

Assimilation of Business Intelligence (BI) and Big Data Analytics (BDA) Towards Establishing Organizational Strategic Performance Management Diagnostics Framework: A Case Study

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ABSTRACT: *In this research paper, we had observed and proposed the characteristic of Big Data Analytics (BDA) and Business Intelligence (BI) in observing the voluminous picture of organizational strategic performance management diagnostics framework. In our study, we are interested in handling BDA and BI as a dynamic research that had enabled organizations to invade and generate greater knowledge formation and decision-making. Our research goal is to advance a real world understanding of emerging knowledge derived from organizing big data scenarios and BI framework development. In order, to overcome the ambiguity scenarios of BDA, we propose a framework that involve the present BDA and BI stages with their analytic features in designing the organizational strategic performance management framework. The outcome will be a design of a typical strategic performance management application – the organizational strategic diagnostic dashboard.*

Subject Categories and Descriptors:

[J.1] ADMINISTRATIVE DATA PROCESSING]; Business; [H. Information Systems]; [H.2.8 Database Applications]: Data mining

General Terms: Business Intelligence, Information System, Knowledge Management, Organization Learning, Strategic Decision, Visual Analysis

Keywords: Big Data Analytics, Business Intelligence, Dashboard, Information Architecture, Information System, Knowledge Management

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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 (IS) has reshaped the basics of an organization in various ways (Bolden, 2011). IS performs several vital roles in any type of contemporary organizations such as supporting organization operations, managerial decision-making and strategic competitive advantage (Daft, 2006).

Perhaps, IS contributing to the information distribution within an organization, ground on the divergent levels of hierarchy in an organization (Rodgers et al., 2002). It is important to consider that IS acquired to deal with particular tasks and problems within an organization. Therefore, the need for proper dissemination of IS at various levels of management in organizations has become an important issues (Daft, 2006).

Classification of IS 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 (Schermerhorn, 2001). Due to the complexity and sus-

ceptibility of the current big data scenarios, organizations need numerous data and information to capture and process in order to make instant and leading decisions (Westerman G, 2014).

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 approach in complimenting strategic decision-making process is by adopting data analytical approach of Business Intelligence (BI). BI as a intellect action within organizations that implies the interaction of collective and individual elevations of analysis and leads to accomplish organizations goals (Lim et al., 2014).

Strategically, BI is about utilizing information to make strategic decisions. Tactically, it is about building applications for reporting and analysis. Operationally, BI is about addressing problematic scenarios of scattered data in an organization (Bestman et al., 2016). Organizations continue to progressively disburse attention to the conception of Organization Learning (OL) in line to surge innovation, effectiveness and competitive advantage (Lee and Ooi, 2015).

Towards understanding the real world of knowledge and information use, organizations should assign with literacy and competency of BDA and BI (Wong et al., 2016). According to Popova-Nowak and Cseh (2015), the composition of the learning arises due to the impact of assorted factors such as environment, structure, technology, strategy especially IS and culture on OL. 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 IS. There is a need to position BDA and BI initiatives for optimizing the organizational performance.

We have initiated a research 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 Key Performance Indicator (KPI) 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. IS has become the backbone of most organizations as an integrated and coordinate network of components, which combine together to convert data into information (Jaques, 2017). IS is defined as the software that helps to analyze and organize data (Rahman et al.,

2017). The main purpose of IS is to turn data into applicable information that can be used for decision-making in an organization (Murugesan and Karthikeyan, 2016).

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 (Kohtamäki and Farmer, 2017). Strategic decision provides a critical evaluation of relationship between decision-making and performance in OL (Saadat and Saadat, 2016). 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 (Dwivedi et al., 2015). It has become the main reason for the demand of modern perspectives and research 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 IS for strategic decision-making from various perspectives, to advance beyond confined considerations of the organization artifact and to enterprise into underexplored organizational contexts of BDA. All these have resulted severe performance and losing competitiveness. We have signified these problematic scenarios as the bases of our research questions:

1. What is the appropriate analytics tool and BI component framework for a generic organizational strategic performance diagnostics modeling?
2. How to simulate an organizational KPI's reporting model using BDA scenarios and BI 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 KPI dashboard for viewing the strategic achievement of a university?

3. Research Objectives

The rate of organization failure remains high because, organizations fail to explore and utilize their IS structure and system for strategic decision-making (Maier et al., 2015). 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 BDA 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 IS (Laumer et al., 2014). 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 (They and Up, 2015).

