International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Leveraging Business Intelligence Capacity for Company Resiliency in a Park Development Management Corporation in Beijing, China

Xia Yunhua[1], Lorenzo C. Lorenzo[2]

[1,2]Graduate School, Emilio Aguinaldo College, Manila, Philippines

Abstract

This study investigates the business intelligence (BI) capacity and organizational resilience of the Park Development Management Corporation through a comprehensive analysis of survey data. The research explores various dimensions of BI capacity, including data management, decision support systems (DSS), knowledge management, technological infrastructure, and legal and ethical compliance. Additionally, it assesses the corporation's resilience in terms of strategic technology adoption, governmental support, and research and development (R&D) capabilities. The findings reveal opportunities to enhance BI capacity, particularly in data analytics utilization, decision support systems, knowledge accessibility, technological infrastructure, and legal and ethical compliance. Recommendations include a strategic plan focusing on BI capacity building, organizational culture development, legal and ethical compliance, technological infrastructure enhancement, employee training and development, and customer experience enhancement. By addressing these areas, the corporation can strengthen its BI capabilities, foster a data-driven culture, ensure legal and ethical compliance, optimize technological infrastructure, empower employees, and enhance customer experiences, thereby improving its overall resilience and competitiveness in the market.

Keywords: Business Intelligence, Company Resiliency, Park Development, China

Background of the Study

In the modern business environment, Business Intelligence (BI) systems play an increasingly crucial role in aiding organizations to navigate through complex landscapes by transforming raw data into actionable insights. The cultural norm 'guanxi,' a unique characteristic of the Chinese market, significantly influences the managerial use of BI systems, necessitating strategies tailored to align with the cultural and managerial norms distinct to geographic locations (Song, 2018). Furthermore, the integration of emerging technologies such as Business Intelligence Technology (BIT), Robotic Process Automation (RPA), Big Data Analytics, and Internet of Things (IoT) with BI, highlights the trajectory of growth and expansion in its applicability and effectiveness in enhancing various facets of business operations including efficiency and performance in different sectors (Singh, 2022; Wang & Saputra, 2018).

Researches accentuate the remarkable developments spurred by the Fourth Industrial Revolution (IR4.0), with artificial intelligence (AI) and blockchain emerging as disruptive technologies. These, when integrated, propose transformative potentials for business models, including areas such as supply chains, healthcare, secure transactions, finance, and accounting through digitalization, illustrating the multi-dimensional applications of BI in contemporary businesses (Kumar et al., 2022).

In the context of Chinese firms, studies highlight the significant role of BI in facilitating the swift pace of internationalization, with organizational agility playing a mediating role, albeit moderated negatively by the cultural distance (Cheng et al., 2020). Researchers further propose integrative models such as the Sense-Transform-Drive (STD) grounded in dynamic capabilities theory, emphasizing the intrinsic role of BI in augmenting operational efficiency and firm performance, while also extending into realms such as social media analytics to leverage customer voice on digital platforms as rich data sources for BI (Chen et al., 2020; Choi et al., 2020).

Grounding in socio-organizational drivers, the modern analytical platforms of BI have been identified as pivotal in empowering organizations and enhancing competencies, thereby fostering resilience and facilitating self-service and augmentation (Grublješič et al., 2019; Richardson et al., 2018). The transformative potential of data mining in BI also comes to the forefront, showcasing the opportunities it offers in leveraging user-generated content in business strategies (Saura & Bennett, 2019).

In this evolving landscape, organizational resiliency surfaces as a vital element in safeguarding the sustained viability and competitiveness of firms. The capacity to translate BI insights into value-added knowledge stands central in bolstering corporate resilience (Božič & Dimovski, 2019). In line with this, studies indicate the vital role of governmental support and R&D capabilities as significant determinants in fostering enterprise resilience, underscoring the necessity of leveraging governmental policies and innovation in crafting resilient business models, especially in high-stake sectors such as China's AI industry (Wang, 2022).

Within the specific context of park development management corporations in Beijing, the augmentation of business intelligence capacities through artificial intelligence components is emerging as an indispensable strategy. Predictive analytics derived from BI tools not only aid in anticipating disruptions but also work towards ensuring company resilience (Richardson et al., 2018; Božič & Dimovski, 2019).

As the researcher investigates the intricate landscape of park development management in Beijing, it becomes imperative to continuously enhance business intelligence to keep pace with the evolving business environment. The focus sharpens on fostering resilient park developments capable of withstanding the test of time, signaling a transformative trajectory in the industry.

