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INFORMATION SYSTEM ARCHITECTURE AND ENTERPRISE RESOURCE PLANNING: A SOLUTION FOR ORGANISING BUSINESS INFORMATION

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ABSTRACT

Businesses all over the globe today are adopting the information system architecture (ISA) as a strategy to improve performance in the face of stiff competition. In recent years, businesses have had to deal with more and more difficult business environments, as well as new information technology changes and opportunities, like the Pre-developed software components model, better telecommunications, and off-the-shelf modules for Enterprise Systems. All of these require a constant redraw and rethinking of business plans. It is now possible to get business information quickly, efficiently, and cheaply as a result of Information Technology. This means that business processes can be automated and improved. Althoughthere have been a lot of important technological changes, information systems that help businesses donot always respond quickly enough to the needs of businesses. This causes a misalignment between business and information technologies (IT), which hurts businesses' ability to compete. On the other hand, enterprise resource planning (ERP) systems is becoming a must-have for firms trying to make the most use of their resources. They can assist executives in reallocating human and financial resources, as well as in developing more effective core business processes that save money without losing quality or performance. An ERP system is useful for planning and coordination. Employees may see detailed information about current available inventory and client orders, as well as compare supplier purchase orders and predict future demands. ERP software also promotes communication and cooperation by allowing employees to check on the state of other departments in order to inform their own choices. Therefore, this article x-rays the importance of Information System Architecture (ISA) and enterprise resource planning in order to build information systems that are able toaid an organization's strategy and business needs.

Keywords: Information System Architecture, Enterprise Resource Planning, Business Process and Guidelines, System Composition, Technical Basis, Technologies, Information Communication Technology, Business Process Architecture, Product Delivery Architecture, Outcome Orientation, Service Quality

Introduction

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Information communication technology (ICT) is seemingly a major driver in the proliferation and expansion of knowledge as experienced globally today. In light of this, the ICT sector, without doubt, plays a critical contributory role in aiding holistic technological advancement which appears to improve productivity at best and optimality at worse. A statistical submission by World Economic Forum as cited by Toader et al. (2017) indicates that a 10% increase towards digitalizing an economy is more likely to result in a 0.75% increase in per capita Gross Domestic Product (GDP), leading to a 1.02% drop in unemployment ratio in the same economy. A similar position was taken by Bahrini and Qaffas (2019); they explained that every 1% increase in ICT investment has the potential of resulting in a 0.52% growth within the same economy. In the same vein, Sependoust (2018) supported this standpoint with an empirical insight that holds that a 1% increase in financial investment in ICT is likely to result in 0.04% to 0.05% respectively in economic advancement. To further buttress this point, Bahrini and Qaffas(2019) explained that ICT infrastructure has given individuals, organizations, and governments across the globe better access to information and knowledge through mobile phones, fixed-line telephones, internet and/or intranet, and broadband- which has helped them make an informed decision at all times. In line with this, Toader et al. (2017) hold the view that ICT if expanded is likely to improve economic performance because it enables information availability to enhance economic and social life. Little wonder the Organization for Economic Co-operation and Development [OECD] (2010) contends that ICT can reduce poverty through creating new jobs and by extension, new sources of income.

Although, the ICT sector could be largely enhanced if proper Enterprise Resource Planning (ERP) is set on course for the sector. Owing to this, Sage Group Plc (2020) noted that ERP has evolved from tool materials to a solution for managing all facets of the business since its inception in the 1960s. Thus, ERP could easily collapse different components of the economy or business in a bid to aid a holistic and comprehensive view of its operational efficiencies or inefficiencies as the case may be. On a similar note, O'shaughnessy (2020) opined that ERP systems are applied by organizations to integrate and centralize the entire business process of the organization to gain complete contact with such a system. This implies that a great number of industries could apply this system. Industries such as; healthcare, nonprofit making organizations, hospitality, construction, and ICT could use this system. Again, several other aspects of organizational life could as well benefit from ERP such as; human resource and personnel management, customer care relationship management, supply chain management, and inventory management capabilities, business intelligence, and other organization-wide activities or business functions.O'shaughnessy (2020) explained that the essence of ERP is to source for data and all kinds of information, enter same into a single database, allowing all units, sections, and departments to work with a piece of uniform information for easy decision making. This

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means the data collected are organized, analyzed, and interpreted to come up with reports that would largely aid organizational activities. This is the case because ERP may have similar goals to other solutions, but has a distinctive competitive featurewhich; (1). Unifies integrates and centralizes all systems thereby reducing operational cost, (2). A centralizeddatabasecould somewhat improve collaboration on all fronts, (3).ERP gives room for better analysis, (4).ERP enhances productivity, (5).ERP simplifies compliance and risk management (6). ERP improves inventory monitoring, (7). ERP improves production planning and resource management, and activity (8). ERP brings about happier customers. Hence, the ERP system is designed to achieve high outcome orientation and improved service quality.