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 research objectives are to:

1. Differentiate the characteristics of available excellence frameworks, BDA and BI approaches which are acceptable for organizational strategic performance diagnostics tool.
2. Initiate relevant KPIs reporting model utilizing BDA scenarios and BI 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 IS 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 BDA and BI. 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. According to Bestman et al., (2016), 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 an organization storage (Laumer et al., 2014), we have perceived the relationship between the BDA and BI, based on:

1. Veracity defines the quality of apprehend data very 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, (2015), BI 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, BI and BDA have arise as analytical tools, technique, architecture and applications to aid in strategic decision-making process (Jung and Wu, 2016). BDA has predictive ability while BI 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 BI to analyze the quality of data presented as the KPI's from operational management through BDA.

4.1 A Glance of Knowledge Management (KM) and BI Excellence Framework

In today's digital era, Knowledge Management (KM) and BI are two important models and techniques in enabling organizations towards deriving better intelligence knowledge-level creation and decision-making (Aldairi et al., 2016). We have perceived the general KM and BI frameworks for excellence by structuring and using KM and BI together as a key performance of organizational operations for adapting and dealing with problematic-scenarios like data deluge (Frank et al., 2015). This strive was an important approach of relating big data technology because there were so many sources of data within an organization that could be critical to organizational strategic performance excellence model (Bestman et al., 2016). This study focuses upon visualizing the organizational analytics ability for strategic performance decisions.

Based upon the current operational activities and processes, we have conceived a typical adaptation of frameworks that had signified six (6) elements of:

Based on Table 1, the creation of diagnostic tool as an important approach of relating descriptive data into KM's perspective, as organizations are struggling with so many sources of data that leads to critical and complex organizational environment (Bestman et al., 2016). Furthermore, we have tabulated the assimilation of components and elements of organizational strategic performance excel-

Performance	Elements
1. Strategic Planning System	Designate the action plans development, strategic development processes, strategic and risk assessments.
2. Leadership System	Comprise of fundamental components such as communication engagement, organizational sustainability and organizational performance review.
3. Operations Focus System	Apportion with innovation and process improvement, sustainability and process control as well as system and process design.
4. Customer Management System	Comprise the product contribution determination, market segmentation, customer and engagement-satisfaction determination.
5. Workforce Engagement System	Expound workforce engagement management, workforce capability-capacity, assessment and learning and development.
6. Knowledge Management System	Introduce to knowledge availability – knowledge reliability, sharing information and performance measures, selection and use.

Table 1. The Adaptation Framework of KM-BI design for Strategic Performance Management Diagnostics Model

lence frameworks as shown in Table 2:

Table 2 has summarized the organizational strategic performance excellence framework on analyzing voluminous data sets to discover hidden patterns, unknown correlations, situations and trends, preferences and other useful information based on the STO leadership context.

4.2 Context & Process of Business Intelligence (BI) and Big Data

BI is now kinetic toward a further predictive model – showing what will happen in businesses (Bestman et al., 2016). BI is a technology-driven process that empowers organization users to access, gather, organize, predict, distribute organization knowledge and analyze data and also propose actionable information to accommodate corporate executives, business managers and other end users for more knowledgeable organization decisions in the form of reports, dashboards and self-service analytics (They and Up, 2015). Modern BI systems are emergence to present how all the numerous parts of your organization

work together to fabricate an outcome and business leaders can finally see the greater picture and make rapid, better-informed decisions (Bestman et al., 2016).

With advancement of Information Technology (IT), almost all organizations have already provided internal business users with BI tools to improve decision-making. Many are now embedding analytics into core organization applications to broaden the reach and improve the timeliness of insights.

(Sprongl, 2013). According to Holger et al., (2015), BI encompasses by modeling and simulating techniques that empower organizations to gather data from internal systems and external sources. BI systems functioned to data storage, combine data gathering and KM with analytical tools to adjacent competitive and complex information to decision makers and planners (Eckerson, 2012).

