Business Intelligence In Health Sector

Name

Institution

**Business intelligence**

Business intelligence is a technological –based process used for the analysis of data and presentation of actionable information that helps business managers and corporate shareholders in making more informed decision for the organizations (Chen, Chiang, & Storey, 2012). It encompasses a variety of tools, methodologies, techniques and applications that help organizations and companies to collect more data from the systems used internally and other systems used outside the business. It can also include both the historical information as well as the current data gathered from the systems, by this it helps in support of both the strategic and tactical decision-making process in an organization.

Once the data has been collected, it is prepared for analysis, develop and run questions against the data, create reports and data visualizations to make corporate decision makers as well as operational workers access the results that have been developed. Business intelligence is of relevance because it helps the organization in accelerating and improving decisions making which provide a good environment for the business to run effectively. it improves the competitive nature of the business since managers will have timely information on what their competitors are up to and develop mare advanced mechanism to help the be more competitive in the market(Chen, Chiang, & Storey, 2012). Through the BI systems companies are able to identify market trends and spot problem that need to be addressed for the business to run effectively.

SCOPE INTRODUCTION

Healthcare can be described as the maintained or the improvement of people’s health through the diagnosis and treatment of the patients to help curb, prevent or control a current situation that affects the normal functioning of the human being. The delivery of the health care to the patients is done by health professionals who are trained in handling patients with different kind of abnormalities. In accessing this healthcare, it occurs with many variances which make it different in different regions, largely it is usually influenced by the social and economic conditions as well as the healthy policies of the place with is being carried out. In this regard, healthy policies are usually influenced by the jurisdictions system of that particular country in relation t the personal and population-based health care goals within the societies.

In the delivery of health care practices, several problems are usually encountered, some of the problems include. Hostile communities based on their Economic and social practices, through the help of the government and other non-governmental health care based organization, they have always been on the move in ensuring that different marginalized communities have access to better health care in order to reduce death cases in those regions, but in so doing some community are hostility in taking their advice on the medications to be used since they believe they have community norms which don't allow them to take medicine rather they should take bitter herbs. In the process of containing their situation using the herbs they end up dying since they are slow to heal, unlike other medicines. This becomes one of the problems while deliver lying healthcare.

Secondly, the issue of better and more improved household for patients has been a problem,

Housing problem has been a major problem in the healthcare sector thought it have been highly neglected, a better housing is always important for psychological reasons as well as its protection against various elements that are subjective to harm, though in the recent years there have been a major development to help improve the housing standards in different communities the system have not yet reached every member since may people living in poorly installed houses are always subjected to various diseases.

PROBLEMS AND SOLUTIONS ASSOCIATED WITH BUSINESS INTELLIGENCE IN HEALTH CARE

In the execution of the BI projects, they encounter many problems where some of the problems emerge from within the organization that is to use the new system, some of the problems that are mainly experienced include.

Bad execution and management support. Many BI projects do fail because of poor execution on a well-intentioned plan, execution failure can result from not enough employees with the right skills to deliver on time or from bad management, a shortage of sufficient funding of lack of executive support , if an organization is not prepared in bringing the necessary talents and providing funding and support they typically do not succeed in high-level analysis tasks. To avoid the project, the managers involved should always ensure that the organization have set enough funds that will help the in execution of the project, the funds should also be enough in order to enhance training of the employees on the use of the system, every employee who are to use the system must be properly trained for them not use the system without knowing how it works where the system ends up breaking down.

Subcontracting and stakeholders involvement- outsourcing can lead to failure, data can be gathered from many and stored in many places, valuable data may be stored in excel file or on a workstation operated by individuals who recently retired and the IT department may have cabinet of hard drives filled with old files, thus business intelligence projects are often complex and may need cooperation from various groups, to the end users, management, and executive should recognize the vital role they play in the processes. To reduce the problem the management should ensure that the data they have acquired should not be taken out of others rather it should remain within the organization.

Over-promising and under-delivering: Promising, reporting and analytics for all and then delivering a handful of inaction able reports for a few will reduce user confidence in the usefulness of the BI project and the likelihood of ongoing executive sponsorship. To avoid this situation, develop reports for one user group at a time, say the sales team, moving onto the user group of next highest priority in a systematic fashion. Create and follow a realistic delivery schedule – don’t try to do it all at once.

Not leveraging intelligence and reporting some people may collect valuable data from the software’s but they don’t share it, analyze it or even act on it, collecting data and feeding it to the system can be a big mistake since it portrays a risk of producing wrong information to the users thus when using the information the management must first scrutinize the information ensure that what they are using is relevant and will be helpful in the future.

