

A Novel Service Optimization Framework for Big Data Analytics and Business Statistics

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ABSTRACT: In this investigation paper, we had watched and proposed the normal for Big Data Analytics and Business Statistics in watching the voluminous picture of hierarchical vital execution administration diagnostics Service Optimization structure. In our investigation, we are keen on taking care of Big Data Analytics and Business Statistics as a dynamic examination that had empowered associations to attack and produce more noteworthy information development and basic leadership. Our investigation objective is to propel a true comprehension of rising learning got from sorting out huge information situations and Business Statistics Service Optimization structure advancement. All together, to beat the equivocalness situations of Big Data Analytics, we propose a Novel Service Optimization Framework that includes the present Big Data Analytics and Business Statistics stages with their diagnostic highlights in outlining the authoritative vital execution administration Service Optimization system. The result will be an outline of a commonplace key execution

administration application – the authoritative key analytic dashboard.

Keywords: Big Data Analytics, Business Statistics, Dashboard, Information Architecture, Information System, Knowledge Management, Service Optimization.

1. Introduction

The fundamental component or capability of an organization is the ability of its constituent parts to communicate. Nowadays, due to the turbulence and the rapid change of an organizations environment, Information System has reshaped the basics of an organization in various ways. Information System performs several vital roles in any type of contemporary organizations such as supporting organization operations, managerial decision-making and strategic competitive advantage. Perhaps, Information System contributing to the information distribution within an organization, ground on the divergent levels of hierarchy in an



organization. It is important to consider that Information System acquired to deal with particular tasks and problems within an organization.

Therefore, the need for proper dissemination of Information System at various levels of management in organizations has become an important issue. Classification of Information System into different levels, is a practical technique for designing systems and considering their application to clarify a multiplex hurdle through a distinguished field of commonality between dissimilar scenarios. Due to the complexity and susceptibility of the current big data scenarios, organizations need numerous data and information to capture and process in order to make instant and leading decisions. Big data phenomena as data science is about dealing with voluminous data that must be timely organize and processed for making strategic decisions.

One of the venerable and most general approaches in complimenting strategic decision-making process is by adopting data analytical approach of Business Statistics. Business Statistics as a intellect action within organizations that

implies the interaction of collective and individual elevations of analysis and leads to accomplish organizations goals. Business Statistics is about utilizing information to make strategic decisions. Tactically, it is about building applications for reporting and analysis. Operationally, Business Statistics is about addressing problematic scenarios of scattered data in an organization. Organizations continue to progressively disburse attention to the conception of Organization Learning (OL) in line to surge innovation, effectiveness and competitive advantage. Towards understanding the real world of knowledge and information use, organizations should assign with literacy and competency of Big Data Analytics and Business Statistics. In striving for excellence, an organization must be agile in obtaining better organizational performance. Therefore, the complexity of OL and connections amid its levels of analysis can benefit from the use of Information System. There is a need to position Big Data Analytics and Business Statistics initiatives for optimizing the organizational performance. We have initiated a analysis on observing and proposing a generic organizational excellent performance framework towards designing an executive

strategic performance diagnostics dashboard. This strategic performance diagnostic dashboard is meant for a higher education institution – a university Prime Performance Indicator (PPI) dashboard.

2. Research Problems

Many organizations are so keen on striving for excellence. However, these efforts are not easy. Some are still interfacing such operational difficulties and jeopardizing strategic scenarios. Many have experienced obstacles and risks of tremendous data silos – isolated information repositories. Information System has become the backbone of most organizations as an integrated and coordinate network of components, which combine together to convert data into information. Information System is defined as the software that helps to analyze and organize data. The main purpose of Information System is to turn data into applicable information that can be used for decision-making in an organization. Strategic decision-making is a continuous process of creating organization mission, values, goals, objectives and indispensable component of managing organization for a particular action of plan in altering strategies based on observed outcomes. Strategic

decision provides a critical evaluation of relationship between decision-making and performance in OL.

In addition, these organizations are experiencing data fallacy and redundancies as well as information bottleneck and overload. Poor strategic decision-making has been pointed out as a factor contributing directly to the problems of organization failures. It has become the main reason for the demand of modern perspectives and analysis directions, to yield further guidance and insights for executives on factors empowering organization success and avoiding organization failure. There is a phenomenal problematic data area of incompetent information management and analytics inability at strategic level; information “blind spot” and uncertainty – not knowing what is going on. Most of the problems occur in decision-making related to Information System for strategic decision-making from various perspectives, to advance beyond confined considerations of the organization artifact and to enterprise into underexplored organizational contexts of Big Data Analytics. All these have resulted severe performance and losing competitiveness.



