



Program: electronic library and information systems

Factors affecting the satisfaction of an online community for archive management in Taiwan

Fang-Ming HSU Tser-Yieth Chen Chiu-Tsu Fan Chun-Min Lin Chu-Mei Chiu

Article information:

To cite this document:

Fang-Ming HSU Tser-Yieth Chen Chiu-Tsu Fan Chun-Min Lin Chu-Mei Chiu , (2015), "Factors affecting the satisfaction of an online community for archive management in Taiwan", Program: electronic library and information systems, Vol. 49 Iss 1 pp. 46 - 62

Permanent link to this document:

<http://dx.doi.org/10.1108/PROG-12-2012-0068>

Downloaded on: 12 February 2015, At: 06:53 (PT)

References: this document contains references to 67 other documents.

To copy this document: permissions@emeraldinsight.com

The fulltext of this document has been downloaded 60 times since 2015*

Users who downloaded this article also downloaded:

Jiunn-Liang Guo, Hei-Chia Wang, Ming-Way Lai, (2015), "A feature selection approach for automatic e-book classification based on discourse segmentation", Program, Vol. 49 Iss 1 pp. 2-22 <http://dx.doi.org/10.1108/PROG-12-2012-0071>

Hollie M. Osborne, Andrew Cox, (2015), "An investigation into the perceptions of academic librarians and students towards next-generation OPACs and their features", Program, Vol. 49 Iss 1 pp. 23-45 <http://dx.doi.org/10.1108/PROG-10-2013-0055>

Georgia Solomou, Dimitrios Koutsomitropoulos, (2015), "Towards an evaluation of semantic searching in digital repositories: a DSpace case-study", Program, Vol. 49 Iss 1 pp. 63-90 <http://dx.doi.org/10.1108/PROG-07-2013-0037>

Access to this document was granted through an Emerald subscription provided by

Token: JournalAuthor:0EDAABD4-1D49-4964-B3C8-0247DAE570B5:

For Authors

If you would like to write for this, or any other Emerald publication, then please use our Emerald for Authors service information about how to choose which publication to write for and submission guidelines are available for all. Please visit www.emeraldinsight.com/authors for more information.

About Emerald www.emeraldinsight.com

Emerald is a global publisher linking research and practice to the benefit of society. The company manages a portfolio of more than 290 journals and over 2,350 books and book series volumes, as well as providing an extensive range of online products and additional customer resources and services.

Emerald is both COUNTER 4 and TRANSFER compliant. The organization is a partner of the Committee on Publication Ethics (COPE) and also works with Portico and the LOCKSS initiative for digital archive preservation.

*Related content and download information correct at time of download.

Factors affecting the satisfaction of an online community for archive management in Taiwan

Fang-Ming HSU

Department of Information Management, National Dong Hwa University, Hualien, Taiwan

Tser-Yieth Chen

Graduate Institute of International Business, National Taipei University, Taipei, Taiwan

Chiu-Tsu Fan

Department of Business Administration, Tungnan University, Taipei, Taiwan, and

Chun-Min Lin and Chu-Mei Chiu

Department of Information Management, National Dong Hwa University, Hualien, Taiwan

Abstract

Purpose – The purpose of this paper is to investigate the relationship between the richness of information and the satisfaction of participants in an online community regarding archive management in Taiwan.

Design/methodology/approach – An investigation was deployed to attendants in 20 training courses created by the National Archives Administration (NAA) in Taiwan for records staff on the topic of digital preservation. The responses were collected from respondents who were participating in an online community for archive management. Through structural equation modeling method, this study examined the effects of channel richness, information transparency and accessibility of archive to brand image and trust and then continued to the satisfaction of professional participants to archive management in an online community.

Findings – Appropriate disclosure of information regarding archiving can effectively improve the satisfaction of participants in the online community to archive. Channel richness of communication, information transparency and accessibility of archive significantly affect the brand image of archive and the trust of participants to archivists and finally affect the satisfaction of participants in the online community towards archive management.

Practical implications – The larger the amount of information exchanged, the more the trust among participants and the better brand image of the archives. The more trust and brand image exists among participants, the more satisfaction they will obtain from archive management.

Originality/value – The results can provide a strategic direction for managers of the national archive and the online community in government agencies to allocate resources for enhancing the information richness and the image of archive as well as achieving the satisfaction of participants in the professional community.

Keywords Satisfaction, Archive, Information richness, Online community

Paper type Research paper

1. Introduction

Since satisfaction reflects the performance of management, the government agencies responsible for archive management are eager to increase the satisfaction of users

The authors would like to thank the National Archives Administration of the Republic of China for financially supporting this research.



towards archives. Informative service is critical to the satisfaction of using archive (DJS Research Ltd, 2008). However, transparency and sharing of essential information regarding archive is limited (Fortier, 2005). As individuals turn to online media, it is important to reassess “taken-for-granted” assumptions about communication behaviour in its occurrences. The variations in information richness are consequential to the relevant communication processes and outcomes (Ramirez and Burgoon, 2004). Yet, the necessity of such features for achieving relational goals, such as trust and satisfaction, remains unclear. Therefore, the goal of this study is to investigate the relationship between the richness of information and the satisfaction of professional users in an online community involved in archive management.

All communities, online and off, seek to motivate members to participate and continue contributing to the betterment of the group (Kanter, 1972). Archiving is the documentation of national activities. Through the usage of archival materials, staff in government agencies could learn from their antecedents, avoid mistakes and increase expertise in their mandated operations (Shoemaker, 2005). An online community is a virtual community that exists online and whose members enable its existence by taking part in membership ritual. Professional opinions for archive management are exchanged in the community of records staff and archivists through online technology. A variety of information technology (IT) artifacts are deployed to support online communities. Despite their ubiquity, theoretical and empirical research investigating the impact of IT-based features on online community communication and interaction is limited (Ma and Agarwal, 2007).

Users must be placed at the centre of the archive project (Sexton *et al.*, 2004). From the writings of Tibbo and Prom, understanding of users is seen primarily as a prerequisite for effective access systems, whether face-to-face or remote (Yeo, 2005). In addition, an online community is the practice of management, information, communication technology and a computer network, which is the basis of information, the medium and the means of the computer net (Meng and Cao, 2009). For an online community, communication channels form a major component of information sharing. Besides e-mail, examples of communication channels are bulletin boards and social media, where participants can share information and ask specific questions without directing them at any specific persons. Therefore, the way to improve the interaction of participants in the community is one of the important issues for the manager of an online community.

