British study, by the year 2020, 40% of UK research monographs will be available in electronic form[32]. The study predicts that only 10% of new titles will be available in print form by the year 2020. Since the infrastructure for computer communication networks is poor in rural areas of India, publishers are still sceptical about moving into e-publishing, so they are still continuing with print-based material. Those publishing electronically are opting for the Internet as their main medium for publication but a few also favour VCD and audio cassettes as publishing formats.

Markets served by e-publishers

All the e-publishers were then asked to indicate the markets that their publications serve. More than half of the publishers in India produce academic titles (compared with 73% in Singapore), 38% serve medical sciences (53% in Singapore), 37% serve the science and technology field (53% in Singapore) and other fields such as engineering, business, consumer, finance, legal and government. Of the 47% of the respondents that were publishing electronically, 20% served five or more types of market, with the remainder serving fewer than this (Figure 5), indicating that publishers with a greater financial capability, more resources, marketing channels and skills, are able to see the potential in e-publications and have started publishing electronically in more subject areas.

In both the countries, all the publishers that are publishing electronically export their publications. However, the export percentage is much higher in Singapore (Figure 6). Singapore exports mainly to South East Asia, Taiwan, Hong Kong and China, whereas Indian publishers export their major
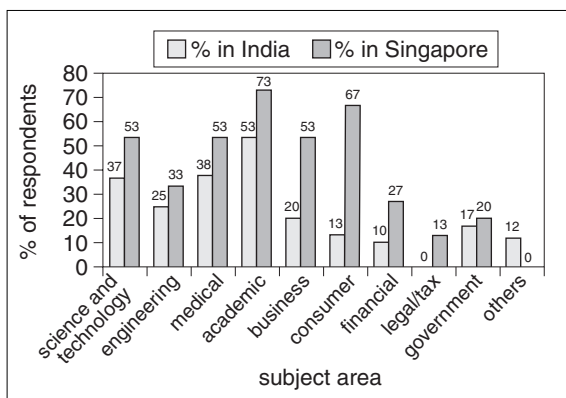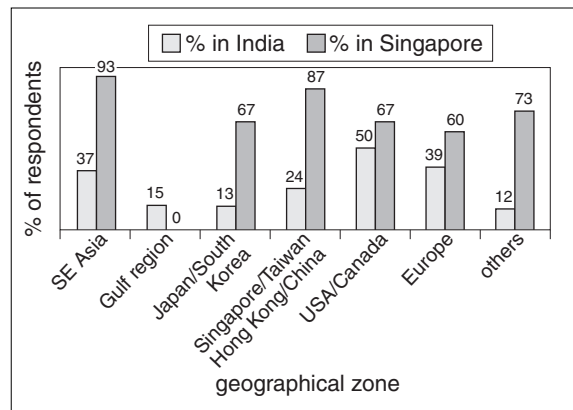

Figure 6. Major export markets for Indian and Singaporean publications

share to the USA, Canada and Europe. Overall, Singaporean publishers export the majority of their publications due to their small domestic market. On the other hand, Indian domestic buyers consume the major percentage of books there, and a smaller percentage of publications are exported. It is unfortunate that the majority of the publishers are still not making optimum use of ICT even now in the production of their publications.

Revenue generation mechanisms

Of the total number of e-publishers, one-third are using three or more models and another one-fifth of them have adopted two models of charging to generate their revenue (Figure 7). Indian publishers mainly depend on journal and magazine subscriptions, whereas Singaporean publishers generally opt for outright purchasing and licensing in addition to their subscription channels. Pay-as-you-use and licensing are not commonly used models in India but are already operational in Singapore and have been adopted by several e-publishers there. It is surprising that only a quarter
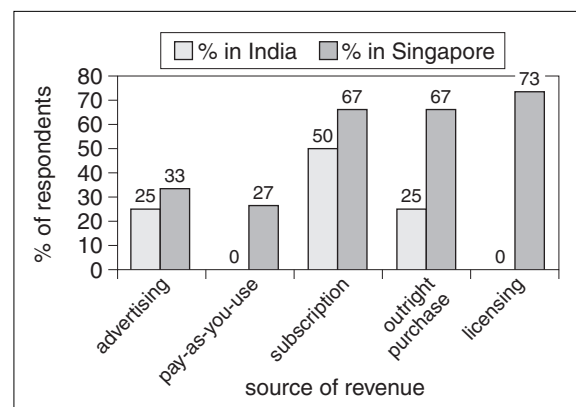

Figure 5. Markets served by e-publishers from India and Singapore

Figure 7. Methods of revenue generation for Indian vs. Singaporean publishers

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of the Indian respondents considered advertising to be an important channel for generating revenue but Singaporean publishing companies used all possible methods in order to generate their revenue.

