Master Thesis

Effects of Database Management Systems on Procurement Efficiency

Case Study: Siemens Gamesa Renewable Energy – RFQ Procurement Model

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List of Abbreviations

DBMS: Database Management system
ECN: Engineering Change Management
ERD: Entity Relationships Diagram
ERP: Enterprise Resource Planning
IT: Information Technology
KPI: Key Performance Indicator
RDBMS: Relational Database Management System
RFI: Request for Information
RFP: Request for Proposal
RFQ: Request for Quotation
SCM: Supply Chain Management
SRM: Supplier Relationships Management

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Abstract

This paper proposes the master thesis topic which is titled as “Effects of Database Management Systems on Procurement Efficiency”. This topic analyzes and focuses on the database management systems in terms of their usage for the procurement processes and how they affect the procurement process. It is mainly aimed to search relevancy between database management systems and procurement efficiency proposing a solution with new database system design for the RFQ (Request For Quotation) process. RFQ process is analyzed by revealing each distinct input and output on the process chart to realize the existing steps and requirements to establish a new database design. Thesis starts with the literature survey and theoretical background of two major topics: “Procurement Process Management” and “Database Management Systems”. Afterwards, it continues with “AS-IS” and “TO-BE” analysis of Siemens Gamesa with respect to its procurement process cycle and efficiency. Based on analysis chapter, study focuses on how this database management systems which include ERP and others (company-specific) are used in the procurement processes. Procurement efficiency criteria used in procurement environment were considered and clarified through the support of literature in order to make an efficiency comparison between “AS-IS” and “TO-BE” models. At the same time, necessity of other database management systems except for common ERP systems are discussed considering the reasons of looking for new database implementation purposes involve the internal database developments. Their pros and cons are discussed. For that purpose, inputs and data collections from Siemens Gamesa organization were used to support the aim and scope of the thesis.

Keywords: *Procurement & Procurement Efficiency, Purchasing, Database Management Systems, Supply Chain Management, Request for Quotations (RFQ), ERP, Additional Database Systems, Supplier, Vendor, IT, information systems, Business Process, Business Process Management (BPM)*