In December 1999, the Taiwanese government passed the Archives Act, which established the legal foundation and technology standards for managing government records and archives electronically. The National Archives Administration (NAA) was established in November 2001 as the supreme governing entity charged with educating, promoting and advancing the usage of records and archives. To improve administrative quality, the NAA revealed a “Ten-Year Strategic Plan” in 2002, outlining its goals for keeping electronic records, archiving and long-term preservation. Following the concept of a records continuum (Upward *et al.*, 2011), the NAA has proposed a way of articulating a professional mission that brings together records managers and archivists under the recordkeeping umbrella. Records continuum thinking focuses on the unifying purposes shared by all recordkeeping professionals.

Potential challenges may be encountered in the process of the life-cycle of records, but these challenges can be overcome by increasing the skills of personnel. One appropriate manner is to conduct on-the-job training for staff responsible for record/archive management (Fenton, 2007). Therefore, communication in this professional community is critical to acquire performance of ongoing products and services. Using

the Museums in the Online Archive of California (MOAC) project as an example, an internal e-mail list for ongoing work and communication was established, as well as a web site that both documented and disseminated the project's development, thus providing access to the growing content resource (Rinehart, 2003).

The basic requirements for establishing the authenticity of digitised objects are similar to the information literacy programme that seeks to inculcate in end users working with any type of information (Gilliland-Swetland and Eppard, 2000). Occasional training courses regarding IT and record/archive management supported by the NAA in Taiwan are also grounds for exchanging opinions in this professional community. Therefore, the NAA has regularly delivered e-papers to all staff responsible for records management in government agencies and since 2009 has created an online community for record/archive management. Future trends, new skills, emerging technologies and news for activities regarding record and archive management are shared through the internet. Participants can post and share their opinions easily in the online community. Owing to the relevance to their tasks, staffs in government agencies have joined the online community to gain sustained knowledge of record and archive management. Since most archival materials come from the records of agencies, the skill and experience of staff as well as a degree of satisfaction with the online community are essential prerequisites to NAA officers in order to render high-quality archives.

Technology context appears to provide the main grounds for the reliability and authenticity of the electronic recordkeeping environment (MacNeil, 2004). A study incorporating social validation, online trustees and a profile-based web site can better explain the credibility of online information and platforms lacking traditional expert cues (Jessen and Jorgensen, 2012). Previous studies have investigated that a good online experience is associated with familiarity and satisfaction within web communities (Reichheld and Scheffer, 2000; McWilliam, 2000). As a result, satisfied participants would like to join the activities in an online community. Therefore, the goal of this study is to investigate the critical effects of IT channel richness, transparency and accessibility of information on the participants in the online community and reflect on their satisfaction regarding archive management.

2. Literature review and hypotheses

Satisfaction is an end state of a psychological process and is a judgment that a product or service feature provided a pleasurable level of consumption-related fulfillment (Oliver, 1997). Since records and archives provide the raw materials for narratives of national identity, it is vital for government agencies that the content of its records/archives should be trustworthy. To meet these challenges, the community of record/archive professionals must develop appropriate strategies, procedures and standards (Duranti, 2010). In the field of archiving, professional identity has been constructed around two narrative tropes: public archival institutions as trusted repositories and the archivist as trusted custodian (MacNeil, 2011). The former is an image acting as a brand name of the archive while the latter is the trust to the archivist. Information richness theory ranks information media along with the dimension of richness and proposed a match between task characteristics and communication channels (Palvia *et al.*, 2011). Therefore, this study used brand image and trust as mediating factors between information richness and participants' satisfaction in the online community regarding archive management.

The online community uses the internet as a process to achieve marketing objectives by which various internet activities are the basic means to create an online operation environment (Fung, 2008). The online community usually uses social media including

Facebook, Plurk, online fans groups and blogs to attract participants to contribute to the service activities. Facebook is one of the most successful websites for social networking. The attraction comes from the utility of interpersonal interaction, market connections and the information richness of social media. This will bring social benefits and special treatment benefits to users.

People in the online community perceive information as credible when some sort of collective judgment of the information is available (Jessen and Jorgensen, 2012). Over time, participants may become sensitive to the process and may modify their behaviour (Toms and Duff, 2002). Information sharing can be regarded as a form of social exchange (Fulk *et al.*, 1996). The interaction between people is a process of resource exchange which is considered as the foundation of social exchange, and which is different to economic exchange. Economic exchange is the exchange of benefits by bartering with others or using currency while social exchange is the interaction of relationship among beings. Hence, social exchange is the means to explain why people are willing to devote themselves without reward. The reason for the underlying social exchange is that people are pursuing the maximum benefit, while the benefit may exist among long-term relationships (Molm, 1997). Information sharing is one of the behaviours that pursue maximum benefits and minimum costs. In this kind of non-economic exchange behaviour, trust can play a key role (Aryee *et al.*, 2002). Therefore, in an information-collecting process, transaction, transparency and interactivity are critical necessities of e-government that affect trust and satisfaction (Welch *et al.*, 2005). In this study, we use channel richness, information transparency and information accessibility as measures of information richness and possible strategies for managers to increase participants' satisfaction in the online community.

Social issues appear to be significant in ensuring the success of information sharing (Kankanhalli *et al.*, 2005). Online credibility can have a known identity when assessing important information. Therefore, the known brand or authority can act as a trustee to be included in the matter (Jessen and Jorgensen, 2012). Besides, information richness theory states that all communication channels possess certain characteristics that make them more or less rich. Since the channel of the internet has various forms to convey information such as bulletins and instant messaging, the channel richness of the internet is larger than that of the phone. Communication channel richness refers to the extent to which media have the ability to overcome different frames of reference and clarify ambiguous issues (Johnson and Lederer, 2005). Brand familiarity and experience are major components of consumer knowledge and should have a considerable impact on consumer cognitive structures (Ha and Perks, 2005). Communication channels allow participants to exchange emotional support, information and foster a sense of belonging (Teo *et al.*, 2003). Participants are persuaded through word-of-mouth communication from the online community. Thus, we propose the following hypothesis:

H1. Channel richness positively affects participants' image of the brand of archive.

Social validation and online trustees play important roles in evaluating online credibility (Jessen and Jorgensen, 2012). In business, trust generally refers to one party in the relationship having confidence in the other party based on alignment of value systems with respect to those benefits. Individuals and organisations are increasingly making, storing and accessing records in the highly networked environment of the internet. People trust government agencies to keep and maintain their records or archives on their behalf (Duranti, 2012).