Future directions for e-publishing

The respondents were then asked to indicate their views, on the Likert scale of one to five points (where one is 'no opportunity' and five is 'major opportunity'), on various e-publishing activities by the end of the year 2010. Their responses were recorded, an average was calculated for each medium and plotted on the graph (Figure 8). Internet/online were considered to offer a 'major opportunity' by the year 2010 (4.6% in India vs. 3.9% in Singapore), followed by CD ROM (4.4% in India vs. 3.8% in Singapore). The publishers in both countries felt that VCD might have a future, although it was not considered as good as the DVD format. Moreover, it is easier to pirate VCDs than DVDs due to the lower storage capacity, and VCD cannot take much quality video content or larger files (over 700MB). So, most of the publishers prefer the DVD format over VCD for present and future publishing purposes.

Receptiveness to e-publishing and e-publications

Next, respondents were asked to give their opinions on their receptiveness to e-publications, and their ratings are presented in Table 1. The respondents in both the countries felt that publishing their company's publications electronically
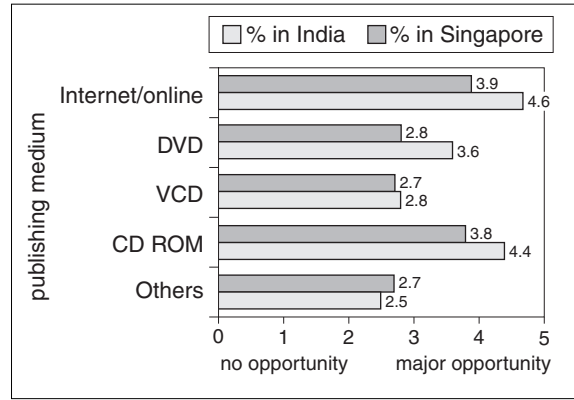
Figure 8. Publishing opportunities in India vs. Singapore

would improve their products. The majority of the respondents in both the countries (67% in India vs. 71% in Singapore) agreed that their customers are willing to access their company's products electronically. However, about a quarter (27%) of the Indian and about three-quarters (74%) of the Singaporean respondents disagreed with, or were neutral to, the idea of their customer acceptance of e-publishing products. Though the percentage of information available in electronic form is less in India than Singapore, the users' acceptance there is encouraging, so Indian publishers should invest more and start producing e-publications both for local users and also for export to other countries. Since the local production cost of e-publication is much lower to developed countries, India has many advantages by entering into this new industry.

	Disagree		Neutral		Agree	
	% in India	% in Singapore	% in India	% in Singapore	% in India	% in Singapore
Publishers' perception about e-publishing	0	13	27	28	73	58
Users' acceptance of e-publishing	7	14	26	11	67	71
Cost e-publications	16	48	10	24	74	27
Electronic vs. print publications	25	37	18	24	58	38
Legal issues with e-publishing	0	11	37	20	63	69
Copyright issues	0	0	17	14	83	86
Technical standards for Internet publishing	24	36	37	29	39	36
Speed of Internet	10	31	25	31	65	38
Internet publishing by authors and institutions	56	38	25	21	19	41
Defined e-publishing strategies	20	31	42	38	38	31
Management view of e-publishing	27	18	11	29	62	54
Supply of trained personnel	21	27	37	54	42	19
Availability of trained personnel	55	47	13	25	32	29
Difficulty in recruiting skilled personnel	31	7	14	24	55	69
Recruitment of skilled staff at high salaries	17	33	0	29	83	39

Table 1. Responses on various e-publishing issues

Difficulties associated with e-publications

Then respondents were asked to indicate their views on some of the issues relating to e-publications. Almost three-quarters (74%) of the respondents in India agree that reaching the appropriate market is more difficult for e-products than print publications. However, 38% of the Singaporean respondents disagree, with a further 38% agreeing with this statement. It is noted that most of the respondents who 'agree' in Singapore are already involved in e-publishing and have enough experience in handling the difficulties in this area. These respondents thought that e-publications might require a different approach but this is not a deterrent or any different from print publications from the business angle because each type of publication has its own method of market penetration.