We have signified these problematic scenarios as the bases of our analysis questions:

1. What is the appropriate analytics tool and Business Statistics component framework for a generic organizational strategic performance diagnostics modeling?

2. How to simulate an organizational PPI's reporting model using Big Data Analytics scenarios and Business Statistics technology in order to enhance the organizational strategic performance?

3. What is the applicable information architecture of the proposed diagnostic model to be presented as a strategic performance diagnostics tool or an executive PPI dashboard for viewing the strategic achievement of a university?

3. Research Objective

The rate of organization failure remains high because, organizations fail to explore and utilize their Information System structure and system for strategic decision-making . The existing IS or Information Technology (IT) of an organization typically it's IS/IT implementation has to be brought up towards realizing gaps for excellence by

engaging Big Data Analytics and BI as mission-critical framework, in building an organization data architecture and infrastructure.

Organization failed to have a systemic framework for strategic decision-making that is comprehensive enough to represent a wide range of prospective factors that may impact organizational performance and the implement of the framework to assess and delineate the impact for strategic planning and process as a formalized technology enabled Information System. Perhaps, this can be defined as the role of high involvement work by employees; with the complex work environment conditions continue to fail in resolving strategic issues. We have to scrutinize the existing data environment, practices, operations and processes in a respective organization. With acclaim to these intents, elements of organizational excellence and strategic performance management have to be explored with conclusive approaches and intelligences.

The analysis objectives are to:

1. Differentiate the characteristics of Novel Service Optimization Framework, Big Data



Analytics and BI approaches which are acceptable for organizational strategic performance diagnostics tool.

2. Initiate relevant PPIs reporting model utilizing Big Data Analytics scenarios and Business Statistics technology.

3. Design an online real time organizational strategic performance dashboard – a strategic performance diagnostics tool for university’s executive.

Hence, the strategic literature review needs to investigate the tendency of Information System adoption factors as well-designed and usable strategic diagnostic tool for decision making systems essential to permit more effective and reliable action plans. We have begun with some required frameworks for strategic excellence by scrutinizing the potential approaches of Big Data Analytics and Business Statistics. Eventually, we would design an integrated application functioning as the organizational strategic performance management diagnostics tool.

4. Literature Review

One of the most stimulating scenarios in many organizations facing nowadays is the sudden rise of big data.

Organizations are affected and triggered by tremendous data silos, data errors and information bottleneck. This phenomenon is also due to human lacking knowledge to characterize strategic level information-“blind spot”, especially on a typical pattern of effective problematic scenarios and responses.

In other words, big data has fascinated the attention of an organization by their unpredictable velocity, variety and volume of data exceed organization storage, and we have perceived the relationship between the Big Data Analytics and Business Statistics, based on:

1. Veracity defines the quality of apprehend data vary greatly, influence precise analysis.
2. Velocity classifies the rapidity at which the data is processed and generated to converge the challenges and demands that reside in the path of development and growth.
3. Variety characterizes the nature and type of the data that helps organization to analyze its effectiveness to be use in resulting insight.

4. Volume defines the quantity of stored and generated data, in term of potential and value insight.

5. Variability classifies the inconsistency of the data set, which can hamper the processes to manage and handle it.

According to Phillips-wren, Business Statistics is introduced as a platform of application for assist business decisions by highlighting the analytical process for unstructured data, data sources and complex. On the other hand, Business Statistics and Big Data Analytics have arise as analytical tools, technique, architecture and applications to aid in strategic decision-making process. Big Data Analytics has predictive ability while Business Statistics assist in informed decision-making process based on analysis of past data. The study is aimed to determine the adoption of theoretical framework towards conceptual framework by using the role of Business