Strategy another way that triggers the failure of business intelligence adoption is lack of clear strategies laid down by the business management, a good strategy should drive the data collection process as good planning will help determine which actions to take after data collection and its analysis, poor data collection efforts can doom the best strategy, not asking the right questions or asking them to the wrong time can create fast as much confusion as an ambiguous or poorly worded question. To improve this, the managements should have a clear strategy on data collection, they should be aware of where to collect the data within the healthcare organization so that they may not feed the computer with the wrong information which will later come to jeopardize the running process of the facility.

HEALTH CARE STANDARDS

Health care standards are the measure of how well health care do perform their task and the quality of services that they offer to the people. Its main principal purpose is to achieve improvement in the quality of care and ensure patients safety (Chen, Chiang, & Storey, 2012). In improving the quality of health care to patients, different patients view quality health care in different dimensions. Example some people may be sitting in a room waiting for doctors while others being treated politely by the doctor view it a quality health care, in dealing with the health care standards there are benefits that will emerge from it, such benefits include.

In improving the standards of healthcare there will be patients retention and loyalty, when providing consistently satisfying patients experiences, medical practices and other care centers wins the patients loyalty and becomes a provider of choice, by this the patients does spread the positive word of the health care and this attracts more patients who were losing their patients to their previous healthcare. There will be improved outcomes and healthier patients, due to the quality of experienced medical officers settings, they will be able to bring about optimal health outcomes, patients will be less anxious in their consultations and communications with the physicians, because of this patient will be more relaxed and cooperative during procedures, take their medicines and adhere to their care plan and follow up their care.

In addition, success with accreditation and regulatory agencies will be enhanced, agencies that accredit health plans now scrutinize patients satisfaction data during the accreditation process, many healthcare annually measures patients satisfactions as an external review and accreditation requirement of health agencies, which instates a members satisfaction survey as part of its care effectiveness data and information set quality standards as well as customers assessment of healthcare providers and system survey that measures experiences of patients with their physicians and medical groups.

PROJECT CHARTER FOR BUSINESS INTELLIGENCE IN HEALTH CARE

A project charter may be regarded as a document that states the existence of a project and provides the projects directors with written authority to begin work, it helps project managers to communicate his authority and explain to project participants and stakeholders why the project is needed, who it involves, how long the project will take, how much it will cost and the resources required for it to be completed. Project character is the first opportunity that defines the scope and identifies approaches, resources and timeline for the project (Lavoie‐Tremblay, et al, 2012).

The following stages are used in its development

Initial meeting. In this stage a meeting is conveyed by the project manager, for the business intelligence in healthcare the managers responsible will convey a meeting with the project sponsors and other medical officers, they will then be interviewed on the matters of the project and give their views and recommendations with respect to the usefulness of the project.

Develop a draft project charter. As the manager of the project, they will be required to draft inform of a paperwork on how they think the project will be, indicate all relevant resources that will be required as well as putting down all the stakeholders of the project (Lavoie‐Tremblay, et al, 2012). In the draft, the important of the project can also be included.

Stakeholders meeting. After the draft of the project character, a meeting with major stakeholder to the health care is conveyed. In the meeting, the manager will be able to expound on them and make them aware of the relevant of the business intelligence to the health care (Lavoie‐Tremblay, et al, 2012). Also, the stakeholders will make their agreement and commitments to the manager of the project; they will also give advice to the manager where there needs improvement after his presentation to them, after this, the manager will update the project character based on the feedback acquired from the major stakeholders.

Confirm the project charter, finally, after the update with respect from the major stakeholders the project will be confirmed and approved, here the project will be initiated in order to help patients as well as improving the working conditions of the workers.

KEY PERFORMANCE INDICATOR TO THE BUSINESS INTELLIGENCE IN HEALTH CARE

Health care is one organization where efficiency can literally save lives, business intelligence analysts have become figurative lifesavers in health care organizations today as well as allowing the too easily collect data that is infamously large in size and located in different places and visualize it in the business intelligence dashboard to draw important business insights as well an improving financial and operational efficiency, in the enhancement of business intelligence in healthcare, the major performance indicators include;

Affordability of the business intelligence software’s. Unlike the past ages where technology needed to accommodate the large flow of data was much expensive, nowadays the technology advancement has helped in ensuring the large flow of data can be fed into software and can be easily accessed (Correia, et al , 2014). Also, expansion of business intelligence small sized companies which could not afford the previous technology has been made easier for them to acquire software’s which are the run into their system to help retrieve data to patients effectively, data warehousing. for example, was once restricted to major companies with significant capital but today the restriction was curbed and even he small health practices are likely to find a tool that is in their price range since technology has accommodated every organization.