The majority of the respondents agreed/were concerned (63% in India vs. 69% in Singapore) about unknown legal liabilities that e-distribution might create. Since more publishers are using e-commerce and the Internet for their business, Singaporean respondents were a bit more cautious than their Indian counterparts. Even today, the laws related to e-publications are not fully established compared to those covering print publications. Publishers are still using common practices and industry standards in marketing, for example, and other issues like distribution rights for region or country, the transference of authors' copyrights to publishers, and so on, need still to be further established.

In both the countries the great majority of the respondents agreed that copyright infringement is a very important concern in e-publishing, with piracy problems in the Asian region being a top priority.

Problems with online publishing

The general trend in e-publishing is shifting from CD ROM (an offline medium) to the Internet (an online medium). Many publishers and organizations are using the Internet as their publishing platform and that has created some problems that are not common to the print medium.

Since it is a new medium, technical standards for online publishing are one of the major concerns. Due to continuous technological developments in this area, interoperability and convergence in introducing new technologies and standards are not yet fully established.

Because of poor computer communication networks and related infrastructure in the developing countries, the speed of Internet access is one of the major concerns. The majority of Indian respondents (65%) agreed this was a difficulty. However, most houses in Singapore have an Internet connection and their access speed/bandwidth is equal to any country in the world. In general, the speed of Internet surfing and downloading has been improving year by year with the introduction of broadband connections and advancements in hardware technology along with the addition of more memory.

Online publishing opened new doors to authors, academic and research institutions by enabling them to bypass traditional publishers and publish their content directly on the Internet. The majority of the respondents (56%) in India do not agree to the statement that the potential publishing activities of authors or institutions via the Internet are a competitive threat. This indicates that Indian publishers are much more comfortable and confident with Internet publishing than Singaporean publishers, but the reasons are yet to be explored.

Management support for e-publications

In both the studies, respondents feel many of their management team do not have clearly defined e-publishing strategies (38% in India vs. 31% in Singapore). However, a considerable percentage (42% in India vs. 38% in Singapore) of the respondents were 'neutral' to this question and it is possible that the majority of the responses given were by respondents who do not belong to the management team. It is also possible that publishers in both the countries are still unprepared to start e-publishing because they are not fully convinced by the existing new technologies on the market.

The majority of the respondents agreed in both the studies that there is a lack of understanding about e-publishing on the part of the senior management (62% in India vs. 54% in Singapore) of both electronic and print publishers. Senior managers in both the countries appear comfortable with the established industry rather than wishing to move into an advanced technology in which many risks are involved. Similarly, senior managers in India do not understand the e-publishing business adequately, so the percentage of publishers involved in e-publishing there is lower. Lack of understanding about new technology and not having clearly defined e-publishing strategies resulted in fewer publishers entering into this industry in these countries than might have been anticipated.

Skilled manpower for the e-publishing industry

In general, the respondents feel that graduates from tertiary institutions are not adequately trained to meet the demands of the publishing industry. The majority (58% in India vs. 75% in Singapore) were 'neutral' about or 'disagree' that the manpower working in these institutions fulfills their requirements. Though there are a good number of universities and other educational institutions providing training for manpower, due to poor training facilities 42% respondents agree that their skills are not meeting the present day's publishers' needs. Around half of the respondents (60% in India vs. 45% in Singapore) feel that higher salaries may not attract skilled manpower into this industry. The main reasons that are mentioned by them for not to entering into this profession include: job satisfaction, long-term career prospects, monetary benefits and high work-related stress.

E-publishing business: India vs. Singapore

Table 2 shows the responses of the publishers to questions about the e-publications business in India and Singapore. In both the countries, the majority of the respondents think that there is a market for e-publications. However, there is a 26% difference in their consensus. Since many Indian publishers have not yet introduced e-publications into their market, their response rate was a bit lower. At the same time, user demand and usage level was also comparatively less in India and that resulted in a lower percentage of acceptability. The reasons for not introducing e-publications in the Indian market include lack of awareness among publishing houses and poor acceptability among people/ users. On the other hand, Singaporean respondents feel that a small local market and lack of familiarity with the product on the part of users are the main reasons many publishers have not introduced e-publications. In both the countries, respondents feel that pricing of e-publications is difficult to determine (54% in India vs. 70% in Singapore), but

this is contradicted by a quarter of them also thinking that it is not difficult to determine the price of e-publications!

Regarding the marketing of e-publications, a slightly higher percentage of respondents in India over Singapore (63% in India vs. 52% in Singapore) feel that greater effort is required to market e-publications due to a lack of awareness about them on the part of local readers. The majority of the respondents in both the countries (63% in India vs. 59% in Singapore) think that selling e-publications is not an easy task but a quarter of them think that they cannot foresee any real problems in selling e-publications, the main hurdles being public awareness, poor/slow access over the Internet, high prices and lack of procedures in place for the purchasing of e-publications by Indian libraries. Further problems noted by Singaporean respondents are that products could be easily pirated, and not every household owns a PC.