Gulati and Soni, (2015) stated that BI is a concept that usually entail the integration and delivery of relevant and

STO Leadership	Malcolm Baldrige National Quality Award (MBNQA) Excellence Framework	European Foundation for Quality Management (EFQM) Excellence Model	Union of Japanese Scientists and Engineers (JUSE) Deming CWQC
Strategic (S)	Leadership, Organization and its management		
	Strategic Planning	Strategies	Organizational Planning
Tactical (T)	Information and Analysis	Resources	Education, Quality Information
	Process management	Processes, Products and Services	Analysis, Standardization, Control, Quality Assurance
Operational (O)	Human resources focus	People	
	Customer and Market Focus	Partnerships	
	Business, Customer, People, Organizational and Society Results		
References	Ebrahimi and Sadeghi, (2013); Fan and Lu, (2014); Ebrahimi et al., (2015); Basu et al., (2016); Del Río-Rama et al., (2017)	Andjelkovic Pesic and Dahlgaard, (2013); Vukomanovic et al., (2014); Sadeh and Garkaz, (2015); Siva et al., (2016)	Hoang et al., (2013); Magd, (2015); Yu-Yun Lee, (2015); A. Bernstein and J. Joerres, (2016)

Table 2. The Adaptation of Components and Elements of Organizational Strategic Performance Excellence

applicable information in an organization, which is the information that the organization needs to keep as managed and retained corporately. BI represents the processes, tools and technologies essential to turn data into information and information into knowledge and plans that optimize business operations (Eckerson, 2012). By maintaining the organization context for data and analysis, these enriched applications close the last mile of BI by helping organization people turn insights into action (Horkoff et al., 2012). This study has identified and documented BI and BDA can assist the university's executive in making insightful business decisions, proceeds appropriate action along with fast implementation while BDA leverages cutting edge technology BI tools to address data analysis issues. In understanding the required mashup called infographic, we had started with perceiving and adapting framework of ecosystem that comprise four (4) distinct intelligences (Eckerson, 2012), as shown in Table 3.

Based on Table 3, the Business Intelligence, Analytics Intelligence, Continuous Intelligence and Content Intelligence (BACCI) strategic insights will be used in analyzing large amounts of complex data from different sources and then combining the data using intelligent algorithms for allocating, aggregating and massaging the data (Fan and Lu, 2014).

Distinct Intelligences (BACCI)	Elements
1. Business Intelligence (BI)	Inscription the requirements of delivering reports, monitoring dashboards, data warehousing and scorecards.
2. Analytics Intelligence	Indicate for one level higher people like business analysts and analytical modelers to have an ad-hoc approach for exploring unforeseen business questions.
3. Continuous Intelligence	Confluent the monitoring, compilation and analysis of enormous volumes of rapid changing data and providing the analytical tools, platform and techniques.
4. Content Intelligence	Contribute business users the facility to search access and scrutinize the unstructured data and semi-structured data that include web pages, emails and many more.

Table 3. The Adaptation Mashup framework component for University's KM-BI design for Strategic Performance Management Diagnostics Model

5. Framework Design and Analysis

In this study, specific features of KM and BI in viewing the big picture of their decision-making processes when implementing organizational performance diagnostic framework will be explained. The study focuses upon visualizing the organizational analytics ability for strategic performance decisions. Therefore, this conceptual framework relates the current KM and BI stages in strategy implementation for displaying an organizational performance indicator.

To develop generic framework, we have inscribed a structural work based upon the ideal thinking of framework for excellence and being analytics. This unique critical approach provides a comprehensive and coherent overview of organizational issues – the main vindication for adapting and integrating the elements of Baldrige and BI frameworks (Eckerson, 2012).

This study reviews previous research according to strategic performance diagnostics framework for a higher education institution a university practices for the duration of seven (7) years namely 2011 to 2017 to obtain appropriate matrices indicator. To indicate the components, we had formed respective matrices as shown in Table 4.

Based on Table 4, BI technologies are practiced of managing massive amounts of unstructured data to help develop, identify and otherwise generate modern strategic organization opportunities (Calvo-Mora et al., 2015). Therefore, in designing the relevant framework, we started observing integrated frameworks in comparison to generic strategic, tactical and operational (STO) elements of an organization's operation performance.