Nevertheless, the attainment of goals put in place by an organization using an ERP system might only achieve optimum output if an adequate information control system is in place. Such information control measures will need to be structural for them to be utilized maximally. Hence the need for information system architecture. In line with this assertion, Brown et al. (2000) revealed that an organization can optimally utilize information system architecture by (1). Capturing, documenting, and assessing procedures and processes, and (2). Stimulating the use of the standard operating procedure for adequately reporting information throughout the organization. They further noted that information system architecture could analyze the critical task and underlying system in a bid to discover newer ways to minimize the complexity of any sort and improve overall performance, and such organizations could utilize information evaluation to conduct integration and performancetest for all kinds of information systems. This may be the reality on ground because of the picture painted about information system architecture (Schilling, 2017). Schilling explained that information system architecture represents processes procedures and rules of business; technical framework, system structure, and product technologies of business information systems that exist within the organization. In line with this submission, Schilling (2017) noted that information systems architecture usually consists of four layers, namely business process architecture, system architecture, technical architecture, and product delivery architecture. Schilling (2017) noted that the architecture of information systems tends to encompass hardware and software systems applied to solution delivery.

Based on the above submission, would it be safe to say that the ERP system requires a sustainable information system architecture to perform optimally and maximally? Well, statistically speaking, Carlton (2018) noted that about 4% of ERP system experiences operational discrepancies largely. Noting that about 60% of ERP projects are more likely to fail, and this might reflect in about 80% of customers being unhappy, unsatisfied, and disloyal to the system in place. ERP systems have been known to face some challenges from its adoption stage to its

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implementation stage. Some of these challenges especially in the ICT sector includes; (1). Identifying the business processes that needs to be integrated, and the one to ignore at a given time, (2). Inadequate information flexibility, (3). Resistance to change by employees, (4). Lack of maintenance due to the high cost of operations, and (5). Inability to understand what to do per time especially with regards to using key features. Other challenges that may affect the ERP are as follows: lack of proper analysis of the requirements, lack of adequate training, lack of adequate support from senior management, multiple implementations at various stages, compatibility issues with ERP modules, and lack of forecasting(Kripaa,2011).The implementation of ERP requires an enormous financial commitment from the organization; thus, it requires seeking for its adoption and implementation from management. Furthermore, the cost implication and required time to follow the process through is the principal challenge that the organization may experience in the process of implementing the system.

Review of Literature

This section entails a review of related literature on information system architecture (and its dimensions namely; business process architecture and product delivery architecture) and enterprise resource planning (and its measures namely; outcome orientation and service quality). Lastly, empirical insight of related studies.

Systems Architecture Theory

System architecture theory tends to conceptualize the structure, behavior, and philosophy that guides system thinking. The architectural component here connotes a formal description of and representation of an organized structure and behavioural outcome of the system (Jaakkola & Thalheim, 2011). Medvidovic and Taylor (2000) pointed out that, a system architecture is composed of several system and sub-system components developed, designed to function as a complete whole in a bid to implement the overall system function. They explained that a system architecture tends to apply both elements of software and hardware, and uses the same to enable the design of such hybrid or compound system. An effective architectural system is largely perceived as a partitioning algorithm, which tends to separate and align all systems present in predictable requirements into a workable set of clearly defined system and sub-system boundaries. This separation is the sub-systems are usually exclusive, inclusive, and exhaustive. A foremost drive of the partitioning is to organize the rudiments in the sub-systems so that there is a minimum of inter-dependence and interconnection desirable among them. In both software and hardware, a good sub-system tends to be seen to be an object of meaning (Jaakkola & Thalheim, 2011).

