

A STUDY ON UNDERSTANDING BUSINESS ANALYTICS SUCCESS AND IMPACT

LowkyaKasa & Soloman

KoneruLakshmaiah Education Foundation, Hyderabad, Telangana

Received: 10 Feb 2023

Accepted: 15 Feb 2023

Published: 28 Feb 2023

ABSTRACT

Big data and business analytics are currently topics of discussion everywhere. The purpose of this essay is to introduce business analytics for study and instruction.

It starts off by giving a brief summary of the three different forms of analytics. We categorise several types of industry participants and identify numerous analytics industry sectors in order to help the aspiring analytics experts.

After that, it gives a quick overview of a few ongoing research initiatives carried out by our team. We also mention a few Big Data analytics research possibilities. The report also discusses analytics teaching prospects as it comes to a close.

Business analytics is thought to be a significant boon for businesses since it offers timely insights into the competition, streamlines business operations, and creates chances for innovation and growth.

Several strategic questions, such as how to operationalize business analytics to deliver the maximum value, arise as firms start their business analytics programmes. Current research on information systems (IS) has concentrated on describing the function of business analytics and the necessity for business analytics.

Understanding the theoretical and practical success aspects associated with the operationalization of business analytics, however, has received very little attention. By experimentally investigating business, this study's main goal is to close that gap in the literature on information systems. examining the effects of business analytics on firms and the success factors for analytics. We got significant insights into the drivers of business analytics performance and their effects through a qualitative study. Our research provides information and aids in forming potential theoretical and practical applications of enterprise analytics

KEYWORDS: *streamlines business operations, information systems (IS), Data analytic*

INTRODUCTION

Companies must innovate in response to shifting consumer expectations, technological opportunities, shifting marketplaces, structures, and dynamics (Baregheh, Rowley, & Sambrook, 2009).

Joshi, Chi, Datta, and Han (2010) investigate the connection between IT and firm innovation with an emphasis on knowledge capacities that are improved through the usage of IT. They show that IT significantly improves firm innovation. One of the newest prospects for businesses to modify their operations through the use of IT is the combination of big data and business analytics (BA) (Goes, 2014). Some claim that in order to take advantage of Big Data and BA and gain a competitive edge, businesses must move quickly.

Business analytics (BA) is not a brand-new idea, but it has recently come back into prominence as a crucial field of study due to its growing capacity to manage Big Data (Chen, Chiang, & Storey, 2012; Watson, 2014). With the use of cutting-edge IT processing tools like Hadoop and cloud services, BA can handle Big Data and deliver descriptive, predictive, and prescriptive analysis. BA thus obviously shares similarities with OR (Operational Research). The exact relationship between business analytics and operations research is still up for debate (e.g., Hindle&Vidgen, 2017; Liberatore & Luo, 2010; Mortenson, Doherty, & Robinson, 2015; Ranyard et al., 2015; Royston, 2013), but Ranyard, Fildes, and Hu (2015) refer to business analytics as "apparently extending the scope of OR practise" (p.1).

Although business analytics (BA) is being used more and more in businesses, there is a dearth of theory connecting analytics to innovation, and as a result, managers lack practical advice. models of the innovation in particular .Typically, processes do not explicitly involve the collecting, analysis, or use of data. For instance, Pan and Li (2016) employ only learning rate parameters while Choi, Narasimhan, and Kim (2016) only include "generating rates" of product and process knowledge with no mention of the generation method.The work of Vidgen, Shaw, and Grant is an exception (2017). How do organisations harvest or create value from [big] data was one of the study questions they took into consideration. (p.627). There was no attempt to organise the 21 recommendations that came from their investigation, which included a Delphi study and three case studies, into a causal model.Despite strong assertions that BA may boost innovation through using Big Data to differentiate products and services (e.g. Stubbs, 2014), there is still a need for theory and empirical data to establish a connection between BA and innovation. Numerous companies are still having trouble determining how, when, and where to employ business analytics to generate worthwhile returns (Barton & Court, 2012; Kiron, Prentice, & Ferguson, 2012; Tambe, 2014).

Research Questions

1. What function does a business analyst perform within an organisation?
2. What is INVEST?
3. What stages of a business initiative are there?
4. Describe BRD. What distinguishes it from SRS?
5. What does the Requirement Traceability Matrix serve as a tool for?.

Literature Review

The definitions and theories pertaining to the key ideas in business analytics and a data-driven culture are covered in this part. The theoretical factors that guide the creation of the research hypothesis in section 3 are then explained. To connect analytics, data, and information with innovation and organisational performance, they come from an information processing and usage standpoint. The most crucial component is absorptive capacity theory, which includes environmental scanning, the third of our core ideas..

