ROLE OF BUSINESS INTELLIGENCE (BI) CYCLE IN WORK SCHEDULING: AN OVERVIEW

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Abstract

The aim of every organization is to achieve its set goals and objectives as well as secure competitive advantage over its competitors.

However, these cannot be achieved or actualized if staff or workers act independently and do not share ideas. Today and prominent businesses are becoming more aware that the business intelligence of their employees is one of their primary assets. Sometimes organizational decisions cannot be effectively made with information alone; there is need for Business Intelligence Cycle. Value of Business Intelligence Cycle for an organization is described in detail. An effective Business Intelligence Cycle can give a company the competitive edge it needs to be successful work scheduling. This means that for any organization to be competitive in today's global world there is need for combination or pooling together of ideas by employees in order to achieve teamwork; this is in support of the saying that 'two good heads are better than one'. The relevance of BI Cycle for work scheduling is mention in this paper. For the implementation phase different BI techniques are used like Decision Engineering, Aggregate Planning and we finally succeeded to implement the BI Cycle at work schedule to validate it with the managers and executives in a firm. For the executives, the system is able to provide analytical reports and dashboards. We have also considered the system's development lifecycle that has to be flexible and easy to fulfil. This paper has tried to explain the process of knowledge creation with the help of case examples.

Introduction

The Business Intelligence (BI) could be defined as a collection of mathematical models and analytical methods which are used to generate the knowledge valuable for the decision-making processes from available data.

BI is not just a set of tools to analyse raw data to help make strategic and operational decisions. It is a framework that offers guidance in understanding what to look for in the volumes of disparate data. As a framework, BI is a continuous cycle of analysis, insight, action and measurement.

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Analysis

Analyzing a business is based on what we know and feel to be important while filtering out the aspects of the business not considered mission critical or detrimental to the growth of the organization. Deciding what is important is based on our understanding and assumptions of what is important to customers, supplies, competitors and employees. All of this knowledge is unique to a business and is an incredible resource when formulating a BI strategy. However, having such granular grassroots knowledge of the business can subconsciously limit the ability to see patterns obvious to others.

Insight

Insight comes in many forms. There are operational insights, such as determining the effect on production costs with the installation of new more energy efficient machines that have slightly lower production yields per unit of measure. There are strategic insights analysing, for example, new market opportunities by conducting research on the barriers to entry. Insight is the intangible product of analysis developed from asking questions that only humans can ask. Computers can be used for the identification of patterns, but only humans can recognize what patterns are useful.

Action

Once the analysis is done and the insight has been sold, the next process in the BI cycle is performing the action or decision-making. Well thought out decisions backed up by good analysis and insight gives confidence and courage to the proposed action. Otherwise, decisions not supported by quality analytics are made with overbearing safety measures or less dedication or commitment from the stakeholders. In addition, quality business intelligence delivered quickly improves the speed to action. Today's organizations need to react more quickly, develop new approaches faster, conduct more agile R&D and get

products and services to market faster than ever before. BI based decision making with faster access to information and feedback provides more opportunity for quicker prototyping and testing.

Measurement

The reporting benefit that BI generates often creates the tendency to substantiate the BI results to quantitative standards. Business intelligence is hugely different from the traditional financial management and spending controls reporting. BI allows the setting of standards and benchmarks for monitoring performance and providing feedback in every functional area of the business using metrics that extend well beyond traditional financial measurements. BI tools are developed to measure what is considered important. The BI term for the most important measures is key performance indicators (KPIs). BI systems are designed to assimilate large amounts of complex data from disparate sources and then combine the data using complicated algorithms for allocating, aggregating and massaging the data. The result is consistent reporting on the metrics, ratios and business drivers that are the KPIs that managers need to understand, analyse and take action on. In a well-designed and comprehensive BI solution, no functional area of the business is without its own set of KPIs. The goal is to have managers manage what is manageable and that is usually KPIs, not dollars.