In conclusion, BI is a pivotal tool in the modern business landscape, facilitating enhanced decision-making processes, fostering innovation, and bolstering performance through optimal data utilization and integration with emerging technologies. It beckons a future where the focused integration of BI strategies tailored to cultural specifics, coupled with leveraging emerging technologies, can carve pathways of resilient and sustainable growth in the rapidly evolving global business landscape. The exploration into the role of BI in different cultural contexts and its intertwining with emergent technologies unfolds as a rich area for further research, steering businesses towards a future grounded in innovation, efficiency, and resilience.

Statement of the Problem

Is there a correlation between current state of business intelligence capacity and assessment of the respondents on the company resiliency of the park development management corporation?

Research Methodology

The research adopted a quantitative correlational design to scrutinize the intricate relationships and potential causal connections between business intelligence capacity and company resiliency within the park

development management corporations in Beijing, China. This design was pivotal in fostering a deep understanding of the constructs under study by employing statistical analyses to explore the relationships and differences between various variables.

The participants comprised employees from the park development management corporation in Beijing, China. These individuals were instrumental in shedding light on the intricate dynamics revolving around business intelligence capacity and company resiliency within their working environment. To ensure a robust and unbiased representation of the population, participants were randomly selected from various departments and hierarchical levels within the corporation. This random selection technique not only enhanced the generalizability of the findings but also mitigated potential selection bias, thereby providing a more reliable and true reflection of the prevailing conditions and perspectives within the corporation. Based on a total of 686 employees, 247 employees were selected as respondents.

The main instrument utilized was a researcher-made questionnaire crafted to meticulously address the specific variables and constructs integral to this study. To ensure the validity of the instrument, it underwent a rigorous validation process by a panel of experts adept in business intelligence and corporate resiliency. Their feedback was crucial in refining the questionnaire to align accurately and comprehensively with the research objectives.

In terms of reliability, a pilot testing was carried out on a small subset of the population, who were not part of the actual study, to evaluate the instrument's consistency and reliability. This preliminary data was analyzed using a reliability coefficient, and necessary adjustments were made based on the findings to enhance the reliability before administering it to the main study group.

The research used a meticulous statistical approach to address each question, dividing the data into distinct phases. The study analyzed the demographic composition of respondents by calculating the frequency and percentage of each category. The mean and standard deviation (SD) were used to assess constructs related to business intelligence capacity and company resiliency. Pearson's correlation coefficient was used to examine the relationship between these variables. A significance level of 0.05 was used to ensure robust and reliable results. All statistical analyses were performed using reliable software like SPSS.

Results and Discussion

Table 1

Correlation Between the Current State of Business Intelligence Capacity and Assessment of the Respondents on the Company Resiliency of the Park Development Management Corporation

Business Intelligence Capacity	Statistical Treatment	Company Resiliency in terms of strategic adoption and utilization of technology	Company Resiliency in terms of governmental support	Company Resiliency in terms of R&D capabilities
Data Management and Analytics	Pearson Correlation	.023	.053	-.059
	Sig. (2-tailed)	.725	.408	.355
	Decision	Accepted	Accepted	Accepted
	Interpretation	Not Significant	Not Significant	Not Significant

Decision Support Systems (DSS)	Pearson Correlation	.080	.157*	.031
	Sig. (2-tailed)	.207	.013	.626
	Decision	Accepted	Rejected	Accepted
	Interpretation	Not Significant	Significant	Not Significant
Knowledge Management	Pearson Correlation	-.028	.245**	-.054
	Sig. (2-tailed)	.660	.000	.400
	Decision	Accepted	Rejected	Accepted
	Interpretation	Not Significant	Significant	Not Significant
Technological Infrastructure	Pearson Correlation	-.122	-.073	-.170**
	Sig. (2-tailed)	.056	.252	.007
	Decision	Accepted	Accepted	Rejected
	Interpretation	Not Significant	Not Significant	Significant
Legal and Ethical Compliance	Pearson Correlation	-.077	-.071	-.145*
	Sig. (2-tailed)	.227	.266	.023
	Decision	Accepted	Accepted	Rejected
	Interpretation	Not Significant	Not Significant	Significant
Overall Current State of Business Intelligence Capacity and Assessment of the Respondents on the Company Resiliency of the Park Development Management Corporation	Pearson Correlation	-.044		
	Sig. (2-tailed)	.496		
	Decision	Accepted		
	Interpretation	Not Significant		