Methodology

There are various ways to define innovation. Despite some overlap, there is no consensus amongst them (Baregheh et al., 2009). Thompson's clear and concise definition of innovation, which reads as "the generation, acceptance and implementation of new ideas, processes, goods or services," is used in the context of this study (1965, p.2). Clarifying

the study's emphasis is crucial because literature on innovation spans a wide and diverse range. Our main focus is on how businesses can use advanced insights and intelligence from data obtained from BA to create new goods and services, enhance existing ones, and promote them. Consequently, the study's focus is on new product and service innovation within organisations. BA Big Data appears to have been lauded as an efficient method for businesses to get deeper insights and knowledge from a range of data types in order to identify hidden patterns, unseen correlations, and other relevant information in the age of digitalization and big data. Such knowledge may give a company a competitive edge over competing companies and have positive commercial effects, such as the introduction of new goods or services. For instance, Kiron et al. (2012) assert in a recent study that "data-savvy firms are embracing analytics to innovate and increasingly to achieve competitive advantage" (p.1) But the only empirical proof they have comes from a single survey question asking respondents whether utilising analytics has given them a competitive edge. There is a pressing need to determine whether, how, and to what extent BA helps to innovation and competitive advantage given the growing availability of data and use of BA.

RESULTS AND DISCUSSIONS

This study looked into the operationalization of business analytics methods within enterprises. A grounded theory-based examination of the data helped to clarify the many business analytics success elements as well as the effects of BA on businesses. We created a framework (see Appendix C) that not only captures key concepts that cut across industries but also connects these concepts to what matters most to organisations: actionable business analytics that improves performance, strengthens competitive advantage, and better utilises data in an ethical and legal manner. A recent Gartner research that indicates that "Gartner's 2015 predictions focus on the cultural and organisational components driving big data deployments employed in enterprises" lends even more credence to these conclusions. Enterprises will have to answer difficult questions about big data analytics deployments, investments, and transparency as the emphasis on technology shifts. 2014b Gartner.

First, it adopts a grounded theory technique to provide a comprehensive lens to understand the business analytics success factors and business analytics impact. This research provides significant contributions to the field of business analytics.

Second, the primary barrier to widespread BA adoption—a "lack of understanding of how to use analytics to improve the business" (LaValle et al., 2011)—was directly addressed by this study by gaining an in-depth understanding of how organisations from various industries operationalize their business analytics practises. Finally, by providing in-depth insights on organisational, process-related, and technology variables, our research supports recent industry forecasts regarding business analytics adoption obstacles (Gartner, 2014b).

Also, our research significantly advances IS education: First, from the perspective of organisational success factors, we improve IS education by fostering communication between academic experts (us) and practitioners (BA experts from various industries) to discuss the needs for skill development and human resource-related needs in the field of business analytics. According to our research, organisational success criteria for implementing BA include crucial technical, business, and soft abilities.

We also discovered that BA lacks the necessary talent. The demand for BA talent is being driven by the market expansion for BA, which is anticipated to reach \$185 billion by the end of 2015 (IBM, 2013). According to McKinsey,

there will be a shortage of 1.5 million BA managers and 200,000 employees with BA talent by 2018. (McKinsey, 2011).

Our findings show that, in order to solve this deficit, business schools urgently need to restructure how BA skills development is included into their curricula.

Second, our findings imply that management schools should teach best practises for BA, such as integration, standardisation, and the capacity to offer a single, unified picture of data across the entire organisation, from the standpoint of process-related success factors.

Conclusion

In general, there is a lot to be enthused about in the analytics sector right now. Descriptive, predictive, and prescriptive analytics applications and research prospects are numerous and expanding, as this study has shown. Big Data research is also expanding. There is support for teaching analytics from several significant suppliers.

There are numerous opportunities for students, researchers, and business people, as evidenced by the industry clusters of the analytics ecosystem.

Limitation

This study has several restrictions. In order to determine whether the emergent theory is true, it is crucial to talk about generalizability, which is defined as "the validity of a theory in a situation other than the one in which it was experimentally tested and proven" (Lee & Baskerville, 2003, p. 221).

According to Lee & Baskerville (2003), this particular form of study should use the proper generalizability (not only statistical).

This study's goal was to identify patterns for the development of theories and a better understanding of the key problems in its context, not to attain statistical validation. It is reasonable to suppose that future scholars will be guided by the revelations made by our evolving framework as they create a more formal theory in this field (Orlikowski, 1993). Large-scale supplementary data collecting will help the results of this investigation become even more focused. Thus, we suggest doing a large-scale study to look at the correlations between BA success variables and BA impact factors, particularly in light of the adjustments that the IS curriculum has to make.

