Cultivating Enterprise Functions: An Analysis of Utilising Software in EIS

Yasmeen Natasha Binti Hafiz Shahrel, Sarah Wardina Binti Rafidin
Faculty of Computing
Universiti Teknologi Malaysia, Johor, Malaysia
yasmeennatasha@graduate.utm.my
sarahwardina@graduate.utm.my

Abstract— The transformative effect of enterprise information systems (EIS) on corporate processes is examined in this paper. EIS improves enterprise integration, resulting in increased income, cost savings, adaptability, and creation of unique value. EIS transforms firms by streamlining procedures, improving communication, and encouraging teamwork. This speeds up decision-making and raises the bar for customer service. By utilising its scalability and flexibility, EIS makes it possible to respond proactively to changes in the market and makes strategic decision-making easier by providing real-time data access. In order to optimise organisational processes, the paper analyses the software used within EIS, including Enterprise Resource Planning (ERP), Supply Chain Management (SCM), Customer Relationship Management (CRM), Business Intelligence (BI) & Analytics, and Enterprise Content Management (ECM) Systems. Tableau, Microsoft Dynamics 365, SAP ERP, and more examples demonstrate the various ways in which these technologies contribute to the success of organisations.

Keywords— Real-time Data, Software Utilisation, Teamwork, Decision-making, Centralising Data Management

I. INTRODUCTION

An Enterprise Information System (EIS) is a kind of information system that improves an enterprise's business processes through integration [1]. EIS is intended to boost an organisation's capacity to adapt to changes in the market, raise earnings, decrease expenses, and produce more differential value [2].

Through process simplification, improved communication, and teamwork, enterprise information systems have a revolutionary effect on businesses. EIS speeds up decision-making by reducing redundancy and integrating across departments. Additionally, by centralising data management, these systems guarantee consistency and integrity across the whole company, enabling better business intelligence and data-driven insights. EIS also raises the bar for customer service by facilitating more individualised interactions and quicker reaction times.

Businesses employing EIS can quickly adjust to changing business environments due to its scalability and flexibility, which enables proactive reactions to market dynamics and effective opportunity seizing. Access to comprehensive, real-time data helps executives and managers make strategic decisions, manage risks effectively, and comply with regulations. To fully realise their revolutionary potential within organisations, the integration and utilisation of EIS require careful planning, skillful change management, and continuous optimisation efforts.

The aim of this paper is to provide an analysis of utilising software in EIS. Some of the softwares to be discussed are Enterprise Resource Planning (ERP) Systems, Supply Chain Management (SCM) System, Customer Relationship Management (CRM) Systems, Business Intelligence (BI) & Analytics, and Enterprise Content Management (ECM) Systems.

II. SOFTWARE IN ENTERPRISE INFORMATION SYSTEM

A. Enterprise Resource Planning (ERP) Systems

Enterprise Resource Planning (ERP) Systems are integrated software programmes created to automate and combine workflows, processes, and tasks inside an organisation [3]. ERP solutions lower the resources required to run a firm from start to finish by connecting business applications and sharing a single database. They act as the organisation's single source of truth by offering a single location for all corporate data, removing problems with data storage and duplication. ERP systems are available in a variety of configurations, including as hybrid, cloud subscription, and licensing models, giving businesses the freedom to select the modules that best fit their requirements. Managers are empowered with actionable insights through real-time reporting and analytics capabilities, which facilitate educated decision-making based on current facts. ERP systems may also accommodate organisational development without sacrificing functionality or performance because they are scalable.

The market is filled with several ERP system examples, each designed for a certain industry and scale of business. Among the well-known instances is one of the most popular ERP systems in the world, SAP ERP which provides complete solutions for a range of industries, including manufacturing, retail, healthcare, and finance. It addresses a number of topics, including supply chain management, finance, purchasing, and human resources.

B. Supply Chain Management (SCM) Systems

A cross-functional strategy called supply chain management (SCM) controls the flow of raw materials into a business, some internal processing, and completed goods out of the business and towards the final customer [4]. The goal of supply chain management (SCM) is to increase partner confidence and cooperation in order to improve inventory visibility and movement velocity. Controlling the flow of goods and services involves sourcing, designing, producing, storing, shipping, and distributing them with the intention of enhancing effectiveness, productivity, quality, and client happiness.

Supply Chain Management (SCM) systems come in a variety of forms and are marketed with varying features that cater to certain corporate requirements and industry types. A few well-known instances are SAP Integrated Business Planning (IBP) and Oracle SCM Cloud.

C. Customer Relationship Management (CRM) Systems

CRM is a method that assists companies in managing their consumer contacts; data is frequently used to enhance these connections. CRM systems gather consumer information from various channels and points of contact, including the corporate website, phone calls, live chats, and support queries [5]. These systems usually consist of marketing campaign tracking, opportunity management, data warehouse technologies, and software-as-a-service (SaaS) delivery. CRM systems provide a clear picture of support tickets, phone calls, live chats, sales targets, and customer contacts. CRM methods are crucial for companies to establish a personal rapport with clients, recognise their wants and demands, and offer tailored services.