Social media induce participants' interest in the activities of the online community. Channel richness facilitates the understanding between communicating individuals (Johnson and Lederer, 2005). Use of the internet can harness the unique potential of social media to deliver engaging user experiences (Kerrigan and Graham, 2010). A sense of belonging is a factor peculiar to the online community, and is important to the extent that no involvement or participation would be forthcoming from users if it is lacking in them. Frequent communication between participants would provide greater opportunity for exchanges of information. Such exchanges would promote mutual trust, reduce barriers between the functional roles, and thus facilitate convergence (Johnson and Lederer, 2005). Thus, we propose the following hypothesis:

H2. Channel richness positively affects participants' trust towards archivists.

Transparency of information is demonstrated as a form of recommendation for incentive implementation (Sorensen *et al.*, 2011). Participants may share proactively all the useful information. Alternatively, they may choose to keep some information concealed in order to protect themselves against possible shortcomings. Participants engaging in co-creation feel more empowered and the interactive tool of the community determines what participants with varying capabilities are able to propose for the co-creation task. It is reflected by the perceived empowerment and experienced enjoyment of the participants (Fuller *et al.*, 2009). Through interconnection and abundant information, man-machine interaction can effectively enhance the brand favourite. Thus, we propose the following hypothesis:

H3. Transparency of information positively affects participants' image of the brand of archive.

Internet services are stakeholders to the point of obtaining commitment of potential users to adopt policies and procedures capable of ensuring that services are transparent and trustworthy (Duranti, 2012). Since transparency of information involves the fair and righteous treatment of the specific audience, the specific topics of the recommended content will increase the participants' trust and develop a positive social image (Sorensen *et al.*, 2011). The higher the distance, the lower the cognitive proximity, and consequently, the lower the effectiveness of socio-cognitive factors like trust (Biggiero, 2006). Frequent interactions bring an understanding and trust of others' activities (Johnson and Lederer, 2005), with trust achieved through the antecedent constructs including various experiences and the search for information (Ha and Perks, 2005). Thus, we propose the following hypothesis:

H4. Transparency of information positively affects participants' trust towards archivists.

Quickly accessing the output of information is quite useful for staff responsible for processing archival collections (Schwartz *et al.*, 2007). In addition, the availability and efficiency of staff in retrieving materials are interaction constructs for assessment in archives and special collections (Yakel and Tibbo, 2010). Similarly, in the online community, the accessibility of an information source is a prominent factor affecting its usage (O'Reilly III, 1982; Fidel and Green, 2004; Park, 2012). Information accessibility refers to the ease of information organised in a way that is accessible to participants.

Most organisations rely heavily on digital technologies to drive customer engagement (Forrester Consulting Group, 2008). Information accessibility can provide a fruitful avenue for enhancing consumer brand preferences by way of easy circulation. Good metadata and cataloguing make archives visible to users and through digitised searches, archives can be grouped together to bring integrated knowledge to citizens. Digitisation makes archives accessible to participants and through the lively presentation of multimedia, archives can increase the interest of audiences. An engagement across multiple digital platforms has demonstrated that initiatives positively influence the brand attitude of consumers. Thus, we propose the following hypothesis:

H5. Accessibility of information positively affects participants' image of the brand of archive.

IT infrastructure is capable of sustaining the interactions including trust that are necessary in a network (Baraldi and Nadin, 2006). Digitisation of products may influence consumers' intention, which is mediated by their perceived risks or trust (Biswas and Burman, 2009). From an information security perspective, the digitisation of transactions explores the notion of trust within public settings (Zissis and Lekkas, 2011). Frequent exchanges would promote mutual trust and understanding in participants and the community and IT could be deployed to support them (Johnson and Lederer, 2005). Thus, we propose the following hypothesis:

H6. Accessibility of information positively affects participants' trust towards archivists.

When consumers develop a high brand preference towards a product, they will generate high self-consciousness towards the brand and a high degree of psychological attention. They will adore and appreciate their value judgments which in turn will cause a feeling of satisfaction towards the brand. Thus, satisfaction is an important consequence with practical implications for brand providers (Li and Green, 2011). Since brand preference is an attitude towards choice which occurs when a consumer chooses to use a product or brand (Hogg and Michell, 1996), brand image is critical to satisfaction. Brand familiarity is positively related to satisfaction and individual experience (Ha and Perks, 2005). Thus, we propose the following hypothesis:

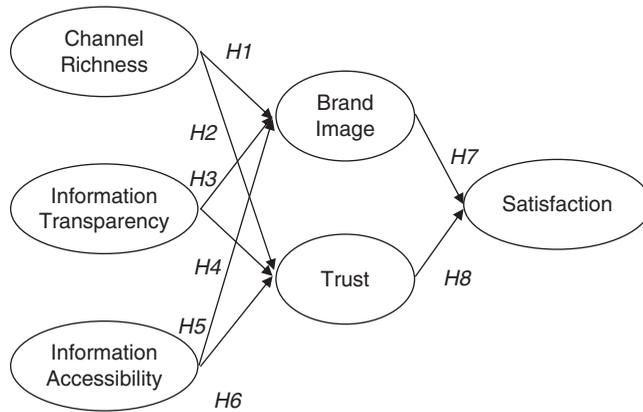
H7. Participants' image of the brand positively affects their satisfaction in the online community towards archive management.

Trust can be defined in terms of the perceived credibility and benevolence of the provider (Doney and Cannon, 1997), the willingness to rely on the provider (Morgan and Hunt, 1994), the intention to accept vulnerability based on the positive expectations of the intentions or behaviour of the provider (Rousseau *et al.*, 1998), and the extent to which there are positive expectations about the provider's motives with respect to one's self in situations entailing risk. Trust can contribute to social relationship (Johnson, 2012) and thus relates to individual satisfaction (Söderlund and Julander, 2003). Thus, we propose the following hypothesis:

H8. Participants' trust towards archivists positively affects their satisfaction in the online community towards archive management.

Therefore, this study proposes a research framework as depicted in Figure 1.