A clearly defined BI cycle helps companies set goals, analyse the progress, gain insight, take action and measure the results. Business intelligence is a performance management framework that should continuously evolve as the organization matures and strives for competitive advantage.

Decision Engineering

Decision engineering is a framework that unifies a number of best practices for organizational decision making. It is based on the recognition that, in many organizations, decision making could be improved if a more structured approach were used. Decision engineering seeks to overcome a decision making "complexity ceiling", which is characterized by a mismatch between the sophistication of organizational decision making practices and the complexity of situations in which those decisions must be made. As such, it seeks to solve some of the issues identified around complexity theory and organizations. In this sense, decision engineering represents a practical application of the field of complex systems, which helps organizations to navigate the complex systems in which they find themselves. Decision engineering can also be thought of as a framework that brings advanced analytics techniques to the desktop of the non-expert decision maker, as well as incorporating, and then extending, inductive reasoning and machine learning techniques to overcome the problems articulated in Black swan theory.(The **black swan theory** or **theory** of **black swan** events is a

metaphor that describes an event that comes as a surprise, has a major **effect**, and is often inappropriately rationalized after the fact with the benefit of hindsight.)
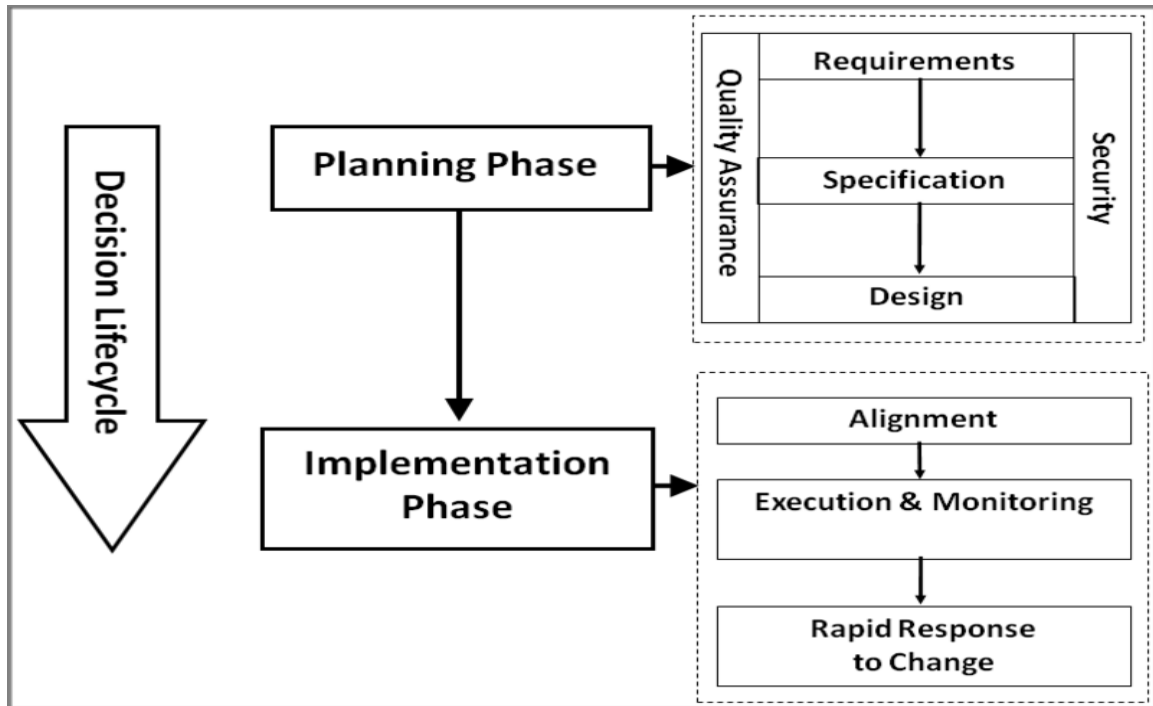
Decision engineering has the potential to improve the quality of decisions made, the ability to make them more quickly, the ability to align organizational resources more effectively around a change in decisions, and lowers the risks associated with decisions. Furthermore, a designed decision can be reused and modified as new information is obtained.