Some of the prominent examples of CRM are Microsoft Dynamics 365, HubSpot CRM, and Oracle CX Cloud. A range of CRM applications, such as those for sales, marketing, customer support, and field service automation, are available with Microsoft Dynamics 365. It offers AI-driven insights to help organisations personalise client interactions and increase sales performance, and it interacts effortlessly with Microsoft Office programmes. Cloudbased CRM software, HubSpot CRM, provides a number of capabilities for customer support, marketing, and sales. With an intuitive interface, it offers functionalities including lead scoring, email tracking, contact management, marketing automation, and customer support ticketing. A package of CRM products, comprising sales, marketing, commerce, and service automation, is available from Oracle CX Cloud.

D. Business Intelligence (BI) and Analytics

The terms "business intelligence" (BI) and "analytics" refer to the procedures, equipment, and technologies that businesses employ to gather, examine, and evaluate data in order to obtain knowledge and make wise business decisions. To improve corporate performance and gain a competitive edge, BI and analytics cover a broad variety of tasks, such as data modelling, data collection, data visualisation, and data interpretation. BI offers valuable insights into an organisation's performance, which may be leveraged to establish performance benchmarks, identify market trends, enhance compliance, and improve other business elements [6].

One example of Business Intelligence (BI) and Analytics tools and platforms available in the market is Tableau. Creating dynamic dashboards, reports, and visualisations from a variety of data sources is possible using Tableau. To assist users in exploring data and gaining insights, it provides an intuitive interface together with robust analytics features.

E. Enterprise Content Management (ECM) Systems

A system called enterprise content management (ECM) helps businesses to safely handle information and content over the course of its lifespan [7]. Unstructured data, including Word documents, PDFs, emails, and scanned photos, can be managed and made available to authorised users. ECM systems contain tools for importing content, displaying it for usage, and enforcing procedures for its creation, approval, and dissemination. They also offer a safe repository for controlled things, whether they are digital or analogue.

Some prominent examples of ECM include Microsoft Sharepoint and Nuxeo. SharePoint is a popular ECM platform with features for information sharing, document management, and teamwork. To assist businesses in effectively managing their material, it offers capabilities including document libraries, version control, metadata tagging, and process automation. Workflow automation, digital asset management, and content management are all features of the ECM platform Nuxeo. It offers an adaptable and scalable approach to enterprise content management for a range of use cases and industries.

III. CONCLUSIONS

Enterprise information systems (EIS) are critical to raising the competitiveness and efficiency of an organisation. EIS improves decision-making and streamlines operations through process optimisation and integration. Software like ERP, SCM, CRM, BI & Analytics, and ECM Systems are analysed to show how important they are to the success of organisations. Going forward, companies need to give top priority to using EIS effectively in order to stay innovative, stay competitive, and use data-driven insights to drive growth and value delivery. In order to prosper in the digital age, organisations must

embrace the changing world of technology and business requirements and capitalise on the transformative power of EIS.

ACKNOWLEDGEMENT

We would like to express our sincere gratitude to all those who have contributed to the completion of this IEEE short paper. Special thanks to Dr. Aryati Bakri for her valuable insights, guidance, and support throughout the research and writing process. We also acknowledge the contributions of our classmates for their assistance in analysis and review. Their dedication and support have been instrumental in shaping this paper. Additionally, we extend our appreciation to the IEEE community for providing a platform for sharing knowledge and fostering academic discourse. Thank you to everyone who has played a part in making this research possible.

REFERENCES

- [1] D. Romero, and F. Vernada, "Enterprise Information Systems State of the Art: Past, Present and Future Trends," Computers in Industry, 79. 10.1016/j.compind.2016.03.001, Mar. 2016. [online document].

 Available: https://www.researchgate.net/publication/297816747 Enterprise Information Systems State of the Art Past Present and Futur e Trends [Accessed: Mar. 27, 2024].
- [2] L. A. Anaya, M. Dulaimi and S. Abdallah, "An investigation into the role of enterprise information systems in enabling business innovation," *Business Process Management Journal 21*, 10.1108/BPMJ-11-2014-0108, [online document]. Available: https://www.researchgate.net/publication/279633511 An investigation into the role of enterprise information systems in enabling business innovation [Accessed: Mar. 27, 2024].
- [3] International Business Machines Corporation, "What is enterprise resource planning (ERP)?" *International Business Machines*. [Online]. Available: https://www.ibm.com/topics/enterprise-resource-planning [Accessed: Mar. 31, 2024].
- [4] SAP, "What is supply change management (SCM)?" SAP. [Online]. Available: https://www.sap.com/uk/products/scm/what-is-supply-chain-management.html [Accessed: Mar. 31, 2024].
- [5] C. Hashemi-Pour, "CRM (customer relationship management)," techtarget.com, Oct, 2023. [Online]. Available: https://www.techtarget.com/searchcustomerexperience/definition/ CRM-customer-relationship-management [Accessed: Apr. 1, 2024].
- [6] B. Calzon, "What Is The Difference Between Business Intelligence and Analytics?" datapine.com, Mar. 25, 2022. [Online]. Available: https://www.datapine.com/blog/difference-between-business-intelligence-and-analytics/ [Accessed: Apr. 1, 2024].
- [7] Laserfiche, "What is Enterprise Content Management?" laserfiche.com. [Online]. Available: https://www.laserfiche.com/resources/blog/what-is-enterprise-content-management-ecm/ [Accessed: Apr. 2, 2024].