Personal health apps and devices. New technologies like wearable fitness trackers and smart phones health apps are driving medical insights and encouraging the adoption of tools that can gain value from big data, this has lead to the booming of healthcare since it has been witnessed that the number of people using the technology has risen (Heath et al, 2012). The technology has also helped patients communicate with their doctors and they can be able to explain their problem using the technology. By this it has lead to the growth of business intelligence in health care and more people have adopted the system

The emergence of predictive analytics. As more people become insured and the burden of medical groups grows, there is always an increasing need for technology that can better predict patients’ costs. The tools used here can be able to assess patients’ risk of illness, potential cost, analyze clinical data and provider in their billing process. Creation of the tools that may perform the predictive analysis many healthcare has been in the frontline in acquisitions of soft wares that help in the performance of the task thus the improvement of business intelligence in healthcare.

Centralization of electronic health records. From hospitals to doctor’s offices and clinics, patients health records are now required to be stored electronically, this adoption has forced healthcare hand into big data and potential incentives make business intelligence more critical than never before. The process has been adopted in many healthcares since they believe the use of manual retrieval of patient’s data has been hectic and requires more time to do so.

Management support another indicator to development and improvement of business intelligence is the support that is usually gathered from the management, they have been able to provide funds to the software’s developers so that they can execute the programs, also they have helped in training of the employees on the use of the software’s in the business.

The growth of social media on healthcare, in recent years the growth of social media have helped business intelligence programs be executed to many health facilities since a lot of patients who have the experience do comment positively about it making others feel the eager to use the same system. This has also made other organizations adopt the system since they want to make the customers satisfied with the services being offered.

**STRATEGIC ANALYSIS**

Strategic analysis is the process of conducting research on a business environment within which an organization operates and on the organization itself in order to formulate a strategy which will help improve how the business is running (Grigoroudis, Orfanoudaki & Zopounidis, 2012). In order to have a clear strategic analysis there are various tools used in strategic analysis, these tools include;

PEST analysis, it involves the scanning of the external macro environment in which an organization exists, it is useful in understanding the political, economic, socio-cultural and technological environment that an organization operates in. some of this factors include. Political factors-this are mainly the government regulations such as employments law, environmental regulations, and tax policies (Lavoie‐Tremblay et al, 2012). In the study of this factor health care managements will be able to know the tax imposed when adopting new software’s from outside the local country, this will help them lobby the government to support their move of adopting new systems in health care and the tax imposed on such software will be reduced. Economic factors they affect the cost of capital and purchasing power of an organization, they include economic growth, interest rates, inflations and currency exchange rates. The growth of the economies plays a key part in business intelligence for healthcare’s, when the level of goods is high, the healthcare might not be able to adopt the system hence they should move when the economy is stable.

Social factors- they impact on the consumers need and the potential market size for the organizations good and services they include age , growth rate and demographic. The growth of the region in terms of population is a key indicator for health care systems adoption if the population is low and the number of patients served if not more than the doctors required, the system may not be adopted unlike in the case of many patients and fewer doctors. Technological factors- this are changes in the innovation of systems and technological advancement. In health care organization the past analysis will be of relevance because it will help the management in knowing how the government and technological changes will help to boost the introduction of business intelligence systems in the healthcare sector (Grigoroudis, Orfanoudaki & Zopounidis, 2012). The trend in population growth will help the healthcare sector predict the number of machines and software to install in the future.

In strategic analysis of the environment the business is under, the management will have a direction to follow after analysis of the environment, in a case of population growth within the region, the health care will be able to predict the number of patients they might be handling in like five years time, this will give the direction in the management of the business intelligence system since they will be able to procure more advanced system that can handle large number of people in the health care for the five years that have been predicted on.

Strategic analysis helps to develop a planning for the whole organization a good strategy comes from the top management and thus when an organization executes a good strategy for the organization, the organization will be able to run effectively, for the healthcare facility, good planning will ensure that the managers have a better plan in adopting the business intelligence that will be an indicator for the running process of the facility, this will help them to do their tasks effectively.

**SWOT ANALYSIS**

A SWOT analysis is a simple but widely applied tool that is used in understanding the strengths, weaknesses, opportunities and threats involved in a project or a business undertaking, from our study, SWOT analysis can be linked to the strengths, weaknesses, opportunities and threats that the health care adoption of system project is likely to encounter with, the analysis starts by defining the objectives of the projects and identify both internal and external factors that are important in achieving the objectives, strength and weaknesses are usually categorized as the internal factors meaning that the forces behind them are just within and inside the business dealings while opportunities and threats are usually viewed as external, meaning that the forces behind them are outside the business dealings or undertaking (Wijngaarden et al, 2012).