Figure 1.
Research framework



3. Research method

Since valuable records in government agencies are always retained to become archival materials, the quality of records is coherent to that of archives. Thus, the records management-archives goal of “responsible records usage and administration leading to archival preservation and administration” was then proposed (Berner, 1983). Since July 2007, the NAA in Taiwan has created an online community for professional users such as records staff and archivists including Facebook in www.facebook.com/wikiarchives, wiki in <http://wiki.archives.gov.tw>, and the electronic newspaper named “Archives Lohas” in <http://alohas.archives.gov.tw>. Long-term preservation and quality management of archives are in the interests of participants in the community. The functionality of the online community for archive management in Taiwan includes the e-papers of national archives, announcements and opinion feedback of regulation rules, e-learning materials for online education, guidelines for digitising and long-term preservation, discussion forums and fan groups on Facebook, etc. Knowledge, rules and interactions regarding archives are deployed in this online community. Participation in an online community causes participants to re-evaluate previously held notions and interpretations of preservation concepts (Knight, 2010). The focus of this paper is on the online community that describes a group of professional people who communicate and interact, develop relationship and collectively and individually seek to attain goals for suitable archive management in an IT supported virtual space.

On the basis of the proposed framework, this study identifies the specific constructs to be examined and then operationalizes them by relevant measures from prior researches. The measures used in this study are adopted from previous studies including channel richness from Johnson and Lederer (2005), information transparency from Heide and Miner (1992), information accessibility from Teo *et al.* (2003), brand image from O’Reilly and Chatman (1986), trust from Heening-Thurau *et al.* (2002) and satisfaction from Oliver (1997). Two domain experts reviewed a preliminary questionnaire and provided their evaluative feedback. Based on their suggestions, this study made several changes in wording choices and fine-tuned the language to better reach the target participants. The items used in this study are listed in the Appendix.

Training courses regarding IT and record/archive management are raised regularly by the NAA for enhancing the skill of records staff and the compliance of operations in agencies. Archivists are few in Taiwan and most participants of this online

professional community for archive management are records staff in government agencies. Therefore, this study uses records staff in agencies who are also members in the online community as the target sample. With assistance from the NAA in Taiwan, the questionnaires were delivered in the classroom to the 2,000 attendants of 20 training courses raised by the NAA for long-term preservation of electronic records and archives. Among the respondents, questionnaires from staff with experience in online community were then collected. Excluding ineffective responses where respondents have not logged on to the online community, 459 accounted for an effective response rate of 22.95 per cent. Among them, 62.75 per cent were central government agencies while the remainder were directly affiliated with the local government. Records staff in central government agencies have plenty of resources and knowledge to offer recommendations for archive management when the NAA promulgates related rules and guidelines. Variables were measured with a six-point Likert-type ranging from 1 (strongly disagree) to 6 (strongly agree). After receiving the survey data, this study used Cronbach's α to measure the reliability of the survey and structured equation modeling to explore the relationship among the variables.

4. Result and analysis

The loadings on hypothesised factors in this study are significant and substantial (all factor loadings exceeded 0.50). The measurement model of 459 responses yielded the following fit statistics: comparative fit index 0.97, normed fit index 0.95, goodness-of-fit index 0.94, adjusted goodness-of-fit index 0.91, and parsimonious goodness-of-fit index 0.66. All measures were within the acceptable range of fitness (Jöreskog and Sörbom, 1984). Therefore, there exists a causal relationship in the measurement model. Besides, the root mean square error of approximation is 0.058. This suggests that the hypothesised measurement model fits the data reasonably well.

The assessment of convergent validity is supported by the confirmatory factor analysis model. All loadings in Table I are significant ($p < 0.05$). Thus, the convergent validity holds. All composite reliability values of this study are larger than 0.50, and reveal an acceptable fit with the data (Fornell and Larcker, 1981). Table II shows the correlation coefficients between measures. All coefficients are significant ($p < 0.01$). Together, these results provide evidence that the instrument of this study exhibits appropriate convergent and discriminant validity.

Table III shows the relationships among latent constructs which support the hypotheses, thus providing initial evidence for the conceptual model presented in this study. The channel richness of the archive positively affects the participants' image of the brand of archive ($H1: \gamma = 0.24$); the channel richness of the archive positively affects the participants' trust towards archivists ($H2: \gamma = 0.27$); the transparency of the archive positively affects the participants' image of the brand of archive ($H3: \gamma = 0.39$); the transparency of the archive positively affects the participants' trust towards archivists ($H4: \gamma = 0.25$); the information accessibility of the archive positively affects the participants' image of the brand of archive ($H5: \gamma = 0.20$); the information accessibility of the archive positively affects the participants' trust towards archivists ($H6: \gamma = 0.39$); the brand image of the archive positively affects the participants' satisfaction towards archive management ($H7: \beta = 0.16$); and the participants' trust towards archivists positively affects their satisfaction towards archive management ($H8: \beta = 0.34$).

Among these influences, brand image is affected more by information transparency than by channel richness and information accessibility. Trust is affected more by information accessibility than by channel richness and information transparency.

PROG
49,1

54

Table I.
Loading and
reliability

	Loading	α	CR	AVE
<i>Channel richness</i>		0.88	0.88	0.60
Facebook for archive	0.81			
Advertisement for archive	0.79			
Plurk for archive	0.77			
Fans group for archive	0.77			
E-paper for archive	0.75			
<i>Information transparency</i>		0.77	0.75	0.66
Transparent information	0.81			
Easy information sharing	0.77			
<i>Information accessibility</i>		0.96	0.96	0.89
High-quality metadata	0.95			
High-quality catalogue	0.95			
High-quality digitisation of archive	0.92			
<i>Brand image of archive</i>		0.81	0.83	0.63
Liked to proclaim the benefit of archive	0.90			
Pleased to use archive	0.81			
Glad to utilise archive	0.65			
<i>Trust towards archivists</i>		0.91	0.91	0.84
Honest personnel	0.86			
Trustworthy personnel	0.86			
<i>Satisfaction to archive management</i>		0.81	0.80	0.67
Satisfied content of archive	0.87			
Satisfied management of archive	0.78			

Table II.
Correlation of
measures

	Richness	Transparency	Accessibility	Brand image	Trust	Satisfaction
Richness	1.00					
Transparency	0.35	1.00				
Accessibility	0.30	0.54	1.00			
Brand image	0.42	0.49	0.45	1.00		
Trust	0.42	0.47	0.58	0.50	1.00	
Satisfaction	0.41	0.33	0.26	0.29	0.34	1.00

Table III.
Model testing

Hypotheses	Coefficient	<i>p</i> -value	Testing
<i>H1</i> : channel richness→brand image	0.24	0.00	Supported
<i>H2</i> : channel richness→trust	0.27	0.00	Supported
<i>H3</i> : transparency→brand image	0.39	0.00	Supported
<i>H4</i> : transparency→trust	0.25	0.00	Supported
<i>H5</i> : accessibility→brand image	0.20	0.00	Supported
<i>H6</i> : accessibility→trust	0.39	0.00	Supported
<i>H7</i> : brand image→satisfaction	0.16	0.03	Supported
<i>H8</i> : trust→satisfaction	0.34	0.00	Supported

In addition, the participants' satisfaction towards archive management is affected more by trust than by brand image.