Agency Theory

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Agency theory is a phrinciple that is used to explain and resolve issues in the relationship between business principals and their agents. Panda and Leepsa (2017) opined that the relationship between the shareholders as principals and company executives as agents. Panda and Leepsa (2017) explained that an agency, in broad terms, is like any relationship between two parties in which one, the agent, represents the other, the principal, in day-to-day transactions. The principal or principals hire agents to accomplish service on their behalf. Panda and Leepsa (2017) noted that agency theory is used to understand the relationships between agents and principals. The agent represents the principal in a particular business transaction and is expected to represent the best interests of the principal without regard for self-interest (Panda & Leepsa, 2017). The different interests of principals and agents may become a source of conflict, as some agents may not perfectly act in the principal's best interests. The resulting miscommunication and disagreement may result in various problems and discord within companies. Agency theory assumes a perfect and flawless relationship between the principal and the agent. There is some contention as to who originated the theory, with theorists Stephen Ross and Barry Mitnick claiming its authorship (Panda & Leepsa, 2017). Principals delegate decision-making authority to agents. Hence, most decisions that affect the principal financially are an output of the agent's decision. Panda and Leepsa (2017) harnessing the ideas of Eisenhardt agreed that the view that differences of opinion and even differences in priorities and interests can arise, which he referred to as the principal-agent problem. Agency theory addresses disputes indifference in goals or a difference in risk aversion.

Information System Architecture (ISA)

First, architecture, as applied in this context, paints a picture of a designed computerized system aimed at disseminating information, such as inventory of current hardware, software, and network capabilities (Schilling, 2017). Information system architecture represents a structure of information flow into, within, and outside of the organization's database. Again, an information system architecture is a replica of a business process and guidelines, system composition, technical basis, or technologies that shape the outcome of a product of an organization or business system of information. A position of the composition of an information system architecture has been taken by several scholars (Carlton, 2018). Although, this does not seem to be the central meeting point of the academic universe on this subject matter. However, scholars like Schilling (2017) in an article in which Power was cited noted that information system architecture, technical architecture, and product delivery architecture. In the light of the above, Schilling (2017) further suggested that information systems tend to cover an array of activities that are undertaken by the hardware and software components of the system that are used to deliver solutions or services to the final consumer. Typically, every information system has an

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information system life cycle that seems to help in predicting the pattern and/or flow of information within the system. These activities are chronologically arranged as follows; requirement analysis, process architecture, functional architecture, software architecture, network architecture, selecting of existing components, design of new components, construction of new components, configuration of components, assembly of the components, testing the system, acceptance of the system, installation in the operational environment, migration of old to a new system, and operations in terms of functional and technical maintenance. In this sense, after several years of operation and/or usage, the system might need rehabilitation or reconstruction or both to meet the current changes and challenges in the business environment (DeGeest & Brown, 2011). This will now require a new analysis to take the organization from where it is to where it intends to be. Hence, information systems architecture is a necessity in firms today because information system architecture takes a different perspective from the regular information systems, intending to provide adequate information to solve related problems within the context of information communication technology.

However, Xuemin et al. (2012) noted that information system in the current dispensation is complex and somewhat difficult. They noted that communication between parties within the context of information communication technology is difficult, bias, and full of errors. This disposition implies that effective communication and information transmission cannot be successful between parties and users of the system (Xuemin, Zhiming & Ping, 2012). In similar thought, Kumar (2014) opined that, while information communication technology may have caused a drastic change in streamlining the way businesses are conducted in today's business environment, it has seemingly brought about outsourcing, downsizing, and redundancies in several industries as they are now looking at automating work processes. Meaning that a lot of jobs at the lower cadre have been collapsed into a wider frame of activities and simplified using the computer.

Kumar (2014) further explained that ICT in this case; information system architecture, may have simplified information dissemination within the organizations, it has ripped off the privacy individuals enjoy at some point within their work schedule. The information system architecture has a way of forcing one to constantly learn newer ways to do things and carry out a task, because, of the constant changes that come with every model. This shows a high propensity of losing one's job.

Business Process Architecture

Business Process Architecture represents a composition of a different set of business processes and procedures that tend to reveal the level or rate of inter-connectivity, inter-relatedness, and inter-dependence of the nature of businesses, and how this tends to determine the guidelines of business activities (Helan & Meaden, 2012). Thus, a business process architecture tends to

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predict a model that orders and adjusts the processes of the activities of business within anorganization. It gives a pictorial representation of an organization's business model and strategy and guides the metrics that are employed to direct the part in which an adequate level of performance could be attained (Helan & Meaden, 2012). It is believed that Business Process Architecture tends to impose a top-down bird-eye view into the activities of an organization; giving a broad landscape view of the processes applied in the business (Helan & Meaden, 2012).Furthermore, it tends to describe a system of value chain for the business, and demonstrates the value streams of the network of business procedures that are linked to achieving predetermined objectives within specific business functions.Some other scholars believe that business process architecture connotes a visual hierarchical model of the processes in which an organization adopts to get things done (Helan & Meaden, 2012). Meaning that business process architecture is a critical management tool that indicates business design that helps to guide decision making and strategy implementation.