Our findings demonstrate the critical nature of BA abilities and the dearth of qualified candidates. Consequently, a second study opportunity is to better investigate the relationships between the deliverable capabilities of IS projects and the required talent by industries. By doing this, it might be easier to find and develop the right talent for decision-making. Lastly, many industries are used to base the conclusions.

As a result, a third research possibility might be to carry out a study with a certain industry as the focus to learn more in-depth information about how it has an impact on the curriculum that is provided (e.g., more statistic courses, a technical emphasis, etc.).

REFERENCES

1. Armstrong N, Powel J. Patient perspectives on health advice posted on Internet discussion boards: a qualitative study. *Health Expectations* 2009; 12(13): 313-320
2. Sarasohn-Kahn J. *The wisdom of patients: Health care meets online social media*. Oakland, CA: California HealthCare Foundation. 2008. <http://www.chcf.org/publications/2008/04/the-wisdom-of-patients-health-care-meets-online-social-media> [10-01-2012]
3. J Varelas T, Archontaki S, Dimotikalis J, Turan O, Lazakis I, Varelas O. Optimizing Ship Routing to Maximize Fleet Revenue at Danaos Interfaces 2013; 43(1): 37-47.
4. Skarsater I, Langius A, Agren H, Haggstrom L and Dencker K. Sense of coherence and social support in relation to recovery in first-episode patients with major depression: A one-year prospective study. *International Journal of Mental Health Nursing* 2005; 14: 258-264.
5. Goodnight, J. (2015). *The impact of business analytics on performance and profitability*. Retrieved June 22, 2016 from http://resources.idgenterprise.com/original/AST0033108_56067_insights_BA_Goodnight.pdf
6. Gartner. (2014b). *Predicts 2015: Big Data Challenges Move From Technology to the Organization*. Retrieved June 22, 2016 from <https://www.gartner.com/doc/2928217/predicts--big-data-challenges>.
7. Agarwal, R., & Dhar, V. (2014). Editorial—Big Data, Data Science, and Analytics: The Opportunity and Challenge for IS Research. *Information Systems Research*, 25(3), 443- 448.
8. Computerworld. (2009). *Defining business analytics and its impact on organizational decision-making*. Retrieved June 22, 2016 from http://www.umsl.edu/~sauterv/DSS4BI/link/s/sas_defining_business_analytics_wp.pdf
9. Gartner. (2014a). *Survey Analysis: Big Data Investment Grows but Deployments Remain Scarce in 2014*. Retrieved June 22, 2016 from <https://www.gartner.com/doc/2841519/survey-analysis-big-data-investment>.
10. Lee, A. S., & Baskerville, R. L. (2003). *Generalizing Generalizability in Information Systems Research*. *Information Systems Research*, 14(3), pp 221-243
11. Miller, D., & Friesen, P. H. (1982). *Innovation in Conservative and Entrepreneurial Firms: Two Models of Strategic Momentum*. *Strategic Management Journal*, 3(1), 1-25.
12. Pan, X., & Li, S. (2016). *Dynamic optimal control of process-product innovation with learning by doing*. *European Journal of Operational Research*, 248(1), 136-145.
13. McDermott, C. M., & Prajogo, D. I. (2012). *Service innovation and performance in SMEs*. *International Journal of Operations & Production Management*, 32(2), 216-237.
14. Vidgen, R., Shaw, S., & Grant, D. B. (2017). *Management challenges in creating value from business analytics*. *European Journal of Operational Research*, 261(2), 626-639.

15. Zahra, S. A., Sapienza, H. J., &Davidsson, P. (2006). *Entrepreneurship and Dynamic Capabilities: A Review, Model and Research Agenda*. *Journal of Management Studies*, 43(4), 917-955.
doi:10.1111/j.1467-6486.2006.00616.x
16. Eckerson, W. (2011). *Analytic architectures: Approaches to supporting analytics users and workloads*. *BeyeNetwork*. Retrieved from <http://www.b-eyenetwork.com/blogs/eckerson/archives/2011/10/>
17. Davenport, T., & Harris, J. (2007). *Competing on analytics*. Boston, MA: Harvard Business School.
Davenport, T., & Patil, D. J. (2012). *Data scientist: The sexiest job of the 21st century*. *Harvard Business Review*. Retrieved from <https://hbr.org/2012/10/data-scientistthe-sexiest-job-of-the-21st-century/>
18. Ballard, C., Compert, C., Jesionowski, T., Milman, I., Plants, B., Rosen, B., & Smith, H. (2014). *Information governance principles and practices for a big data landscape*. *IBM Redbooks*. Retrieved from <http://www.redbooks.ibm.com/abstracts/sg248165.html?Open>

