

# Investigating the Integration of Quality Management Systems Into Management Information Systems: Case Study in Nigeria

Adeyemi Abel Ajibesin, American University of Nigeria, Nigeria

Precious Prince Diden, American University of Nigeria, Nigeria

## ABSTRACT

This study investigates integrating quality management systems (QMS) into an organization's management information system (MIS) and the risks involved in this integration. Quality management is a serious concern among organizations in the developing world, including Nigeria. Customers and investors gravitate to where there are quality products and services. Multiple case study research method was applied; this involves three organizations within Adamawa state in Nigeria. The three organizations examined for this study operated in three different economic sectors: educational, service industry, and manufacturing. Two IS theories adopted were IS success model and the technology acceptance model (TAM). After the data analysis, the initial research model was redesigned, and a new construct was added. The study revealed that the organization investigated runs MIS and QMS as separate systems but was confident that integrating the two management systems would help manage quality.

## KEYWORDS

Information, Integration, Management, Nigeria, Quality, Risk, Services, Systems, Technology

## INTRODUCTION

The internal and external nature of the business environment creates the need for businesses to focus on integrating management systems (Cantrell, 2011). This integration is meant to address the lack of different stakeholder's expectations in organizations to ensure that a given policy direction assumes the consistency it requires and the attendant coherence feedback needed by managers who have the oversights at each stage of decision making (Asif et al., 2010). There is a unanimous congruence by stakeholders in organizations that the efficiency and effectiveness of management information systems (MIS) are crucial to improving productivity, delivering quality services, coping with the volatility of the market, maintain their competitive edge, and achieve a sustainable growth trajectory over some time (Abdul and Khan, 2016; Dezdard and Ainin, 2011). As the world realizes that information systems must become a pivot for decision making, the focus among the corporate organization is how best to leverage information technology which is the bane of any management information system, to drive internal and external business improvement Abdul and Khan (2016). Conceptually, a management information system, as expressed by Kroenke (2011), is a process whereby organizations can transform data into intelligence that will help achieve their business goals and objectives.

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It is expected that the management information system operates efficiently and effectively for the goals of the organization to be achieved Kumar and Balakrishnan (2011). This means that the various components of management information systems such as data, software, hardware, people, and procedure, as noted by Abdul and Khan (2016) are well managed and optimized for the organization to operate. As such, the priority of stakeholders and researchers has been centered on the best way to evaluate, develop, integrate, manage and use the relevant management information system to generate intelligence that will contribute to significant business process improvement (Aral, 2010). Therefore, it is not out of place to note that the common feature of every organization, irrespective of its size and nature of operations, is the management information system in practice.

In contemporary times, every organization has different management systems to systematically guide and regulate the technology, people, and work processes in the desired manner Delic et al (2014). Some of these management standards have been regulated globally under the international standard organizations (ISO). Examples of these standards are ISO 9001 and ISO 14001, focusing on quality management, health, and safety, environmental issues etc. (Asif et al., 2010). Empirical literature has shown that several benefits are obtained when standardized management systems are integrated into one holistic system, and these

benefits include risk avoidance, customer satisfaction, cost savings, operational benefits, better brand image, and avoidance of duplication (Cunha & Figueiredo, 2005; Douglas & Glen, 2000; Khanam et al., 2013).

Understandably, health and safety and environmental issues are no marginal standard in any organization. However, quality management of goods and services has been consciously adopted as a standard to be integrated into MIS in this study because quality management has become a determining factor for organizational performance, competitiveness, growth, and profitability. Zipporah (2016) observed that the current business environment had put businesses under pressure to develop quality products and ensure that their business model delivers the best quality experience to customers. Pursuing core business goals from cost reduction to customer satisfaction has been notable as organizations strive for world-class excellence. Otieno and Kinuthia (2013) frankly noted that the firm effort might not yield significant returns unless a quality management approach is used to reduce cost, satisfy stakeholders and maintain a good reputation in the external business environment. Building on the age-long debate on the nexus between Quality Management System (QMS) and management information system (MIS), (Sanchez-Rodriguez and Martinez-Lorente (2011); Cunha and Figueiredo, 2005) concurred that integrating MIS and QMS could significantly and positively contribute to the achievement of the organizational goals. This study intends to investigate the extent of awareness of MIS and QMS integrations among organizations in Adamawa state, Nigeria.

## **BACKGROUND**

There has been interesting research worldwide supporting the positive use of QMS and MIS in organizations from the broad spectrum of internal business efficiency to external competitiveness and market sustainability. Still, the bulk of the research has failed to address the extent to which the models can be used simultaneously in an organization. Interestingly, some organizations only focused on using MIS alone, while other organizations built their systems around the QMS depending on the extent to which external industry trends affect their operations (Van Der Wiele et al., 1997). Beyond such independent adoption and use of QMS and MIS, there is a lack of considerable research on whether these variables can be used in correlation with one another to optimize the organization's performance, competitiveness, and efficiency (Kaynak and Hartley, 2008). There is a growing concern to improve the quality of goods and services exported to other countries from Nigeria. Therefore, United Nations has allied with other organizations to improve the quality of goods and services in Nigeria. Some of these organizations that partnered with this project are SON, NACCIMA, NAFDAC, NEC, NEPC, NAQS, FACAN, NSPRI, FPIS, DVPCS, FMARD, APDFDA, AFAN, Union Bank

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