

Information Quality in Organization for Better Decision-Making

Nor Athirah Azemi, Hazlifah Zaidi and Norhayati Hussin

Faculty of Information Management, University Technology of Mara, UiTM Selangor, Malaysia

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ABSTRACT

Information quality is an important aspect in information management as it will determine the quality of information that is produced and develop in an organization. The high quality of information produced can improved the process making process as well as it can become a competitive advantage for the organization. In order to improve the quality of information within the organization, the information audit should be implemented and develop. Information audit is a process to identify the existing information available within the organization, the location of the information exist, the user, the cost and effect of the information. The used of information audit will improve the quality of the information produced. However, there are some issue related to the information quality that should be settled in order to improve the quality of information produce in the organization.

Keyword: Information quality, Information audit, Concept of information quality

INTRODUCTION

As Malaysia has driven towards knowledge economy country, information has become asset to be used as competitive resources in most organizations. Data and information has become as much a strategic necessity for an organization's well-being and future success as oxygen to human life (Eckerson, 2002). The capability and maturity of an organization to manage the quality of its information can mean the difference between success and failure. Information quality is becoming the competitive advantage for many companies. Information is shared amongst various decision makers within organization and between supply chain partners not only to bench-mark, amend, or formulate competitive strategies but also to control day to day operations and to solve problems on real-time basis (Al-Hakim, 2003). Small percentages of improvement of data quality may affect the result. For example, in business and finance, the improvement in data quality when applied to millions of transaction can add significantly to the bottom line. Experience also has indicated that decision making based on incomplete, outdated or inconsistent information might result to the bad events. Poor information quality is not only prevalent in manufacturing and service organization; it can also be at the root of many issues of national and international importance which dominate the news (Redman, 2004). According to Hu *et al.* (1998), information quality has become the first issue a knowledge worker faces in today's environment, due to the deficiency of quality measurement for the information and the high noise-to-signal ratio of non-essential content in knowledge repositories. They also mentioned that the customer Knowledge Management process cannot succeed without serious

effort to ensure the quality of data, where unoccupied fields in records will always be found; errors in data entry are quite common; and data from different databases becomes out of sync over time.

Information audit is basically related to information quality. Both term for information quality and information audit are define as below:

Information Quality

Information quality has been defined in several ways in prior literature and has shown to have varying effects on the information consumer. Operationally, information quality is information that is good, useful, current, and accurate (Rieh, 2002). According to Holmes Miller Muhlenberg College Allentown (n.d), the meaning of information quality lies in how the information is perceived and used by its customer.

Kinney (2000) has defined information quality as degree to which

- (a) Measurement methods used to prepare information can represent what a decision maker wants to know (information relevance) and
- (b) The stated methods have been competently applied and results truthfully displayed (information reliability or credibility)

Paul Lillrank (2003) explores the information quality as the successful received what is the sender's intended to deliver information to receiver. The expectation is the receiver understood the communication is about. Otherwise, it is not a good of quality information.

Information Audit

A systematic evaluation of information use, resources and flows, with verification by reference to both people and existing documents in order to establish the extent to which they are contributing to an organization's objectives(Aslib or Association for Information Management in the UK).

Swash (1997) mentioned in his research that the main purpose of the information audit is to pinpoint what information exists within the organization, where it is located, who uses it, at what cost and to what effect. He stressed out it is essential component that information audit required co-ordinated and clear approaches for which the help and support of senior management, as the result could have a possible impact on the entire organization. Without support and co-operation from personnel, the information audit project will not succeed.

An information audit not only started preferably at corporate level, but related also to any substantial accounting unit such as a specialist division, allows the resources devoted to information to be mapped, analyzed, costed and rationalized (Dubois, 1995).

CONCEPT OF INFORMATION QUALITY

According to Tom Redman (n.d.), information quality is a new model to many organizations. The quality of the information produced becomes increasingly important with the increase in data collection and storage in an organization, and the drawing out of that data for business usages. In his article also stated that bad information can lead an organization to spend

resources on ineffective projects, but with the quality information will assist in identify needs, direct targeted services and create effectiveness in daily work. Clearly, this is an area worth close attention (The Wheel, n.d.).

The major purpose of the information audit defined by Swash (1997) is to identify what information exists within the organization, where it exist in, who uses it, at what cost and to what outcome. In managing information quality, there are four groups of quality identified by Huang et. al (1999), intrinsic quality, accessibility quality, contextual quality, and representational quality.