Product Delivery Architecture

To increase efficiency, efforts toward delivering products and services to a customer and growing sales are necessary. This could result in high product delivery architecture designed to efficiently drive optimum operation (Wibowo& Sari, 2018). It is always advised that product delivery architecture should come first in all considerations about efficiency. One must make sure that all one's objectives serve one's goals. Wibowo and Sari (2018) noted that objectives are short-term achievements, goals are long-term achievements, and one's purpose is delivering products and services to customers in ways that satisfy their needs and desires. To achieve this, one is expected to start by looking at whether one is doing the right thing. For example, if one operates an ICT firm, ask oneself self whether all employee tasks contribute to delivering ICT service, or whether some tasks, such as washing organization vehicles or ordering lunch for staff, are irrelevant.Wibowo and Sari (2018) noted that ICT firms ought to ensure their employees engage in activities that are effective in moving toward organizational goals and efficiently. Efficiency in this sense is doing the right things in the right way to measure this proficiency on a daily, weekly, and monthly basis. Wibowo and Sari (2018) explained that leaders of organizations can use metrics such as the number of units produced, sales or customer satisfaction surveys with product delivery architecture and efficiency in place.

Enterprise Resource Planning (ERP)

Enterprise resource planning (ERP hereon) represents the integration, processing, and management of central business processes in real-time and meditated using technological software (Coelho, 2015). ERP is perceived as a software or an integrated application used in a business management process typically designed to collect, store, manage, and interpret data from any business activity for the organization (Dantes & Hasibuan, 2011). ERP is designed to

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provide an integrated view that is regularly updated. This is done to capture core business processes using regular databases regulated by database management systems. Dantes and Hasibuan (2011)noted that one of the salient functions of ERP is tracking business resources such as raw materials, cash, human factor data as well as the commitment status of each and all business activities which may include; purchase orders, pay will, payables, cash management, cost budgeting, activity-based costing, and so on. It is imperative to note that ERP helps the organization as a system to share data and other relevant information across the various sections, units, and departments. Especially those functional areas that are deemed to provide information on purchases, sales, and general accounting. It thus enhances the flow of information across and functional areas of the business as well as the relevant stakeholders outside of the business (Shaul & Tauber, 2012).On a similar note, Shaul and Tauber (2012) pointed out that ERP systems have the potential to an integrated diverse firm-wide system and enhance error-free transactions and maximize operational processes with the view to achieving high efficiency for the organization. Notwithstanding, developing an ERP system differs from traditional system development, this is because, ERP systems are configured to run on hardware and network designs, typically using an information repository in the form of a database. Material Requirement Planning (MRP), and later manufacturing resource planning (MRP), as well as computer-integrated manufacturing were perceived as the functional capabilities of ERP when it was first introduced by the Gartner groups as ERP in the 1990s. Without any attempts to replace these terminologies, ERP was enhanced to accommodate serial fields of discipline which include' accounting, human resources, finale and other foundational areas not linked to manufacturing alone (Kohansal, 2014). The initial idea about ERP was to automate e-business, e- Knec, supplier relationship management, customer relationship management, back and forth offices, etc.

However, enterprise resources planning (ERP) was considered dead.Gable, Sedera, Chan (2003), opined that its ERP fund to have critical challenges which may include; interface issues, time zone limitations, lack of proper testing, stress, people's resistance to change, data clearing problems, and a short hyper- care period. Again, ERP systems may damage competitiveness or divert focus from other critical activity, when attempting to re-engineer business processes to fit the ERP system. In a similar study Wibowo and Sari, (2018) suggested that employing ERP is quite expensive because it cost more as compared to a less integrated system and other related solutions. In the same view, Kohansal (2014) noted that EPR has an expensive training requirement that saps operational resources daily. Attempts to overcome the resistance to dispensing available information between units, departments, and sections divert the attention of management to something else. For a big organization, harmonizing the ERP system can be an envious task that requires a lot of resources in terms of planning, cash, and time. Lastly, the high servicing cost of ERP can increase the negotiation power vendors which have the potential to increase maintenance, after-service support, and other upgrade expenses.

