Guidelines for automating your performance management system

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Professionals spend 50% of their time manually searching for information (and an average of 18 minutes to locate each document) according to InstaPage. This shows that automation is key in improving organisational performance. Performance Management is a field that has recently gained momentum in automation. However automation has some challenges which calls for high attention if one is to automate. The 2015 Standish Group International Chaos report studied 50,000 projects around the world and found that 52% of enterprise software implementation projects were challenged (failed to some degree), 19% failed and 29% (the same success rate as in 2011) were successful. Why can't consultants, ERP vendors and buyers get it right after 4 years? Here are some guidelines in automating Performance Management System.

Identify and Specify Requirements

This is more like problem identification and solution articulation. System requirements are guided by the end-results for performance management. In Performance Management (PM), goals, measures, Key Performance Indicators (KPIs) are identified for every unit of the business. This need to be done by experts in the field of PM because the requirements will help in deciding on which type of system to use. Given that you already have an existing system, you need to identify its shortfalls and determine if they can be solved by going digital or not and make an investment decision.

Wisely choose the most suitable Performance Management System to use

Once you have your requirements in place, you then choose the best system to use. According to Capterra, 22% of companies surveyed in 2013 reported they just bought the first system they looked at. This can be avoided by evaluating all available alternatives to keep the level of bias at minimum. The most commonly used systems namely The Balanced Scorecard System (BSC), Results Based Management System, Objectives and Key Results (OKR), Six Sigma to mention but a few. In some cases, these systems can be used concurrently depending on the requirements and the nature of the organization. It is advised that you consult experts such as Industrial Psychology Consultants in selecting the best approach to use if you are not sure. Rationally choose between sourcing alternatives.

According to Panorama 2014 ERP study, 74.1% of ERP projects exceed budget. Budget is key when choosing alternatives. There are two basic alternatives one can choose from namely In-house development and Out-sourcing. Outsourcing can be Bespoke or Off-the-shelf. Off the Shelf software is a readymade software product that you purchase while bespoke software is software that is tailor made to suit your needs. Considering the availability of resources and capacity, an organization may choose to develop the system internally. With In-house development, there are two main areas of expertise, which

need to be looked at namely Performance Management and Software Development. It is very difficult to find an Expert in both Software Development and Performance Management within a typical organization excerpt from consulting firms. Subject Matter Experts (SMEs) must work hand in hand with software developers in the process of automating. There is a need to run a feasibility study when you chose the in-house development route. Economic and technical feasibility of the project need to be determined beforehand. Sixty one percent (61.1%) of ERP implementations take longer than expected (Panorama ERP study 2014).

Run cost benefit analysis before you invest

Cost Benefit Analysis (CBA) is a quantitative approach for estimating all costs involved and possible benefits from running a project. In CBA, the following need to be considered: economic costs, risks involved and regulatory constraints. It is encouraged to run a *risk analysis* because it is more rational to do a project with a known and acceptable level of risk. A mantra for CBA reads, "If the benefits outweigh the costs then proceed, otherwise drop it or find alternatives".

Convince the Management & staff

Systems do not operate in a vacuum, there is a need for management buy in as well ask user acceptance. According to A Replicated Survey of IT Software Project Failures by Khaled El E. and Gunes K in 2008, 33% of IT projects fail because *senior management* doesn't get involved and scope change mid-way through the project. *Performance Management Champions* must convince the Executives by presenting the likely benefits from the profits. Both short and long-term business value must be outlined. If gatekeepers are convinced, the project is likely to get support and funding from start to finish. Employees also need to be considered because they may have useful input. Involving employees in the process may also reduce the risk of resistance.