- *Intrinsic quality*
This kind of quality as defined by Huang et. al (1999), quality of information that contain accuracy of data, believability of data, and reputation of the data. Lee and Levy (2014) defined intrinsic quality is that data have quality in their own right.
- *Accessibility quality*
Accessibility quality of information is related to the accessing of information and the security. This kind of quality highlights the importance of the role of the data and system, and it describes how the data and information are reachable and how understandable online information is (Lee & Levy, 2014).
- *Contextual quality*
This contextual quality is information that has relevancy, value-added, timeliness, completeness and the amount of data. Lee and Levy (2014) pointed out the requirement that quality of information must be considered in the context of the task at hand. Completeness allows users to use of the data for many more purposes and assuring the data and information must be updated (The Wheel, n.d.).
- *Representational quality*
This kind of information quality is information that is interpretability, ease of understanding by receiver, concise representation for delivering, and consistent representation. In consistency of data, the data entered in a uniform manner and it permits for less complex retrieval of information from a database (The Wheel, n.d.). Representational information quality consists of the formatting of the data and the meaning of the data. Such features may include constant representation and simplicity of understanding (Lee & Levy, 2014).

When information is used to connect and exchange ideas, it is essential that the information can be trusted, meaning typically that it is of good quality (Jens-Erik Mai, 2013). It's been said that 'if you can't measure it, you can't manage it.' This grasps true with information as with people. In trying to develop the existing of quality data, first thing first must measure the existing quality.

Come out with concept of information quality (The Wheel, n.d.);

Data ⇔ Information ⇔ Knowledge ⇔ Action ⇔ Results

The article explained that data collected at an outreach occasion is taken back to an organization and deposited. Later, that data is retrieved, and on the basis of which a course of action is chosen which results in a given end result.

IMPLEMENTATION OF INFORMATION AUDIT TO MAINTAIN INFORMATION QUALITY IN THE ORGANIZATION

Throughout the years, information audit process has been promoted as a means of identifying the information needs of an organization and meets the demands of available services and resources in the organization. An information audit can be define as 'a systematic evaluation of information use, resources and flows, with a verification by reference to both people and existing documents in order to establish the extent to which they are contributing to an organization's objectives'. Although there is no universally accepted definition of an information audit, this definition adopted by Aslib, the Association for Information Management in the UK is the most appropriate as it incorporates the critical elements of 'information use' and 'people' (Orna, 1999 p69).

Information is not only in forming of printed; it can be in any form and from various medium. Since nowadays technologies are everywhere and information can be accessed easily, therefore the need for information audit in order to acquire the information quality is needed to achieve organization's goals. Swash (1997) mentioned that valuable and useful information, does not, however, exist only in the form of databases; it exists in filing cabinets and in the analytical skills and proficiencies of company authorities. As information is about markets and competitors in both published and unpublished forms, it also exists externally.

According to Henczel (2000) an information audit is a process used to -

- Identify the information needs of the organization and assign a level of strategic importance to those needs
- Identify the resources and services currently provided to meet those needs
- Map information flows within an organization and between an organization audits external environment
- Analyze gaps, duplications, inefficiencies and areas of over-provision that enables the identification of where changes are necessary

An information audit not only counts resources but also identify how they are used, by whom and the purpose of the used. The information audit process enables the mapping of information flows within internal and external parties of an organization. Besides identifying efficient flows, it also identifies gaps, duplications, bottlenecks inefficiencies in existing flows. Existing channels that can be utilized for knowledge-transfer and areas of the organization where there is a need for high quality knowledge that isn't being met can also be identify through information audit.

In assuring the quality of information, the information audit will take place and it is not individual effort only, but together with the other personnel. To achieve maximum benefit, the information audit should be an organization-wide activity, although some benefits can also be expanded from audits conducted from a smaller scale, perhaps at departmental and unit level (Swash, 1997).

Thus, it can be concluded that information audit is a crucial process to develop and maintain the information quality in an organization as information audit can determine the quality of information produced and available within the organization.

ISSUES OF INFORMATION QUALITY

It is broadly recognized that the availability of quality information plays a critical role in the success of firms (Hartono et al., 2010). Firms which have learned to react to information have a better understanding of their internal operations (Gorla et al., 2010). There are three factors that influence information quality; the perception of the user, the information itself, and the process of retrieving the information (Knight & Burn, 2005).