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Outcome Orientation

Outcome orientation otherwise known as goal orientation represents an individual or firm-wide disposition or interpretation to task, duties, and responsibilities towards validating one's ability to attain predetermined objectives through attaining individual objectives.Previous studies tend to suggest that, outcome orientation is seemingly focused on achieving stated, planned, or predetermined objectives (Cellar, et al., 2011). This is an organizational culture that tends to lay more emphasis on getting results, achievements, and taking relevant actions that may lead to the attainment of stated objectives (Vandewalle, Nerstad, & Dysvik, 2019). In their philosophical stance, Vandewalle, Nerstad, and Dysvik (2019) are of the strong opinion that the link between goal orientation and the outcome variable (e.g. task performance) and indices should be tied around selfefficacy, commitment, and feedback as compared to the previous performance level. In line with this thinking, self-efficacy, and feedback-seeking ought to guide the consequent actions that may result in achieving the central focus of outcome orientation. Similarly, Griffin and Ebert (2010) implied that outcome orientation is related to task orientation. They explained that task-oriented leadership tends to shift to attaining the aim of getting the task, or series of tasks completed. In essence, these crops of leaders are grossly concerned with devising solutions in chronological steps that are required to perform the task. They often define work processes, role expectations, structural arrangement required, and plan, organize, and monitor those involved in the process (Griffin & Ebert, 2010).

Service Quality

Service quality represents a link or relationship between the perceived level of expectation and the actual level of performance of the service delivered. The concept of service quality entails measuring the actual quality of service against the expected quality to be delivered. It is imperative to note that the conceptualization of service quality could be traced to the expectancydisconfirmation paradigm (Shanka, 2012). Thus, a business that seems to have relatively high expectations of service quality, is more likely to meet and even exceed the expectations of customers, and maintain its competitive potency (Shanka, 2012). Although, some pieces of evidence of empirical research have demonstrated that, service quality tends to have a high potential to improve organizational profits (Ojasalo, 2010). This is why improvements in service quality especially;(1). Enhancing operational services, (2). Identifying operational challenges promptly, (3). Establishing reliable service performance measures or techniques, and (4). Measuring customers satisfaction and other outcomes are measured concerning performance (Ojasalo, 2010). Concerning the industry under review, several research works have attempted to understudy the quality of e-service (Ojasalo, 2010). In a paper put together recently by Ojasalo (2010) on e-service quality. E-service quality was measured using web design, customer fulfillment, customer service, and security and privacy. Ojasalo (2010) noted that there has been considerable attention has been given to service quality and customer satisfaction in recent

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service quality literature. It is imperative to note that, these studies have mostly reported that, service quality and customer satisfaction are closely linked as the rise in one would likely be linked to the rise in the other, and vice versa (Ojasalo, 2010; Shanka, 2012).

Empirical Insight

Empirical insights from different scholars on the concepts under review:

S/N	Review Details of Study		Findings
1.	Author(s)/Year Country	Chejerla & Madria (2019) USA	Stabilizing a cyber-physical system under security attacks cannot be completely guaranteed, but can only be mitigated. Noting that one can mitigate the effects of security attacks and still provide the cyber-physical system with some operational stability. And, using a Dynamic Bayesian Network, how changes in the network behavior in a cyber- physical system can be efficiently observed and decisions can be made. Based on these decisions, the control messages had been altered to suit the requirements of the cyber- physical system to main the stability of the system.
	Topic	Information fusion architecture for a secure cyber-physical system.	
	Methodology	Descriptive Statistics, and Quantitative Technique.	
2.	2. Author(s) /YearBakar <i>et al.</i> (2019)	Bakar <i>et al.</i> (2019)	A dynamic enterprise architecture was created through complex cognitive activities
CountryMalaysiaTopicDynamic methodological to government enterprise architecture model manage	Country	Malaysia	after applying and utilizing the four layers of
	Dynamic methodological approach to government enterprise architecture model management.	dynamic design with physical, perceptual, functional, and conceptual actions and archimate generic metamodel schema. Thus, the model allows enterprise architecture to	
	Methodology	Design science research methods.	design and develop enterprise architecture models to their business model.
3.	Author(s) /Year	Elhazzam (2015)	The analysis of the data demonstrated that managers perceive the overall effect of ICT
Country Algeria	Algeria	on human resource practices as positive and it	
	Торіс	The effect of ICT on human resources management practices: Case of the number of organizations in Southwest Algeria (Bechar City).	Human Resource department but of the overall organization.
	Methodology	Quantitative Technique	
4.	Author(s) /Year	Sowan & Tahboub (2015)	ERP is information system software that aims to integrate all business processes and
	Country	Palestine	functions in a central database; that increases