Carefully design the System

System design only applies if you chose in-house development and partly if you need a bespoke system from experts. Seventy percent (70%) of online businesses that fail do so because of bad usability (Small Business Genius). There are different levels of design namely database design, architectural design, interface design and physical design. All these areas of system design must be done properly so that the system will be able to address the problem at hand effectively and efficiently. Before actual coding, system modeling need to be carried out and presented to experts. Data can be modeled using UML diagrams such as Class diagrams, sequence diagrams, Entity Relationship diagrams (ER) and Data Flow Diagram (DFDs). Experts will then determine if the real world is being represented and if the processes do make sense. If experts approve the designs then the actual coding can start.

Emphasize in System Testing before you implement

Perform testing at various levels namely unit, module, subsystem and integration testing. This can be done to identify any defects in the system and try to rectify them. Verification, validation and conceptualization need to be done with high emphasis. Validation answers the question "did we build

the right product?" whilst verification answers the question "was the system build right?" According to a [2014 Panorama ERP study](#), 40% of ERP implementations cause major operational disruptions after going live. The system's beta versions need testing so that corrective measures are applied throughout the development process (beta testing). Acceptance testing needs to be carried out. Alpha testing is a type of acceptance testing, conducted to identify possible bugs before releasing the product to end users. The focus of this testing is to simulate real users by using a black box and white box techniques. Black box is mainly concerned with input and output relationships. Experts test by feeding valid and invalid data to determine if the system process the data effectively. White box testing is carried out by looking in the code to identify suspicious code, unused code, internal functioning and potential defects. This is crucial in the sense that developers identify loopholes before they spark PM issues.

Implementation and maintenance

Implementation is the process of putting plan into effect. Systems implementation is the delivery of that system into day-to-day business or organization operation. Implementation involves a lot of processes as mentioned below.

Integration - integrate the system with existing systems if necessary. It will be ideal for the system to gather data automatically from other systems' databases such as accounting systems and projects management systems to increase the level of automation.

Changeover - The commonly used changeover methods are pilot, direct, parallel and phased changeover. Pilot changeover involves the change of the system at pilot sites in an incremental manner until the whole organization is using the new system. Direct changeover is when the new system replaces the old system at once completely. Parallel changeover allow both systems to work together for a certain period before abandoning the old system. Phased changeover allow the new system to be implemented in parts until all modules are used. You need to consider costs involved, time constraints, ability to compare performance results of both systems and risks involved in each strategy for example the ability to roll back to the old system if things go wrong.

Manage Change properly- New technologies are subject to resistance. Every member of the organization who has a stake in the system must be involved in the development and in the changeover process. For a Performance Management System to work, employees must be clear on what is expected of them and how they are going to be appraised. Users need to be trained on two main aspects namely Performance Management and system exploration. Users must be familiar with the System used for example in the Balanced Scorecard System, users must know what is meant by a perspective, a goal and a measure and how they are applied. User manuals need to be provided in different formats such as documents, videos etc.

System maintenance- This can be structured or unstructured. Structured maintenance involves a systematic way of maintaining a system as opposed to unstructured maintenance where system patches can be added without following outlined procedures. Maintenance can be adaptive, corrective or perfective. Corrective maintenance deals with bugs that arise whilst the system is in use. The business environment is ever changing so adaptive maintenance will come into play in order to make the system

suit the new business requirements. Perfective maintenance is all about improving the system to increase the business value generated.

Emphasize on security- Now the working system in place, what's next? The system needs to be safeguarded. Information is the lifeblood of any organization, data privacy is increasingly becoming an issue of concern. Data breaches exposed 4.1 billion records in the first half of 2019. (RiskBased). Security breaches have increased by 11% since 2018 and 67% since 2014 (Accenture). Data and system integrity must be maintained at the highest level. The system must be protected against source code modification, data and process consistency can be preserved through various system security mechanisms as follows: encryption, firewalls, code sanitization, obfuscation, code encoding, physical security to mention but a few. According to the University of Maryland, hackers attack every 39 seconds, on average 2,244 times a day whilst the average time to identify a breach in 2019 is 206 days (IBM). Regular backups need to be performed throughout the implementation process so that data can escape hardware and software failure.

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