No	Malcolm Baldrige Excellence Framework	Generic STO Elements	References
1	Leadership	Strategic Management System: Strategic Planning Process, Development and Risk Assessment	Del Río-Rama et al., (2017)
2	Strategic Planning		
3	Customer Management	Academic Accreditation Management System: Accreditation & Program Educational Standards	Basu et al., (2016)
4	Knowledge Management		
5	Workforce Engagement	Human Resource Management System: Talent, Competency, Integrity Evaluation and Appreciation	Ebrahimi et al., (2015)
6	Operation Focus	Quality Management System: Capabilities and Culture, Quality Strategies, Processes and Structures	Fan and Lu, (2014)

Table 4. The Adaption Matrices of Malcolm Baldrige Framework and Generic STO Elements

The study had concluded that there are similar elements of Malcolm Baldrige framework and the generic STO elements.

Derived from the above, the study has come up with an adapted organizational excellence framework by adopting the KM and BI framework with specific design of KPI parameters as shown in Table 5.

KM Framework Elements	Focus of BI Framework Element + BACCI	References
Strategic Management	Leadership & Strategic Planning	Adaptation of Business Intelligence (BI), Analytics Intelligence, Continuous Intelligence & Content Intelligence
Academic Accreditation Management	Customer Management & Knowledge Management	Del Río-Rama et al., (2017)
Human Resource Management	Workforce Engagement	Basu et al., (2016)
Quality Management	Operation Focus	Ebrahimi et al., (2015)
		Fan and Lu, (2014)

Table 5. The Adaption KM and BI Frameworks Integration

Based on Table 5, the components indicator that can be formulated for this study and designing the applicable framework for strategic diagnostic model. The study begins analyzing integrated frameworks in comparison to adopt and adapt generic STO elements of an organization's operation as dynamic equilibrium with each other to complete consistency model of IS Management.

It is a disciplined endeavor that constructs crucial actions and decisions that structure and guide what an organization is, inaugurate agreement throughout intended results or outcomes, what it does, who it serves, why it does it and enhance the organization's direction in response to a adapt environment with a focal point on the future (Quigley et al., 2014). Understanding the management philosophical as a strategic level, emphasizes on consistency or flexibility and decision-making process for top-down or a bottom-up approach in an organization performance.

This is an integrating the prospective KPIs for organizational BI Framework with distinctive elements of business excellence model with the existing KPIs of an organization that Leadership and Strategic Planning system, to be mapped with the organization balance scorecard and integrate the knowledge and information blueprint strategies as KPIs for strategic measurements. Customer Management and Knowledge Management system to be mapped with academic or professional quality, standards and accreditation management policies as KPIs for strategic measurements. Workforce Engagement system to be mapped with human development blueprint and framework as KPIs for strategic measurements. Finally, the Operation Focus system to be mapped with quality objectives, features and standards of critical success factors as KPIs for strategic measurements.

This will be the structural template for a specific dashboard framework application as an infographic mechanism of University strategic plan. As of the practicable engine of organizational dashboard components, we have adapted the four (4) intelligences (Business Intelligence, Analytics Intelligence, Continuous Intelligence and Content Intelligence) of BIs. The components are combined as significant measurements of leadership, customer, knowledge management and strategic planning, workforce or human resource and operation systems respectively.

This is an approach of designing the structural application of the organizational dashboard with evident KPIs to be assimilated with the four (4) intelligences (Business Intelligence, Analytics Intelligence, Continuous Intelligence and Content Intelligence) as the organizational dashboard conceptual engine. This will be the fundamental template for the requirement of a specific dashboard application as an infographic mechanism.

We have derived the perspective by utilizing the preliminary study on organizational excellence, big data and BI models. And next, the study will expand and develop the attributes requirement and KPI's of the organizational dashboard framework – a mashup conceptual framework design as an infographic mechanism as shown in Figure 1.

6. Strategic Evaluation on the KPI Performance Data

As indicated earlier, the study has converged a number of

critical hurdles and components corresponding with the key elements that flexibly needed contemplation when designing the organizational KM-BI strategic performance diagnostic dashboard. We now contrivance and situate

these key features or components based on the prototype dashboard, which we have developed for a university as a single case study approach, let's define the university as University A.