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	Topic Methodology	ERP systems critical success factors: ICT perspective Quantitative Technique	the management of business resources in an effective, efficient, and productive way. In this survey paper a comprehensive discussion and review of how different factors affect the success of ERP systems implementations.
5.	Author(s) /Year Country Topic Methodology	Iyamu (2019)South AfricaThe architectures of data and information: Their confounded confusion.Quantitative Technique	The study reveals what we need to know about the confounded confusion between data and information architectures. The differentiation between the two concepts can be of importance to professionals in the field of information systems and technologies as well as academics.
6.	Author(s) /Year Country Topic Methodology	 Khaleel, Abuhamdah, Sara & Altamimi (2016) Saudi Arabia Components and analysis method of enterprise resource planning requirements in small and medium enterprises. Factor Analysis 	Analyzing the components of requirements and the relationship of the business process modeling, several basic concepts are given and the method of the process analysis and modeling which is the way by which we can reduce the number of deviations from the ERP functionality in a given installation and also advantage from the full power of the ERP functionality.
7.	Author(s) /Year Country Topic Methodology	Tijani & Ogundeji (2014)NigeriaEnterprise resource planning systems implementation: Effects on accounting information processing.Survey Approach Five-point Likert Type Scale ANOVA	Results suggested that the major reasons for companies adopting ERP systems are the integration of accounting information systems and industry-wide requirements. It was also concluded from the results of the Kruskal-Wallis model test that the use of ERP systems has significant contributions for accounting information processing as it supports efficiency in transactions processing and accounting modules integration.
8.	Author(s) /Year Country Topic Methodology	Nakpodia (2010)NigeriaAn information system in Nigerian education: A study of data storage.Quantitative Technique	The information system is important in Nigerian educational systems at all levels because of its transaction process systems, knowledge management systems, and information technologies designed to enable individual persons to perform a task for which the human brain is not well suited.

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9.	Author(s) /Year	Awolusi & Fakokunde (2014)	Nigerian service firms should consider ERP	
	Country	Nigeria	operational and organizational performance	
	Topic	Enterprise resource planning in Nigerian service firms: A structural equation modeling approach.	in today's dynamic business environment. It will help Nigerian companies understand ERP as a business philosophy, its key components, and its benefits. It will also	
	Methodology	Structural Equation Modelling.	explore imperatives for successful implementation. Lastly, the study emphasizes the need to link operational performance to organizational performance to achieve the success of ERP implementation.	
10.	Author(s) /Year	Salman, Shabbir, Shabbir & Hafeez (2011).	This environment for making and developing any organization into a learning one from an ICT-based educational institute though can be	
	Country	Pakistan	created by communication with followers, by	
	Topic	The role of leadership in developing an ICT-based educational institution into a learning organization in Pakistan.	information, knowledge, resources, and expertise, and by providing time, and resources for improving performance.	
	Methodology	Structural Equation Modeling.		

Source: Compiled from literature by the researcher, 2022.

Conclusion

Organizations today cannot afford to overlook or undermine strategies that can enable them cutcost, operate effectively and remain competitive. Often, a system is designed to accomplish a certain goal or provide a desired outcome. IT systems are designed to help businesses process, access, and exchange data. Documents, information, enhanced company operations and efficiency, earnings, strategic plans, and the like are the outcomes of a good IT system.Information processing theory states that organizations should design strategies and structures that allow them to match their information processing capabilities with the information processing needs of their businesses. Thus, if businesses must generate real choices for future expansion, an information system architecture as well as enterprise resource planningis required.

Practical Implications

The importance of adopting information system architecture and enterprise resource planning cannot be overemphasized. Information system architecture represents a structure of information flow into, within, and outside of the organization's database. It decreases development time, reduces risk as well as cost of operations, and reduces time to market. Prioritizing competing objectives is made easier with the aid of software design. As a result, stakeholders are better served by a system that is more responsive to their requirements. Conversely, employees enjoy ease of work as they no longer have to rummage through heaps of papers or files scattered on a

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desktop. Furthermore, because the ERP system is constantly getting data from numerous departments, it is updated instantaneously whenever inventory is retrieved, a payment is posted, or an email is sent to a client. This is a significant benefit since decision-makers are making decisions based on current facts. Finally, decisions are made in business based on the same data: All decision-makers are on the same page when they use a shared database. There are no redundant or conflicting data sources, and businesses may plan and disseminate dynamic reports automatically.

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