5. Conclusions and implications

Effective strategic planning is crucial to facilitating cohesive and coordinated responses to ever changing contexts including libraries, archives and other repositories (Buchanan and Cousins, 2012). The existence of a community for enhancing professional efficacy is therefore critical for the management of archives. The rapid growth in the use of e-mail and other forms of computer-mediated communication has led to questions about the circumstances under which people use these media for information exchange (Palvia *et al.*, 2011). Government agencies have shifted in the past decades from being process-centric towards a greater service-based orientation, and thus, satisfaction management has become an important element of their objectives. Satisfaction is a key to human behaviour and fulfillment response (Oliver, 1997). Participants' satisfaction relates to their incentives and loyalty in the online community. Therefore, the goal of this study is to investigate the critical factors from information richness to the satisfaction of participants in an online community towards archive management. The effects gained from channel richness, information transparency, information accessibility, trust and brand image are therefore discussed below.

5.1 *The effect of channel richness, information transparency and information accessibility*

Online service users obtain virtual values created through the use of online technologies or services. Several studies have categorised different online values: ubiquity, flexibility, entertainment, dissemination, accessibility and the like (Chung and Kwon, 2009). Under the benefits of online services, variables are involved which affect online users' trust and brand image. The channel richness of social media renders rich information and is critical in sharing experience and knowledge in the community. There exists hundreds of millions of users in Facebook and its Chinese version which was released in 2008. Such social media generate a totally different relationship among participants in comparison to in the era of telephone calls and hand-written letters. Therefore, using these media broadly for internet marketing is helpful in enhancing partnerships in the community. These efforts are also useful for experience sharing and thus generate mutual understanding and trust.

In the online community, supporting the visibility of the symbolic nature of reciprocity is a primary challenge (Pelaprat and Brown, 2012). Information transparency in this study is significant for maintaining the brand image of archives and trust towards archivists in the community. As the authoritative agency delegated by the Archives Act, the NAA is charged with training staff in agencies and promoting the usage of archival materials. Transparent descriptions can trigger brain activation, thereby identifying an important antecedent of the trustworthiness that the internet offers (Riedl *et al.*, 2010). Officers encourage staff to interact with each other and exchange knowledge for the long-term preservation of records in agencies. Moreover, the sharing of empirical experience exists among records staff and archivists in the online community. In addition to auditing and supervision, the NAA also tries to communicate and cooperate with the records management staff in agencies. The needs and difficulties of records and archives faced in reality are thus organised and solved by the records staff and archivists together. Through the sharing of a vision, a sense of responsibility and accountability will be created in the community. Thus, brand image and trust in the professional archive community might increase.

Information accessibility significantly affects the brand image and trust in the community as well. The quality of the recording of metadata, classification and the digitisation of records will significantly affect the participants' perception and devotion. Before retrieval, archives should be searched for and collected in carts for access. A high quality of metadata can link archives entirely, while a high quality of classification makes searches easier, and finally, a high quality of digitisation can make archives easy to access and more valuable for creative innovation. However, the cataloguing and classification of archives are closely connected to the experience of staff who need to be trained and educated through the experience sharing in the community. The value of archives comes from their usage. A high accessibility of the archive confers the participants' trust in the archivists. This study confirmed that sufficient resources must be devoted to the cataloguing and digitisation of records to ensure quality to promote the brand image of the archive and trust in the archivists.

Before 2005, archives were confidential and could not be freely accessed by citizens in Taiwan. After the promulgation of the Information of Freedom Act, information accessibility has demonstrated a critical role in rendering trust among archivists while information transparency plays another important role in building the brand image of archives. Thus, the larger the amount of information exchanged, the more the trust among participants and the better brand image of the archives.

5.2 The mediating effect of trust and brand image

An online community does not imply friendship or kinship (Pelaprat and Brown, 2012). However, aggregated trustworthiness helps explain the success of online platforms (Jessen and Jorgensen, 2012). Records staff in agencies should follow the regulations and guidance from the NAA to fulfill the requirements of preservation before transferring them to become archival materials in the future. In this study, trust and brand image have been considered as mediating factors in the relationship between information richness and satisfaction in archive management. We confirmed Fishbein and Ajzen's (1975) theory of reasoned action, which suggests that cognitive variables (e.g. perceived information) result in cognitive outcomes (e.g. satisfaction). Our findings indicate that trust and image can play a crucial mediating role in the relationship between perceived value (richness of information) and satisfaction.

The quality of archive management may be reflected by the participants' satisfaction in this online community. Therefore, an incentive mechanism with trust and social image drives the opportunity to earn the participants' satisfaction. The study confirmed that trust and brand image in the community has a significant impact on the satisfaction of participants. These days, the importance of records and archives is becoming more and more emphasized. Regarding records management, the number of staff is increasing, while in Taiwan, manpower is younger than before. The establishment of brand image among participants in the community signifies the building of a sense of honour regarding the brand of archive management. As a result, archive management is no longer a transactional job but a career with valuable respect, a symbol of a fair and credible profession, which induces satisfaction. Thus, the more trust and brand image exists among participants, the more satisfaction they will obtain from archive management.

5.3 Managerial implications

Archives should be improved not only in terms of the completeness of planning, but also in terms of its specificity and consistency of services (Buchanan and Cousins,

2012). A central tenet of the principle of interactivity is that human communication processes and outcomes are expected to vary as a function of the degree of interactivity afforded and/or experienced. This is particularly timely given the continued emergence of richer, multimodal means of communication on the internet, which appear to be driven by the desire to replicate characteristics of face-to-face interaction (Ramirez and Burgoon, 2004).