Strength. In this tool, it tries to scrutinize and indicate the major strongholds of the organization, however questions that are related to the performance of the organization are seen here, for an improved business intelligence the managers must consider what organizations does better as compared to other, in such it will be able to run competitively in the health care sector and more patients will be recruit due to the better health care as a result of the better software (Wijngaarden, et al, 2012). The managers also learn the unique services that they are giving to patients, this creates a more positive image to other people who had not enjoyed their services.

Weakness. As a good manager to an organization, one must always know the weakness of the organization and how to curb them when they are encountered with the situation, the manager must analyze their weakness and develop measures that will help them improve more than their competitors, in healthcare business intelligence the managers in charge must understand that anytime problems might come, for instant if they have a problem in running the software in the healthcare they must have a backup mechanism that will ensure that the patients loyalty have been maintained as well as ensuring that their competitors do not take advantage of the situation, nevertheless they must also look at what other health care facilities are using that is more advancement than theirs. This will help them create an environment with improved medical heath care.

Opportunities. Opportunities are very rare but whenever they come one must utilize them to their best in order to improve their undertaking, opportunities such as new innovations in the market are rare, the business intelligence team with the help of their managers must utilize the opportunity once they appear they must develop the technologies in the facility to help them in running effectively when patients data and performance are stored and easily retrieved without using a lot of effort (Wijngaarden et al, 2012).

Threats. The threat is an external factor that affects the running of an organization. The management should always be on the lookout to ensure that what they consider as a threat to them does not affect their running, in the healthcare business intelligence a lot of threats may occur, some of them may include their sister health care who may be using advanced health care intelligence than they are using, this will pose a threat because the movement of patients in their facility will reduce since patients will want to move to more advanced facilities.

A SWOT analysis in any organization is usually importance because it helps the management know how best they are able to handle a situation which affects them, this creates a conducive environment for the business since they will have analyzed the environment and knows what environments work in their favor.

**Review growth**

This analysis part is aimed at reviewing the SWOT analysis in relations to the key indicators to be performed. Hence the growth part is aimed at demonstrating the ability of the health sector in creating enhancement which will cater for the continued growth of the sector (Wijngaarden et al, 2012).

Among the key indicators discussed is the employment of affordable software which will enhance business intelligence. From the highlighted exhibit its worth noting that data mining software are necessary since the make use of each data collected about any visiting customer, recommendations retrieved from social media and organizing the information so as to make resolutions based on the customer satisfaction and needs.

Fitness developed apps and devices are most usable for sustainability maintenance of the customer. Through the platform different clients highlights, their personal encounters with their problems and the business admin in the site state the services offered in healthcare. The outcome of such a responsible dynamic activity customers considers the free services given easy accessibility to consultancy on medical issues saves times and hence the growth of the firm is achieved.

Centralized health records information based electronically is worthwhile, clinics updates are enhanced effectively. The patient data needs to be progressive so as to help the doctor do the relevant recommendations and inferences about the customer's problems for proper diagnostic.

Management support to IT professional is necessary since any project undertaken requires the management studying the business requirements so as to identify the required software necessary to enhance business intelligence. The expert intervention sought high hierarchal support in funding and project implementation, the attributed growth is related to the embrace of diversity and innovation within a healthcare setup.

Hence the review growth aims at developing a sustainable business which takes in the reviews and evaluates the existing resources so as to ensure that the business remains effective and competitive.

LESSONS LEARNT.

From the above business intelligence in healthcare, it has been noted that for the system to be fully executed, the management should be in the frontline in ensuring that adequate support to the project has been fully given out, this will enhance the performance of the intelligence to the facility thus improving the services offered to patients.

Moreover, the technological advancement has also been a key indicator of the performance of the intelligence system in healthcare facilities, this is because, with the use of the technology, doctors and physicians can be able to retrieve data regarding the patients easily and be able to accord proper medication to them. Technology has also been on the frontline in the spread of information to other health facilities to adopt the intelligence in their facilities because it has been observed that patients are moving with technological advancement and they want more advanced healthcare facilities.

Conclusion

Finally, strategic analysis and SWOT analysis should always be the first priority in the management of the facilities, strategic analysis helps the management in future planning of the facility, and this helps in ensuring that in the case of uncertainty the management will have a clear plan of how to handle the situation. SWOT analysis helps in ensuring that the facility in moving as the technology is advancing, analyzing of external threat helps it to be more competitive in the external environment.

However business intelligence is subject to many different approach tactics, the business characteristics defines the relevant features to be enhanced. The reviews of this paper thus remain as a simple literature on the relevance of business intelligence within the health sector. Changes with time, technological advancement, and changes in the demographic social status certainly will play as a variable to adopt more different methodology apart from the highlighted one in the subject matter.

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