An Investigation of the Impact of Organization Size on Data Quality Issues

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ABSTRACT

Data quality issues have become increasingly critical for information systems applications in organizations of all sizes. This paper presents results from a large-scale Australian survey of Australian CPA members. The research investigates major stakeholders’ opinions on the importance of critical success factors affecting data quality and the actual performance on each of those factors. The results reveal whether dissimilarly-sized organizations differ in the way they measure the importance and performance of critical success factors for data quality in accounting information systems.

Keywords: accounting IS; data integrity; database management; information in organizations; reliability of information

INTRODUCTION

Data quality (DQ) has become an increasingly critical concern of organizations (Lee et al., 2002, 2004; Redman, 1998; Wand & Wang, 1996). Regardless of the organization size, data quality issues impact an organization’s information system. With the proliferation of data warehouses, communication and information technologies have experienced an increase in the awareness of and need for high DQ in organizations (Lee et al., 2002). DQ has been rated as a top concern to data consumers (Wang, 1996) and reported as one of the six categories commonly employed in management information systems research (Delone & McLean, 1992).

More and more electronically captured information requires processing, storage, and distribution through information systems (Siau et al., 2001). Advances in information technology (IT) have dramatically increased the ability and capability of processing accounting information. At the same time, however, it presents issues that traditional accounting systems have not experienced. Real-world practice suggests that DQ problems are becoming increasingly prevalent (Huang, Lee & Wang, 1999;
The traditional focus on the input and recording of data needs to be offset with recognition that the systems themselves may affect the quality of data (Fedorowicz & Lee, 1998). IT advances can sometimes create problems rather than benefit the organization, if DQ issues have not been addressed properly. Most organizations have experienced the adverse effects of decisions, based on information of inferior quality (Huang et al., 1999). The number of errors in stored data and the consequential organizational impact of these errors are likely to increase in numbers (Klein, 1998). Inaccurate and incomplete data may adversely affect the competitive success of an organization (Redman, 1992). Indeed, poor quality information can have a significant social and business impact. For example, NBC News reported that dead people still eat! Because of outdated information in US government databases, food stamps continued to be sent to recipients long after they died. Fraud from food stamps costs US taxpayers billions of dollars each year (Huang et al., 1999). Another example, from a business perspective, occurred when a financial company absorbed a huge net loss totaling more than $250 million when interest rates changed dramatically, and the company was caught unaware due to poor data handling (Huang et al., 1999).

Examples of the consequences of poor DQ in AIS are also common. Errors in an inventory database may cause managers to make decisions that generate overstock or understock conditions (Bowen, 1993). One minor data entry error, such as the unit of product/service price, could go through an organization’s AIS without appropriate DQ checks and cause financial losses to an organization and damage to its reputation. Therefore, DQ has become crucial for the success of accounting information systems (AIS) in today’s IT age.

The primary purpose of this research is to explore whether various sized organizations assess differently the factors influencing DQ in accounting information systems. There is a readily identifiable literature link to stakeholder groups relating to DQ. However, precise perceptions of the importance of critical factors from different stakeholder groups and organizational size are not explicit in the extant literature. This research allows for the investigation as to whether organizational size influences the critical success factors, and whether it is possible to generate some common critical success factors for different sized organizations.

Therefore, the hypothesis of this study is:

H₁: There is a significant difference between different-sized organizations in their perceptions of importance and performance of critical factors for accounting information systems’ data quality.

To provide insight, the research investigates major stakeholders’ opinions on the importance of factors affecting DQ and the actual performance (achievement) on each of those factors. This knowledge will help assist organizations increase the operating efficiency of their accounting information system and contribute to the effectiveness of the management decision-making process.

BACKGROUND AND RESEARCH FRAMEWORK

The general definition of data quality is data that is fit for use by data consumers (Huang et al., 1999). Data quality dimensions refer to issues that are important to information consumers (people who use
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