Readers' demand

The Indian publishers and most (90%) of the Singaporean publishers who participated in the study indicated that they had never conducted any kind of readers' survey on the demand for e-publications. The majority of the respondents in both the countries think that publishers' associations and government are mainly responsible for conducting such market-demand surveys. Others, including academic bodies, national libraries and publishers, could also become involved in conducting such research in order to establish the demand for e-publications in the local market.

The future of e-publishing

The key factors that should help the e-publishing business in India are skilled manpower, awareness among users and publishers, free accessibility, wider acceptability, quality products and marketability. However, Singaporean respondents think

	Disagree		No comments		Agree	
	% in India	% in Singapore	% in India	% in Singapore	% in India	% in Singapore
Market for e-publications in the country	27	24	23	–	50	76
Pricing of e-publications is difficult to determine	34	25	12	5	54	70
Marketing of e-publications incurs more effort	25	31	12	17	63	52
Sales problems encountered with e-publications	24	38	13	3	63	59
Technical problems in producing e-publications	55	38	17	17	28	45

Table 2. Publishers' views on e-publications business in India vs. Singapore

that the cost of hardware, the cost of e-publication, Internet speed, good products and the cost of manpower are the key factors. In general, awareness among users and publishers is the foremost important factor, so government and publishers' associations need to put more effort into advertising, conducting seminars, workshops, roadshows, conferences, awareness programmes, and so on. To this end, the Indian Institute of Sciences, Bangalore, conducted a workshop on 'Electronic Publishing' in March 2002, and other similar events have been organized more recently, mostly by the academic institutions, and with the publishers' associations unfortunately always taking rather a back seat in all these events.

Publishers in this study indicated that only a small percentage of their e-publications would cater for wireless devices because of the high cost of hardware devices in India. Comparatively, Singaporean publishers showed more interest than their Indian counterparts. In both the surveys, the respondents indicated that most of them are not going to produce e-products for e-book reading devices in the next two years. Since e-book reading devices cost more in India, the chances of producing products for them in the country are remote in the next two to three years (unless some foreign company invests in manufacturing the devices in India for export due to the lower production costs there). Lack of interest among these respondents indicates that the e-book or content for e-book reading devices is still a new concept for them. However, they are more popular in the USA and Japan, which is the world leader in producing electronic gadgets. E-books have been on the market there for the past 15 years and the majority of them are read on PCs and PDAs. The new reading devices are very much smaller and their display technology is much easier to read than on older models. On average, the price of an e-book is 2–25% less than for a print book, so the user base is increasing drastically year by year[33].

Conclusions

The following are the major findings of the study after comparing the Indian respondents' views with the Singaporean respondents' views about e-publishing trends:

1. Lack of awareness about e-publications among publishers

The majority of Indian publishers are not professionally trained and belong to the business community. Most of them come from a traditional line of publishing and with a history of producing different types of publication including books, magazines, non-professional publications, etc., and are producing mainly for the Indian market. Lack of awareness among publishers and retailers of e-books slowed down the growth of e-publishing in various countries, particularly developing countries[34]. Up until the year 2000, most of the middle- and lower-class income groups could not afford to buy PCs and were using computers only at their work-places. In recent years, the price of computers has gone down drastically and the purchasing power of these groups has also increased; now they are able to purchase computers and have also started subscribing to Internet connectivity. Due to heavy competition between local and international companies, the Internet subscription rates in India have been going down considerably for the past two years. So, the time is right for all the countries in Asia, and particularly for India, to wake up and think about using new technologies in the publishing industry and to start producing e-publications without further delay. Similarly, the IT industry can also help the e-publishing industry by developing and manu-facturing locally produced e-publishing tools to enable e-publications to be produced at a price affordable to Indian users. Alternatively, they could consider producing two different qualities of electronic publication: high-quality publications for the export market and moderate-quality publications for the local market, so that local people will be able to buy e-publications for their own use. The e-publishing industry will then boom like the IT industry did, not only in India but also in all other countries in Asia, and will contribute a considerable amount to the national economy.