However, to contribute to a firm's performance information must be good quality and support decision making in those business processes whose results add value to the firm (Davis and Golicic, 2010). Even though the organization has introduced the information quality practices in their routine, there are some issues that should be highlighted in order to ensure the successfulness of the information management practices in their organization. The issue in information quality might consist of:

- *Too Much Information* (Strong et al., 1997)
Large volumes of information available and stored make it difficult to access for the right information at the right time. This situation might lead to information explosions that cause too much information. Excess time is required to extract and summarize those needed information accordingly. At the operational level, poor data has been found to positively relate to customer dissatisfaction, increased cost and lowered employee job satisfaction (Redman, 1995). At the tactical level, poor information quality compromises decision making (Redman, 1995).
- *Security and privacy requirements* (Strong et al., 1997)
Despite the easy access to information, conflict may occur regardless of requirements for security, privacy, and confidentiality. Limited access to the organization's information might affect the workers' performance as they cannot access the needed information at the needed time. However, the open access might lead to uncontrolled use of information as well as will harm the organization's asset. Organization should provide mechanisms for security block or delay access, so the information security can be guaranteed.
- *Lack of computing resources* (Strong et al., 1997)
The information communication technology (ICT) infrastructure such as computer, network or databases storage is insufficient. This might limit the access to the ready information available in the organization. The workers will feel demotivated as they

cannot access to the readily information. This might also reduce the worker's productivity as they can't make the decision making process because of lack of information. Improvement in information quality can inevitably lead to productivity improvements which lead to improved competitive position (Schwester, 2009; Golderet al., 2012).

- *Inadequate information management* (Swash, 1997)

The weaknesses arising from poor or inadequate information management are commonly noticeable in the failures of company workers to respond to intelligence in a timely way, in the repetition of effort which results in the reproduction of the same or similar data by more than one department for largely parallel purposes and in failures to exploit information which is already available in the corporate library or in the public domain because of a lack of responsiveness that it indeed already happens.

RECOMMENDATIONS

We are living in a technological age with knowledge workers and information factories, which receive input from external information resource, analyze and manage that contribute for the creation of new knowledge. Hence, the quality of information is critical for the success of the firm's business. Pugsley et al. (2000) supported this in their study showing that an economy-based knowledge emerging with information is essential for any ongoing organization. Thus, it shows the importance of information quality to establish and main the competitive advantage of any organization. Sauvage (2003) claimed that to fully satisfy the diversifying requirements of customer, many companies had improved their service efficiency by improving the quality of information. However, in order to achieve this, the organization should highlight some of the related issue to overcome the barriers.

- Analyze information needs; develop regular, frequently extracted subsets of relevant information. Fuld (1998) warned companies of the dangers of old data and irrelevant information and noted that poor information quality on the chain can create impact to firm's business performance. The specific benefits of sharing high-quality information include increased productivity, improved decision making, reduced costs, increased revenues and integrated services (Gil-Garcia *et al.*, 2007).
- Develop consistent policies and procedures for secure information. Improvements in information quality positively affect organization's business process and performance (Lee and Levy, 2014).
- Develop technology upgrade policies so consumers know when to expect more resources. Chapman, Soosay, and Kandampully (2003) suggested that companies should pay more attention to information quality and the quality of information can only be implemented through technology, knowledge, and relationship networks.
- Hired authorize or expertise staff in order to search and acquire the valuable and useful information needed. Information overload leads personnel in acquiring the wrong and unwanted information and data. The total effort required to seek through, adapt and evaluate huge volumes of internal and external data is causing executives to suffer from information overload and stress. This process required the

expertise to have list of fundamental questions to be asked about the nature of the information being acquired, by whom, how it is processed and with what results (Swash, 1997) in order to acquire the accurate, relevant, valuable and useful information for the organization and in decision making. He also stress that an audit team can be formulated either as an internal project group or by representation on the expertise of external consultants.

CONCLUSION

Organization has become more and more depends to information. It is broadly recognized that the availability of quality information plays a critical role in the success of firms (Hartono et al., 2010). An information audit will increase the organization's understanding on their assets as how they may works with regard to information and consequently with regard to knowledge. The information audit will identify the information needs as well as identify the information resources that contribute to business objectives and establish a foundation from which to develop a policy to coordinate and manage their organization's knowledge assets (Henczel, 2000).

Firms which have learned to react to information have a better understanding of their internal operations (Gorla et al., 2010). However, to contribute to a firm's performance information must be good quality and support decision making in those business processes whose results add value to the firm (Davis and Golicic, 2010). Poor information quality dispels efforts and production capacity and causes rework, each of which can impede productivity, incur extra cost and may damage the image and reputation of an organization (Redman, 1998). Poor information quality also impacts government organizations in other many levels (Redman, 1998). In identifying the excellent of information quality ad information audit, a substantial amount of research is needed to develop meaningful tools to analyze the quality of information (Lillrank, 2003).

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