**THE DEMAND FOR INFORMATION SYSTEM: A REPORT BASED ON THE FOUR Ws**

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Information system is a formal, social-technical, organizational system designed to

collect, process, store, and distribute information. From a sociotechnical view, it comprises of four components: task, people, roles, and technology. The importance of information system is to help businesses and individuals, enables effective communication, and gains competitive advantage. Four Ws are used because it's easy to break down the problem into key components hence it's effective.

Why

Well, information system is essential in an organization for it's many purposes such as decision making, evaluating technology impact, practising knowledge sharing, user experience and interaction, supporting information and guiding policy and strategies. In decision making, it facilitates data collection, processing and analysis. Information system researches aims to enhance effective decision making in an organization. Also, information system is important in the assessment of technology impact, where it researches the effects of information system organization performance, productivity, and innovation, helping the organizations understand the value of their investments in technology. Information system practices knowledge sharing where it inspects how information system facilitates collaboration and knowledge sharing among individuals and teams, information technology research contributes to better organizations caring and adaptations. In an organization, challenges that may occur due to lack of information system is improving efficiency, customer satisfaction and budget constraints. If the information system is not addressed it leads to identity theft where there is poor information management, Financial losses due to inefficiencies, errors and missed opportunities and fines which is caused by weak IT policies.

Who

Stakeholders are involved in forming information system. Stakeholders are people, groups or organization that are affected by or involved in a process or project. The examples of stakeholders involved in information system are managers, investors, customers, board of directors, suppliers, employees, government and trade groups. Well, investors are internal stakeholders who are focused on maximizing the returns on their investments. They have indirect influence on decisions but their interests are a high priority. Managers determine the business projects and delegate them. Board of directors is interested in maximizing the profits the business makes and make returns to the investors. Customers want to receive the best possible product or service. Suppliers want to see increased demand for the business's products or services. Employees work to meet the needs of a productive information system and also prevent challenges affecting an information system. The government provides a safe area for the business to take place and also formulate policies that enable the business information system to grow. When

The right time to introduce an information system really matters because it determines whether the system will be productive or a nuisance to a business.

Before introducing an information system, one needs to check several considerations. First, business needs wherein one checks the current business processes to see if they are inefficient, leading to delays or errors. If an immediate need occurs, for example, compliance to regulations, urgency increases. Technological changes where the pace of technological advancement in the industries is considered to put the business at a competitive advantage. Budget cycles where the organizational budgeting timeline is considered to meet fiscal planning. Market demand where it is used to analyze market trends and customers expectations so as to know whether the competitors are adopting new systems to enhance customer services or product offerings. Resource availability where it looks into the availability of financial, human and technological resources for an urgent may be impractical if the necessary resources are not available. Risk management where risks are determined associated with delaying the implementations. Strategic goals align the timing of the IS implementation with broader business objectives like entering a new market and lastly external factors where external pressures such as economic shifts that could determine faster implementation timelines are considered. Additionally, scenarios such as market changes, technological advancement, and business needs within the organization trigger the implementation of an information system. These include increased competition, where a rise in competitions adopt advance technologies that force a business to implement an IS so as to maintain its market position, and customer expectations, where the changing customer may demand faster service or a personalized experience that requires the adoption of systems that enhance customer engagement. In technological advances, we have the emergence of cloud computing, where the ability of cost-effective cloud-based systems may prompt businesses to upgrade in search of better scalability and access. The other cause in technological advances is cybersecurity threats. This is where increased cyber threats may require the implementation of advanced IS for better data security and risk management. The third and final scenario is internal needs, whereby one of the causes is inefficient processes. These are time-consuming or prone to errors that could trigger the need for an IS to automate and streamline operations. Another cause is data silos. When data is fragmented across departments, an IS can provide integrated access to information for better analysis and decision-making. These cases illustrate the range of drivers for the need to implement an information system to keep businesses competitive, efficient, and responsive to both internal and external pressures. What

In here we discuss the types of information system required by an organization.

We have specific functionalities and features in IS that address organizational needs, it's essential to consider both technical and strategic aspects. Below are some key features supported by peer-reviewed studies, which align with organizational needs across different industries. The first is Enterprise Resource Planning Systems. EPR systems integrate core business functions and thus allow an organization to manage its finances, supply chains, human resources, and more on a unified system. A sample case study of Kumar & Van Hillegersberg(2000) highlights that EPR system provides efficiency in operations and agility in strategy. However it demands high investment and requires change management. It is ideal for large-scale organizations and across department integration. The next one is Decision Support Systems: They help in decision making where the data are analyzed and presented with possible solution/ forecasts. In a case study by Sharma et al. 2022, a DSS implemented in healthcare organizations considerably enhanced the efficiency of patient scheduling and resource allocation. It is utilized by managers who require insight to solve non-routine problems. We have Management Information System. Its purpose is to present summarized and structured reports that support mid-level managers in monitoring organizational performance and making informed decisions. Goyal & Mehta (2020) found that effective MIS improves decision-making speed and accuracy in medium-scale enterprises by integrating data across departments. Another is Transaction Processing Systems which purpose is to automate routine, day-to-day business transactions such as sales, payroll or inventory management. Lee(2021) highlights that TPS is crucial for operating efficiency in retail, where real-time data processing enhances inventory management and reduces waste. It is best suited for operational-level employees who manage repetitive tasks. The last one is Knowledge Management Systems. It facilitates the capture, sharing and utilization of organizational knowledge to improve innovation and problem-solving. Alavi & Leidner(2001) found that KMS adoption correlates with enhanced organizational learning and innovation in knowledge-intensive industries. Particularly relevant for R&D and consulting firms. Now, in summarizing the main findings, the "why" gives the need for the information system to solve ineffectiveness, improve the accuracy of data, and meet customer requirements.

The "who" is the successful implementation based on a collaboration process between the important players: users, information technology, and management. And what kind is the selection of the proper system type that is necessary. Finally, "when" addresses timely adoption of IS at times of market or organizational change, which helps companies to stay competitive. Recognizing the four "Ws" provides a structured approach toward IS planning and implementation. "Why" ensures strategic alignment with business objectives so as not to invest in technology that does not solve major problems. "Who" emphasizes the need for a wide involvement of stakeholders, which is necessary to have buy-in and effective usage. When" suggests that organizations should be proactive, leveraging technological trends in a timely manner and at the right time to capture business needs. "What" concerns system suitability, matching the technology to operational and strategic needs, reducing risk of failure or inefficiency. The future considerations for the businesses should venture in emerging technologies, user-centric design, sustainability, continuous training and support, scalability, and flexibility. By focusing on these aspects, organizations can optimize their IS strategies for sustainable advantages and maximum returns on investments.

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