In establishing the groundwork for managing archival materials, archivists need to take an integrated approach to the management of electronic records with records staff as a community. From an InterPARES project report, within the traditional life-cycle approach, the archivist is positioned at the end of a process, and, as a passive role, acts as keeper for selected “permanent” materials. The split between the records management and the archival phases of recordkeeping is no longer an acceptable alternative, since it is no longer sufficient to exclude archivists from an active role in the process of data or information management (Eastwood, 2000). Perhaps by far the greatest concern of archivists has been about records and information management practices as they relate to the electronic environment. By the late 1980s and early 1990s, archivists were beginning to see that their attempts to integrate electronic records management into the traditional pattern of records inventory, accessioning, preservation and reference were not working, for a variety of reasons not necessarily associated with the applicability of those patterns. The most pressing issues facing electronic records today are not narrowly technical and methodological but broad programme development and information management issues (Eastwood, 2000) regarding which participants may pick up creative ideas from the online community.

Users’ perceptions and behaviour in the online environment are an integral component of the information management approach to enhance an organisation’s effectiveness. This has the potential to stimulate the exploration of new directions, along the lines used by professional managers for quality improvement, and for archivist to lead their agencies to become successful in improving both satisfaction and service results. A certain amount of effort should be put into records to assure the authenticity, integrity and accessibility of the records and archives (MacNeil, 2000), especially under the concept of records continuum. A community of records was defined as “the aggregate of records in all forms generated by multiple layers of actions and interactions between and among the people and institutions within a community” (Evans *et al.*, 2005). Records staff are responsible for records management in agencies while archivists are responsible for transferred records, i.e. archives. Both the professions of records management and archives, while distinct, surely are working towards the same objective: the effective management of recorded information through all stages of the continuum, from creation to disposal. Through online media, the professional suggestions from records staff could be shared among professional users or sent to archivists for archive management. Archivists can propose appropriate procedures to records staff for records management in government agencies. Effective management of recorded information requires ongoing cooperative interaction between records staff and archivists in order to ensure the creation of the right records, that they contain the right information, that the records are organised to facilitate their availability, and that they are made available promptly to those who have a right and a requirement to see them. Therefore, the greater the amount of information exchanged in the online community, the greater the trust, brand image and satisfaction. Records staff may recognise their identity as one.

This study established a theoretical basis that can assist the management of an online community for achieving the goal of satisfaction with professional assistance.

Particular concerns exist about the ability to access and read electronic records over time, since the rapid pace of change in IT can make the software used to create the records obsolete, leaving the records unreadable. A considerable amount of research is being undertaken to address this, under the heading of digital preservation. The Public Record Office Victoria published the Victorian Electronic Records Strategy which includes a standard for the preservation, long-term storage and access to permanent electronic records. Digital archives have been established by many governments to enable the general public to access permanent records. Further researches could focus on the deployment of knowledge interaction and context with the digital archives in the online community.

References

- Aryee, S., Budhwar, P.S. and Chen, Z.X. (2002), "Trust as a mediator of the relationship between organizational justice and work outcomes: test of a social exchange model", *Journal of Organizational Behavior*, Vol. 23 No. 3, pp. 267-285.
- Baraldi, E. and Nadin, G. (2006), "The challenges in digitalising business relationships. The construction of an IT infrastructure for a textile-related business network", *Technovation*, Vol. 26 No. 10, pp. 1111-1126.
- Berner, R.C. (1983), *Archival Theory and Practice in the United States: A Historical Analysis*, University of Washington Press, Seattle, WA.
- Biggiero, L. (2006), "Industrial and knowledge relocation strategies under the challenges of globalization and digitalization: the move of small and medium enterprises among territorial systems", *Entrepreneurship & Regional Development*, Vol. 18 No. 6, pp. 443-471.
- Biswas, D. and Burman, B. (2009), "The effects of product digitalization and price dispersion on search intentions in offline versus online settings: the mediating effects of perceived risks", *Journal of Product & Brand Management*, Vol. 18 No. 7, pp. 477-486.
- Buchanan, S. and Cousins, F. (2012), "Evaluating the strategic plans of public libraries: an inspection-based approach", *Library & Information Science Research*, Vol. 34 No. 2, pp. 125-130.
- Chung, N. and Kwon, S.J. (2009), "Effect of trust level on mobile banking satisfaction: a multi-group analysis of information system success instruments", *Behaviour & Information Technology*, Vol. 28 No. 6, pp. 549-562.
- DJS Research Ltd (2008), "National Archives Onsite Visitor Satisfaction Survey", available at: www.nationalarchives.gov.uk/documents/onsite-user-satisfaction-survey-results-october-2008.pdf (accessed 20 November 2013).
- Doney, P.M. and Cannon, J.P. (1997), "An examination of the nature of trust in buyer-seller relationships", *Journal of Marketing*, Vol. 61 No. 2, pp. 35-51.
- Duranti, L. (2010), "Concepts and principles for the management of electronic records, or records management theory is archival diplomatics", *Records Management Journal*, Vol. 20 No. 1, pp. 78-95.
- Duranti, L. (2012), "Records in the cloud: towards inter pares trust", *Fondazione Rinascimento Digitale Conference: Cultural Heritage On Line, Trusted Digital Repositories & Trusted Professionals, Florence, 11-12 December*.
- Eastwood, T. (2000), "Appraisal of electronic records: a review of the literature in English", available at: www.interpares.org/book/interpares_book_1_app03.pdf (accessed 10 November 2013).
- Evans, J., McKemmish, S. and Bhoday, K. (2005), "Create once, use many times: the clever use of recordkeeping metadata for multiple archival purposes", *Archival Science*, Vol. 5 No. 1, pp. 17-42.