2. Lack of awareness about e-publications among users

As mentioned earlier, due to economic factors many people are unable to use e-publications and e-book reading devices. However, soon many people will start using them because of cheaper PCs and e-books. In this context, government organizations

(national and state libraries, Ministry of Education, other education departments), academic institutions (schools, colleges and universities), national and international organizations, and professional societies/bodies need to participate actively and to educate the public about e-publications. Affordability and awareness about new technology are set to change the present scenario totally in a couple of years, as happened in the case of telephones and cell phones. For example, six to seven years ago getting a telephone connection in India used to take six months or more due to a monopoly of government telecom companies. After opening up of the economy to foreign investors, many competitors came into the market and today one can get a telephone connection in a couple of hours. Similar change is also expected in the case of e-publications as they become demanded by the majority of people in society.

3. Lack of proper understanding about the advantages of e-publishing and e-publications

Today, many people, including users, publishers and librarians, do not fully understand the advantages of e-publications. So, publishers are facing a lot of problems in convincing users and librarians of the advantages in using them for their work. Initially, e-publishing took the form of CD ROMs, then web versions came in and now mobile phone formats are available so that mobile users can also access e-publications irrespective of the limitations of time and place. Some of the important problems related to e-publishing in India are:

a) Indian publishers are facing problems because of their poor knowledge about e-publishing; they are unable to market the e-products in the local market due to economic factors and unpopularity among Indian users.

b) Indian users are having problems in purchasing e-publications and their reading devices due to their high prices and also because they do not know about the advantages of e-publications over print versions.

c) Indian libraries/librarians face budgetary problems which are preventing the widespread purchase of e-publications and their reading devices for their users.

d) Since it is new technology, not many electronics industry manufacturers are producing reading devices and, on the other hand, e-publishers are not producing many e-publications, with

the result that the prices of both reading devices and e-publications are too high to local users.

e) Lack of awareness among publishers and lack of appropriate promotional materials lead to poor sales.

f) Due to social stigma about this profession, there is a lack of highly-skilled manpower in the industry. So, quality of output is not meeting the demands/requirements of international users.

g) Lack of quality content is another problem but once publishers tap the right pool of expert writers, this problem should disappear.

h) Lack of vision among Indian publishers and publishers' associations is another major problem.

i) The old and archaic policies of government need to be changed in the context of changing technology and user needs. It is unfortunate that the publishing industry in India is not taking a leading role in instigating change. The publishers' associations are most ineffective because they do not seem to have a clear understanding of the latest technologies and techniques in the e-publishing industry.

j) There is a lack of government subsidies (similar to those in the IT industry) for the publishing industry because it is one of the most neglected industries in India; but the fault lies with publishers' associations too, not only government agencies.

Suggestions for raising awareness about e-publishing

a) National organizations like the National Book Trust, the Press Trust of India, and publishers' associations should take an active role in promoting e-publishing, e-publications, e-literacy and related awareness programmes.

b) The Indian government should also provide subsidies to the e-publishing industry, covering imports, supply of raw materials, etc., and streamline export procedures.

c) Government should play a leading role in conducting awareness programmes, training camps/programmes, providing scholarships for study abroad, providing sufficient funding for R&D in e-publishing, providing rules and

policies conducive to the e-publishing market regarding export, and so on.

d) Libraries and librarians should also take a bigger role in promoting e-literacy and e-publication usage among library users.

e) The IT industry should come forward in providing inexpensive hardware for accessing e-publications – both desktop models and mobile models. There is also a need for help in producing local software tools for e-publishing and the production of inexpensive e-publications to meet the needs of local users.

f) Better marketing channels, including e-commerce and online delivery for local and international users, need to be established.

g) Rules and regulations at the national level for the implementation of digital rights management (DRM) to protect the intellectual property rights of the authors/publishers should be formulated.

h) Stringent rules against copyright violations and mass copying of e-publications should be implemented and heavy punishments should be imposed on violation of any of these rules.

The survey findings show that e-publishing is a way to move forward in the digital era in spite of many problems encountered by the Indian publishers, librarians, libraries and users. This study found that only 35% of the Indian respondents are currently involved in e-publishing despite the huge IT boom in the country. The IT industry is providing e-publishing services to many developed countries but not doing much for local users. At the same time, publishers in India are not moving forward towards e-publishing as fast as the publishers in developed countries. The possible reasons for this have already been discussed. Although the problems encountered by the publishers in India are similar to those in Singapore, the percentage of e-publishers in Singapore is greater than those in India and their focus is different. Raising awareness about new technologies related to e-publishing and e-publications among publishers and users, producing quality content, moderately priced products, and carefully protecting the intellectual property rights of the authors and publishers, will change the present scenario of e-publishing in India and the total Asian continent. Would that this change comes sooner rather than later!

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