

Information Quality and Value



Sérgio Maravilhas

CETAC.MEDIA - Porto and Aveiro Universities, Portugal

INTRODUCTION

We are living in a society where organizational and personal life are mediated by information and knowledge, with the help of technologies that gather, disseminate and deliver that raw material to support our decisions.

Information is the life blood that keeps organizations striving and surviving. It is also the raw material that organizations need to grow and stay competitive. It is not surprising, though, that people who controls information in an organization are almost always the ones who have more power, like the people who controls financial resources who, sometimes, are the same individuals. If information is power, people tend to keep it to themselves, creating information islands where information is spread across the entire organization but when needed no one knows where to search for it. It is duplicated and dispersed across multiple platforms and stored in many formats. Not sharing that valuable resource limits the reach of the organization and its results because the more you share, the biggest the number of people that can take better decisions, relevant for the organization objectives, rewarding all the shareholders and stakeholders (Jamil, Malheiro & Ribeiro, 2013).

With computerized information systems this situation is minimized because, as long as the information relevant for the tasks is available, everybody can access it and perform with a higher degree of certainty, in a shorter amount of time (Wilson, 2002). Also, the access to networks of information through the Internet and Social Media can magnify these results but there is a lot of doubt about the quality and value of the Information disseminated this way, by whom, and with what purpose (Yeoh, Talburt & Zhou, 2013).

In the globalized world we are living in, quality information warrants best results when competing with other organizations (Brophy & Coulling, 1996; Redman, 1996; Wormell, 1990).

Information, as a tool to reduce uncertainty and to develop knowledge in organizations, is an important aid in the decision making process and must be of quality to improve its value. Its value is related to the results that it will allow obtaining and it's dependable on its context (Best, 1996b; Davenport, 1997; Lattès, 1992; Marchand & Horton Jr., 1986; Orna, 1999; Penzias, 1989; Tapscott, 1995, 1999; Tapscott, Ticoll, & Lowy, 2000).

There are several characteristics that describe the quality of information that will allow the analysis of the value of the information used.

Quality information is needed to clear decision-making about what products and technologies develop, for what customers, at what cost, through which distribution channels, reducing the uncertainty that a new product/service development always brings with it (Trott, 2008).

Quality improves the value of the information used by augmenting the probability of achieving higher goals with better results.

We will start with a brief explanation of the importance of information quality and its value for decision making and business governance.

BACKGROUND

For most of the evolution of the business management function, information quality has not been a major strategic asset, but “has been perceived and thought about as simply one aspect of decision-making (...) only one of the many dimensions of decision-making and often not a very important one” (Marchand, 1990, p. 8).

Thinking about the business value of information quality and its relation with profitability, some authors (Brophy & Coulling, 1996; Cortada, 1996; Garvin, 1988) mention that quality, in general, increases profits by gaining the consumers preference and obtaining a bigger market share. With information the same occurs,

Table 1. Comparison: Dimensions of quality in five studies (Rieh & Belkin, 1998, p. 2)

Marchand (1990)	Fox et al. (1996)	Taylor (1986)	Klobas (1995)	Olaisen (1990)
Quality Management	Data Value and Data Quality	Quality in the Value-added Model	Information Quality	Information Quality
Actual Value Aesthetics Features Meaning over time Perceived Value Relevance Reliability Validity	Accuracy Completeness Consistency Currency	Accuracy Comprehensiveness Currency Reliability Validity	Accuracy Authority Currency Novelty	Accessibility Actual value Completeness Credibility Flexibility Form Meaning over time Relevance Reliability Selectivity Validity

because quality lowers the costs of production and the adequacy of the information product or service to the user's needs making it preferable to the ones who need and use it (Marchand, 1990, pp. 15, 16). Therefore cost plays a significant role to lower the price charged to the user of that information, making it usable.

To explain why the process of valuing is so difficult, we must remember that "fixing a value is always an indirect process that involves finding appropriate equivalents and standards, not necessarily or always in money terms, and the estimation of those who use it has to be taken into account as well" (Orna, 1996, p. 19).

Information is called the 'glue' that holds the organizational structure together, and there are four ways of using information to create value for a business: a) minimize risks; b) reduce costs; c) add value, orienting the output to the market and customers; d) innovation, through the creation of new realities (Davenport, 1997; Davenport et al., 2004).

Let's analyze some of these characteristics in the following lines.

INFORMATION QUALITY

It is not easy to find definitions for this subject accepted by everyone. Wagner (1990, p. 69) asserts that "the term 'quality of information' is scarce in the literature."

Quality is a difficult concept to define because what is quality for one person may be different for another. Table 1 shows a comparison between five studies of quality.

Some managers state that they will recognize quality when they see it. That may be possible if we are evaluating a tangible product but applying this to immaterial and intangible goods, like data, information and knowledge makes it more difficult.

For Ginman (1990, p. 18) there is no "generally accepted definition of quality information. (...) Both quality and information are in themselves difficult concepts to grasp and to evaluate, and the whole process is further colored by the subjective views of the person making the evaluation."

For that reason, several different definitions of quality arise "however, they all accept the notion that quality is defined by the customer" (Cortada, 1996, p. 6) and Redman (1996, p. 141) suggests the need to "understand what customers want in their terms." Other authors state that "quality is achieved when customer needs are met; quality is central to all organizations, not an optional extra; quality is not dependent on high price or high levels of resourcing" (Brophy & Coulling, 1996, p. 7).

Companies "must define, measure, analyze, and improve the quality of information, treating information as a product" because "creating quality information and organizational knowledge is the prerequisite for any firm to gain competitive advantage" (Huang, Lee, & Wang, 1998, p. 5, 6).

Relating the subject of information quality with business management and the need of quality information for good decision making, Marchand (1990, pp. 11, 12) describes the differences and common points that connect the information quality and the product quality. His information quality list comprises eight

7 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

www.igi-global.com/chapter/information-quality-and-value/112840

Related Content

Internetization and the New Global Economy of the 21st Century

Constantine E. Passaris (2015). *Encyclopedia of Information Science and Technology, Third Edition* (pp. 3197-3205).

www.irma-international.org/chapter/internetization-and-the-new-global-economy-of-the-21st-century/112749

Construction of Building an Energy Saving Optimization Model Based on Genetic Algorithm

Xin Xuand Xiaolong Li (2023). *International Journal of Information Technologies and Systems Approach* (pp. 1-15).

www.irma-international.org/article/construction-of-building-an-energy-saving-optimization-model-based-on-genetic-algorithm/328758

A Graphical Unit Interface to Generate Light Distribution Curves

J. G. Vera-Dimasand M. Tecpoyotl-Torres (2015). *Encyclopedia of Information Science and Technology, Third Edition* (pp. 2663-2676).

www.irma-international.org/chapter/a-graphical-unit-interface-to-generate-light-distribution-curves/112684

Towards Benefiting Both Cloud Users and Service Providers Through Resource Provisioning

Durga S., Mohan S., Dinesh Peter J.and Martina Rebecca Nittala (2019). *International Journal of Information Technologies and Systems Approach* (pp. 37-51).

www.irma-international.org/article/towards-benefiting-both-cloud-users-and-service-providers-through-resource-provisioning/218857

SRU-based Multi-angle Enhanced Network for Semantic Text Similarity Calculation of Big Data Language Model

Jing Huangand Keyu Ma (2023). *International Journal of Information Technologies and Systems Approach* (pp. 1-20).

www.irma-international.org/article/sru-based-multi-angle-enhanced-network-for-semantic-text-similarity-calculation-of-big-data-language-model/319039