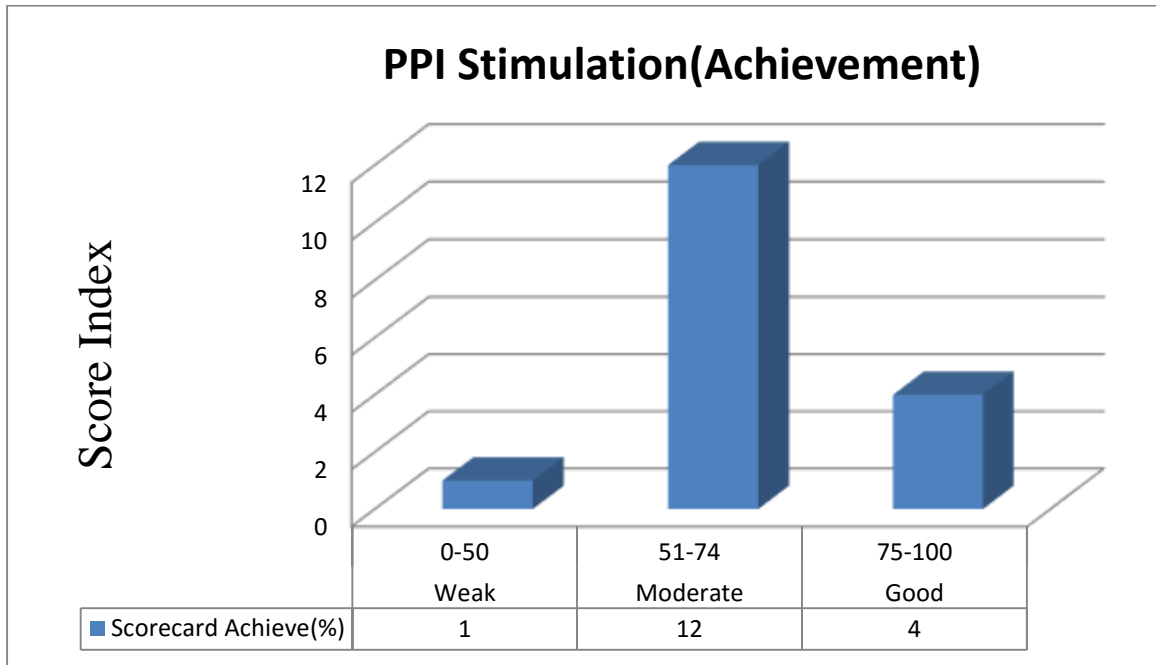
Statistics to analyze the quality of data presented as the PPI's from operational management through Big Data Analytics.

5. Result Analysis

Based on our analysis, the University A's PPI benchmark percentage is 68.05%. Towards understanding and representing these achievements, we have directed the scorecard according to this benchmark. The crucial analysis shows that four sub-element scorecards – 23%, are above the average benchmark of the university. Meanwhile thirteen sub-element scorecards – 77%, are below the average benchmark of the university. the quality and nature of the PPI generated for this scenario, where four sub-themes – 24%, had achieved the good ranking. The other twelve subthemes – 71%, had yet ranked as moderate and one sub-theme – 5%, had concluded the weak ranking.

PPI Stimulation (Achievement)	Score Index (%)	Scorecard Achieve(%)
Weak	0-50	1(5%)
Moderate	51-74	12(71%)
Good	75-100	4(24%)

Fig:- Benchmark of the University A's PPI Achievement



We perceive the role of BDA in discovering the potential gaps arises on these sub-themes. Perhaps, we perceive further that that performance below 65% and yield key determinants underlying gaps or issues. We had concluded that there was a rapid amount of data available to be inaccurate and inconsistent. These potential gaps are due to data usability, phenomenal data silo, and performance or system downtime, experiencing human error and data validity. Therefore, we simulate that key enabler from this big data scenario must be mapped with info graphic mechanism and providing the key important insights that can be soliciting to boost up the PPIs

achievement by triggering evident mechanism of alerts for monitoring these themes in strategic manner, scrutinizing components for data validity, tracking human interaction for communication and behavioral dimension and yet, predicting and prescribing on new strategies towards achieving their targeting PPIs.

6. Conclusion

From the study, several elements and characteristics are mapped into the organization KM- Business Statistics parameters as the most important Big Data Analytics component in the strategic decision-making process that gives impact to the Vice Chancellor and stakeholder

information sources and strategic directions. The work has highlighted on a simulation and optimization of Big Data Analytics and Business Statistics – multiple Statistics. The elements can be categorized as the holistic view in an organization that creates data value on organizational strategic performance. The challenge ahead is to comprehend the knowledge emergence in a form of Service Optimization Framework that is suitable and precise for an organization as a university strategic performance diagnostics tool. We had defined the Business Statistics framework model and its PPIs reporting by utilizing Business Statistics and big data technology generating suitable information architecture of the proposed model of strategic performance management.

7. References

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