- Fenton, C. (2007), "Finding the way: improving access to the collections of the royal scottish geographical society", *Program: Electronic Library and Information Systems*, Vol. 41 No. 4, pp. 353-364.
- Fidel, R. and Green, M. (2004), "The many faces of accessibility: engineers' perception of information sources", *Information Processing & Management*, Vol. 40 No. 3, pp. 563-581.
- Fishbein, M. and Ajzen, I. (1975), *Beliefs, Attitude, Intention and Behavior: An Introduction to Theory and Research*, Addison-Wesley, Boston, MA.
- Fornell, C. and Larcker, D.F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18 No. 1, pp. 39-50.
- Forrester Consulting Group (2008), *How Engaged Are Your Customers?*, Forrester Research Inc., Cambridge, MA.
- Fortier, N. (2005), "Transparency, compliance, and accountability: developing a knowledge infrastructure for macroappraisal at library and archives Canada", *Archival Science*, Vol. 5 Nos 2-4, pp. 343-360.
- Fulk, J., Flanagin, A.J., Kalman, M.E., Monge, P.R. and Ryan, T. (1996), "Connective and communal public goods in interactive communication systems", *Communication Theory*, Vol. 6 No. 1, pp. 60-87.
- Füller, J., Mühlbacher, H., Matzler, K. and Jawecki, G. (2009), "Consumer empowerment through internet-based co-creation", *Journal of Management Information Systems*, Vol. 26 No. 3, pp. 71-102.
- Fung, T.K.F. (2008), "Banking with a personal touch: examining the impact of website customization on commitment", *Journal of Electronic Commerce Research*, Vol. 9 No. 4, pp. 296-309.
- Gilliland-Swetland, A.J. and Eppard, P.B. (2000), "Preserving the authenticity of contingent digital objects: the inter pares project", *D-Lib Magazine*, Vol. 6 Nos 7/8, available at: www.dlib.org/dlib/july00/eppard/07eppard.html (accessed 23 March, 2013).
- Ha, H.Y. and Perks, H. (2005), "Effects of consumer perceptions of brand experience on the web: brand familiarity, satisfaction and brand trust", *Journal of Consumer Behaviour*, Vol. 4 No. 6, pp. 438-452.
- Heening-Thurau, T., Gwinner, K.P. and Dwayne, D.G. (2002), "Understanding relationship marketing outcomes", *Journal of Service Research*, Vol. 4 No. 2, pp. 230-247.
- Heide, J.B. and Miner, S. (1992), "The shadow of the future: effects of anticipated interaction and frequency of contact on buyer-selling cooperation", *Academy of Management Journal*, Vol. 35 No. 6, pp. 265-291.
- Hogg, M.K. and Michell, P.C.N. (1996), "Identity, self and consumption: a conceptual framework", *Journal of Marketing Management*, Vol. 12 No. 7, pp. 629-644.
- Jessen, J. and Jorgensen, A.H. (2012), "Aggregated trustworthiness: redefining online credibility through social validation", *First Monday*, Vol. 17 No. 1, available at: <http://firstmonday.org/ojs/index.php/fm/article/view/3731/3132> (accessed 23 March, 2013).
- Johnson, A.M. and Lederer, A.L. (2005), "The effect of communication frequency and channel richness on the convergence between chief executive and chief information officers", *Journal of Management Information Systems*, Vol. 22 No. 2, pp. 227-252.
- Johnson, C.A. (2012), "How do public libraries create social capital? An analysis of interactions between library staff and patrons", *Library & Information Science Research*, Vol. 34 No. 1, pp. 52-62.
- Jöreskog, K.D. and Sörbom, D. (1984), *Analysis of Linear Structural Relationship by Maximum Likelihood*, Scientific Press, Chicago, IL.

- Kankanhalli, A., Tan, B.C.Y. and Wei, K.K. (2005), "Contributing knowledge to electronic knowledge repositories: an empirical investigation", *MIS Quarterly*, Vol. 29 No. 1, pp. 113-143.
- Kanter, R.M. (1972), *Commitment and Community: Communes and Utopias in Sociological Perspective*, Harvard University Press, Cambridge, MA.
- Kerrigan, F. and Graham, G. (2010), "Interaction of regional news-media production and consumption through the social space", *Journal of Marketing Management*, Vol. 26 Nos 3/4, pp. 302-320.
- Knight, S. (2010), "Early learnings from the national library of New Zealand's national digital heritage archive project", *Program: Electronic Library and Information Systems*, Vol. 44 No. 2, pp. 85-97.
- Li, M.L. and Green, R.D. (2011), "A mediating influence on customer loyalty: a role of perceived value", *Journal of Management and Marketing Research*, Vol. 7 No. 1, pp. 1-12.
- McWilliam, G. (2000), "Building strong brands through online communities", *Sloan Management Review*, Vol. 41 No. 4, pp. 43-54.
- Ma, M. and Agarwal, R. (2007), "Through a glass darkly: information technology design, identity verification, and knowledge contribution in online communities", *Information Systems Research*, Vol. 18 No. 1, pp. 42-67.
- MacNeil, H. (2000), *Trusting Records: Legal, Historical and Diplomatic Perspectives*, Kluwer Academic Publishers, London.
- MacNeil, H. (2004), "Contemporary archival diplomatics as a method of inquiry: lessons learned from two research projects", *Archival Science*, Vol. 4 Nos 3-4, pp. 199-232.
- MacNeil, H. (2011), "Trust and professional identity: narratives, counter-narratives and lingering ambiguities", *Archival Science*, Vol. 11 Nos 3-4, pp. 175-192.
- Meng, X. and Cao, Y. (2009), "Analysis and counter measures of China's network marketing", *International Journal of Marketing Studies*, Vol. 1 No. 1, pp. 58-61.
- Molm, L.D. (1997), *Coercive Power in Social Exchange*, Cambridge University Press, Cambridge.
- Morgan, R.M. and Hunt, S.D. (1994), "The commitment-trust theory of relationship marketing", *Journal of Marketing*, Vol. 58 No. 3, pp. 20-38.
- O'Reilly, C.A. III (1982), "Variations in decision makers' use of information sources: the impact of quality and accessibility of information", *Academy of Management Journal*, Vol. 25 No. 4, pp. 756-771.
- O'Reilly, C.A. III and Chatman, J. (1986), "Organizational commitment and psychological attachment: the effect of compliance, identification, and internalization on prosocial behaviour", *Journal of Applied Psychology*, Vol. 71 No. 3, pp. 492-499.
- Oliver, R.L. (1997), *Satisfaction: A Behavioral Perspective on the Customer*, Irwin/McGraw-Hill, New York, NY.
- Palvia, P., Pinjani, P., Cannoy, S. and Jacks, T. (2011), "Contextual constraints in media choice: beyond information richness", *Decision Support Systems*, Vol. 51 No. 3, pp. 657-670.
- Park, S.J. (2012), "Measuring public library accessibility: a case study using GIS", *Library & Information Science Research*, Vol. 34 No. 1, pp. 13-21.
- Pelaprat, E. and Brown, B. (2012), "Reciprocity: understanding online relations", *First Monday*, Vol. 17 No. 10, available at: <http://firstmonday.org/ojs/index.php/fm/article/view/3324/3330> (accessed 23 March, 2013).
- Ramirez, A. Jr and Burgoon, J.K. (2004), "The effect of interactivity on initial interactions: the influence of information valence and modality and information richness on computer-mediated interaction", *Communication Monographs*, Vol. 71 No. 4, pp. 422-447.
- Reichheld, F. and Scheffer, P. (2000), "E-loyalty: your secret weapon on the web", *Harvard Business Review*, Vol. 78 No. 4, pp. 105-114.