Figure 1. The Finalized Perspective of an Organizational KM-BI blueprint for Organizational Strategic Performance Diagnostics - a strategic management dashboard

Main Themes Elements	Parameters Components	Sub-Themes Elements	(%)	KPI Achieved (%)	Achieved (%) 2016
Quality Management System	Analysis/Process Improvement	Quality Services	65.00%	<p>61.25%</p>	<p>68.05%</p>
	Knowledge Management/Process Design	Quality Infrastructures	60.00%		
	Data, Information, Knowledge Reliability/Process Determination and Control	ISO/QMS	70.00%		
	Knowledge Availability-Sharing	Mass Communication	80.00%		
Human Resource Management System	Performance Management	Quality Human Resource	65.00%	<p>66.70%</p>	
	Workforce Management and Capability	People & Leadership	70.00%		
	Career and Learning	Staff Competency Development	65.00%		
Strategic Management System	Organizational Performance	Enrollment Trends	80.00%	<p>75.75%</p>	
	Organizational Sustainability	Stakeholder Value	72.00%		
	Leadership Process	Leadership Images	71.00%		
	Communication & Engagement	Economics Stability	80.00%		
Academic Quality Accreditation System	Performance, Knowledge Measures Selection - Use/Customer Segmentation and Determination	Academic development	71.00%	<p>68.50%</p>	
	Benchmarking and Comparison/Product Offering	Academic Achievement	60.00%		
		MQA standards Accreditation	80.00%		
	Hardware & Software Reliability-Security	Learner Value	60.00%		
	Review/Customer Support And Culture	Academic Resources	60.00%		

Table 6. Scorecard of KPI Performance Reputation of University A (2016)

The partial secondary data derived from the University A has used as a data extraction into the strategic performance diagnostics tool and loaded for BDA. To designate the elements, we had inaugurated respective matrix interfaces that consists of four (4) main themes with seventeen (17) sub-themes as the simulation KPI scorecards as shown in Table 6.

We illustrated the centrality of these appropriate KPI per

formance achievements in the engage of BDA context in the University A and simulate the university achievement from the analysis data of the year 2016 for better decision-making context. The data attained is an understandable form of KPI measurement context and eventually yielded an insight of the university. The performances of the themes are based on the four (4) main components of KM-BI framework itself. To begin with the analysis, we position the criteria of the KPI achievement as shown in Table 7.

Above Average Context	Achieved (%)	Below Average Context	Achieved (%)
1.Economics Stability	80.00%	1. Stakeholder Value	72.00%
2.Accreditation	80.00%	2.Academic development	71.00%
3.Enrollment Trends	80.00%	3.Leadership Images	71.00%
4.MQA standards	80.00%	4.People & Leadership	70.00%
		5.ISO/QMS	70.00%
		6.Quality Services	65.00%
		7.Quality Human Resources	65.00%
		8. Staff Competency	65.00%
		9.Academic Achievement	60.00%
		10.Quality Infrastructures	60.00%
		11.Learner Value	60.00%
		12.Academic Resources	60.00%
		13.Mass Communication	50.00%

Table 7. The Sub-Elements of University A’s KPI Performance Reputation

Based on our analysis, the University A’s KPI 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 (4) sub-element scorecards – 23%,

are above the average benchmark of the university. Meanwhile thirteen (13) sub-element scorecard – 77%, are below the average benchmark of the university. In addition, benchmark and the relationships between them are stretched as shown in Table 8.

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

Table 8. Benchmark of the University A’s KPI Achievement

Based on Table 8, the quality and nature of the KPI generated for this scenario, where four (4) sub-themes – 24%, had achieved the good ranking. The other twelve (12) sub-themes – 71%, had yet ranked as moderate and one (1) sub-themes – 5%, had concluded the weak ranking.

We perceive the role of BDA in discovering the potential gaps arises on these sub-themes. Perhaps, we perceive further that those 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, 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 infographic mechanism and providing the key important insights that can be soliciting to boost up the KPIs 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 KPIs.

7. Conclusion

From the study, several elements and characteristics are mapped into the organization KM-BI parameters as the most important BDA 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 BDA and BI – multiple intelligences. The elements can be categorized as the holistic view in an organization that create data value on organizational strategic performance. The challenge ahead is to comprehend the knowledge emergence in a form of BI framework that is suitable and precise for an organization as a university strategic performance diagnostics tool. We had defined the BI framework model and its KPIs reporting by utilizing BI and big data technology generating suitable information architecture of the proposed model of strategic performance management.

Yet, this research will yield a conceptual model for BDA and

BI maps, as a representation of knowledge repository and data architecture in a form of strategic performance diagnostics dashboard. Further work had forwarded to an effort of developing and designing real executive strategic performance diagnostics tool for a university as another critical case study – yet it is for a CEO Dashboard.

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