What is Work Schedule?

An employee's work schedule includes the days and times that he or she is expected to be working. In most cases, this will be a set number of days and hours.

Work schedules have several functions:

- To provide a facility to create, view, and manage a time reporter's schedule.

- To communicate and manage work expectations.

- To enable estimates of labour costs.

- To provide data that Time Administration can use to evaluate reported time.

- To provide schedule information that Time Administration can use to create payable time for exception reporters

- To accept time reporters' schedules from external systems.

- To provide punch schedule information that can be sent to time collection devices.

However, many employers offer part-time and alternative schedules to cover their work needs and attract workers.

Traditional Shift
Though the specific times vary, full-time workers often work three distinct shifts. In some workplaces, employees get scheduled for the same shift each day. In retail, it is common for full-time employees to work different shifts, such as the opening shift or closing shift.

Shifts
A shift is the main building block for the workday and an aggregate for the set of punch types from which it is built. Create a shift by entering a shift type and the detail in the shift. You can create three types of shifts: elapsed, punch.

Elapsed Shifts

Define a single elapsed punch entry for the shift. For example, you create an elapsed shift of 8 hours. The 8 hours is nos. clock time. Elapsed shifts cannot exceed 24 hours.

Punch Shifts

Use punch shifts when you want to create shifts that define specific work times. Punch shifts are defined by an In punch and the first subsequent instance of an Out punch. There can be other punches, such as Break, Meal, or Transfer, between the In and Out punches. Punch times are associated with each punch. Enter the duration of a punch, or the system can calculate the duration when the time for the next punch is entered.

Alternative Schedule

In addition to part-time work schedules, employers use a variety of alternative work schedules to attract talent. A compressed workweek involves four 10-hour days, for instance. Flex schedules allow employees to adjust their hours to an earlier or later shift, but core hours in the middle of the day are often required.

Objective of the Methodology

The aim of this article is to overcome the burden of work with innovative outcome. A particular goal is to identify Business Intelligence Cycle as an important element in a process of Work Scheduling and to test dependencies between the present quantitative elements.

In order to meet the goal of the project, an analysis of secondary resources has been carried out which generated a list of theoretical points of departure related to the topic. The article has been drawn up using scientific methods, in particular logical methods, such as analysis, synthesis, induction and deduction. The report is completely based on secondary data which is all static report.

Case: Example-

Consider in the case of Hospital where everyday there is in and out of patient. Using Business Intelligence Concept we can immediately allot bed to the required patient. Like immediately cleaning the patient room the moment patient discharges from the hospital, so that the next patient can immediately get accommodated. Every day work schedule will be assigned to the different wards and the administrative department. For every floor, details will be given to the floor in-charge who updates about every activity which is to be performing for that particular day. Reports of the activity will be submitted to floor in-charge by every floor worker/employee. This report will be conveyed to the recipient so that required patient does not have to wait and get's immediately accommodated with their respective bed for future treatment.

Task to the worker/employee will be given based on day-to-day activities (work scheduling).

Conclusion and Discussion

Business Intelligence represents the top of the hierarchical model of the business administration and information system and a strong tool which helps to increase quality, reliability, safety and efficiency of business processes. Work-schedule can be carried out process and produced through the Business Intelligence Cycle, thus providing the analysts and managers with important information about the activities of the company and the insight into the processes within the company.

Although the Business intelligence technology was originally developed as a support of the decision-making in enterprises, given its nature and the diversity of its tools, it is clear that it has a very big potential and wide application in the areas outside business management. Business intelligence tools could find application e.g. in control parameters optimisation and complex nonlinear technological processes control, in early warning systems, or other systems that uses mass storages for historical data. It is obvious that using the knowledge discovery for the need of hierarchical process control is definitely such type of application.

Reference

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