- Riedl, R., Hubert, M. and Kenning, P. (2010), "Are there neural gender differences in online trust? An fMRI study on the perceived trustworthiness of ebay offers", *MIS Quarterly*, Vol. 34 No. 2, pp. 397-428.
- Rinehart, R. (2003), "MOAC – a report on integrating museum and archive access in the online archive of California", *D-Lib Magazine*, Vol. 9 No. 1, available at: www.dlib.org/dlib/january03/rinehart/01rinehart.html (accessed 23 March, 2013).
- Rousseau, D.M., Sitkin, S.N., Burt, R.S. and Camerer, C. (1998), "Not so different after all: a cross-discipline view of trust", *Academy of Management Review*, Vol. 23 No. 3, pp. 393-404.
- Schwartz, S.W., Prom, C.J., Rishel, C.A. and Fox, K.J. (2007), "Archon: a unified information storage and retrieval system for lone archivists, special collections librarians and curators", *Partnership: The Canadian Journal of Library & Information Practice & Research*, Vol. 2 No. 2, pp. 1-17.
- Sexton, A., Turner, C., Yeo, G. and Hockey, S. (2004), "Understanding users: a prerequisite for developing new technologies", *Journal of the Society of Archivists*, Vol. 25 No. 1, pp. 33-49.
- Shoemaker, R. (2005), "Digital London: creating a searchable web of interlinked sources on eighteenth century London", *Program: Electronic Library and Information Systems*, Vol. 39 No. 4, pp. 297-311.
- Söderlund, M. and Julander, C.R. (2003), "The variable nature of services: an empirical examination of trust and its effects on customers' satisfaction responses to poor and good service", *Total Quality Management*, Vol. 14 No. 3, pp. 291-304.
- Sorensen, J.A., Jenkins, P.L., Emmelin, M.E., Stenlund, H.S., Weinehall, L.W., Earle-Richardson, G.B. and May, J.J. (2011), "The social marketing of safety behaviors: a quasi-randomized controlled trial of tractor retrofitting incentives", *American Journal of Public Health*, Vol. 101 No. 4, pp. 678-684.
- Teo, H.H., Chan, H.C., Wei, K.K. and Zhang, Z. (2003), "Evaluating information accessibility and community adaptivity features for sustaining virtual learning communities", *International Journal of Human-Computer Studies*, Vol. 59 No. 5, pp. 671-697.
- Toms, E.G. and Duff, W. (2002), "I spend 1 1/2 hours sifting through one large box [...]: diaries as information behavior of the archives users: lessons learned", *Journal of the American Society for Information Science and Technology*, Vol. 53 No. 14, pp. 1232-1238.
- Upward, F., McKemish, S. and Reed, B. (2011), "Counterpoint: archivists and changing social and information spaces: a continuum approach to recordkeeping and archiving in online cultures", *Archivaria*, Vol. 72 No. 1, pp. 197-238.
- Welch, E.W., Hinnant, C.C. and Moon, M.J. (2005), "Linking citizen satisfaction with e-government and trust in government", *Journal of Public Administration Research & Theory*, Vol. 15 No. 3, pp. 371-391.
- Yakel, E. and Tibbo, H. (2010), "Standardized survey tools for assessment in archives and special collections", *Performance Measurement and Metrics*, Vol. 11 No. 2, pp. 211-222.
- Yeo, G. (2005), "Understanding users and use: a market segmentation approach", *Journal of the Society of Archivists*, Vol. 26 No. 1, pp. 25-53.
- Zissis, D. and Lekkas, D. (2011), "Securing e-government and e-voting with an open cloud computing architecture", *Government Information Quarterly*, Vol. 28 No. 2, pp. 239-251.

Appendix. Question items used in this study

Channel richness

- CR-1 Facebook is good for building the online community of archive.
- CR-2 Advertisement on the Internet can enlarge the visibility of archive.
- CR-3 Plurk is good for building the online community of archive.

CR-4 Fans group is good for building the online community of archive.
CR-5 E-paper is good for building the online community of archive.

Information transparency

IT-1 The information of archive is transparent to the public.

IT-2 I can get and share the information of archive easily.

Information accessibility

IA-1 The quality of metadata of archive is good to me.

IA-2 The quality of catalogue of archive is good to me.

IA-3 The digitisation of archive is good to me.

Brand image of archive

BI-1 I like to proclaim the benefit of archive.

BI-2 I am pleased to use the archive.

BI-3 I am glad to utilise the archive.

Trust towards archivists

TA-1 Archivists are honest.

TA-2 Archivists are trustworthy.

Satisfaction to archive management

SA-1 I am satisfied to the content of archive.

SA-2 I am satisfied to the management of archive.

About the authors

Fang-Ming HSU is a Professor of Department of Information Management at the National Dong Hwa University, Taiwan. He is also a member of the committee of evaluation for Gold Archive Award in Taiwan Government. His areas of interest include archives management, information management and knowledge management. He received his BS and MS Degrees in Computer Science and PhD Degree in Management Science from the National Chiao Tung University, Taiwan. He has published articles covering technology management and information management in publications such as *Technovation, Journal of the American Society for Information Science and Technology, IEEE Intelligent Systems, Evaluation and Program Planning, International Journal of Technology Management, Service Industry Journal, Electronic Library, and Energy Policy*. He received a National Science Council Research Award in 1999. Professor Fang-Ming HSU is the corresponding author and can be contacted at: fmhsu@mail.ndhu.edu.tw

Tser-Yieth Chen is a Professor of Graduate Institute of International Business at National Taipei University, Taiwan. He received the PhD Degree from the National Chiao Tung University, Taiwan. His research interests include customer relationship management and R&D management.

Dr Chiu-Tsu Fan is an Assistant Professor of Department of Business Administration at the Tungnan University, Taiwan. She received the PhD Degree from the National Dong Hwa University, Taiwan. Her research interests include strategic management and finance management.

Chun-Min Lin is a PhD Candidate of Department of Information Management at the National Dong Hwa University, Taiwan. His research interests include information management and data mining.

Dr Chu-Mei Chiu is a PhD Candidate of Department of Information Management at the National Dong Hwa University, and the Deputy Director of Archival Information Systems Division of National Archives Administration, Taiwan. Her research interests include records management and digital archives.

For instructions on how to order reprints of this article, please visit our website:

www.emeraldgroupublishing.com/licensing/reprints.htm

Or contact us for further details: permissions@emeraldinsight.com