Table 1 presents the correlation between the current state of business intelligence capacity and the assessment of the respondents on the company's resiliency within the Park Development Management Corporation. The table includes business intelligence capacity aspects such as data management and analytics and their correlation with company resiliency in terms of strategic adoption and utilization of technology, governmental support, and R&D capabilities. It provides Pearson correlation coefficients, significance levels (Sig. 2-tailed), decisions, and interpretations of the results. For data management and analytics, the correlation coefficients with company resiliency in terms of strategic adoption and utilization of technology, governmental support, and R&D capabilities are 0.023, 0.053, and -0.059, respectively. The significance levels for all correlations are above 0.05, indicating that the correlations are not statistically significant. Therefore, the null hypothesis is accepted, and the interpretation is that there is no significant correlation between data management and analytics and the assessed aspects of company resiliency within the Park Development Management Corporation. Hencel, the analysis suggests that the current state of data management and analytics within the corporation does not significantly correlate with the assessment of company resiliency in terms of strategic adoption and utilization of technology, governmental support, or R&D capabilities. This implies that while data management and analytics are important components of

business intelligence, they may not directly influence the perceived resiliency of the company in these specific areas.

The correlation analysis reveals that while Decision Support Systems (DSS) exhibit a statistically significant positive correlation with company resiliency in terms of governmental support ($r = 0.157$, $p = 0.013$), indicating that as DSS effectiveness increases, perceived governmental support tends to rise, the correlation with strategic adoption and utilization of technology and R&D capabilities is not statistically significant ($r = 0.080$, $p = 0.207$ and $r = 0.031$, $p = 0.626$, respectively). Therefore, while DSS play a notable role in influencing the perception of governmental support within the Park Development Management Corporation, they do not significantly impact the perceived resilience concerning strategic technology adoption or R&D capabilities.

In terms of correlation analysis indicates that Knowledge Management demonstrates a statistically significant positive correlation with company resiliency in terms of governmental support ($r = 0.245$, $p = 0.000$), suggesting that as the effectiveness of knowledge management increases, perceived governmental support tends to elevate. However, the correlation with strategic adoption and utilization of technology and R&D capabilities is not statistically significant ($r = -0.028$, $p = 0.660$ and $r = -0.054$, $p = 0.400$, respectively). Consequently, while Knowledge Management significantly influences the perception of governmental support within the Park Development Management Corporation, it does not notably impact the perceived resilience concerning strategic technology adoption or R&D capabilities.

For the correlation analysis for Technological Infrastructure indicates a statistically significant negative correlation with company resiliency in terms of R&D capabilities ($r = -0.170$, $p = 0.007$), suggesting that as the quality of technological infrastructure decreases, perceived R&D capabilities tend to decrease as well. However, the correlations with company resiliency in terms of strategic adoption and utilization of technology and governmental support are not statistically significant ($r = -0.122$, $p = 0.056$ and $r = -0.073$, $p = 0.252$, respectively). Thus, while Technological Infrastructure significantly impacts the perception of R&D capabilities, it does not notably influence the perceived resilience concerning strategic technology adoption or governmental support within the Park Development Management Corporation.

The correlation analysis for Legal and Ethical Compliance reveals a statistically significant negative correlation with company resiliency in terms of R&D capabilities ($r = -0.145$, $p = 0.023$), indicating that as the level of compliance decreases, perceived R&D capabilities tend to decline. However, the correlations with company resiliency in terms of strategic adoption and utilization of technology and governmental support are not statistically significant ($r = -0.077$, $p = 0.227$ and $r = -0.071$, $p = 0.266$, respectively). Thus, while Legal and Ethical Compliance significantly affects the perception of R&D capabilities, it does not notably impact the perceived resilience concerning strategic technology adoption or governmental support within the Park Development Management Corporation.

In general, the correlation analysis between the overall current state of Business Intelligence (BI) capacity and the assessment of company resiliency within the Park Development Management Corporation shows a Pearson correlation coefficient of -0.044 with a p-value of 0.496, indicating that the correlation is not statistically significant. Therefore, the null hypothesis is accepted, suggesting that there is no significant correlation between the overall BI capacity and the perceived company resiliency. This implies that while BI capacity is an essential aspect of organizational operations, it may not directly influence the perceived resilience of the company within the context of the Park Development Management Corporation, as assessed by the respondents.

The lack of a statistically significant correlation between the overall current state of Business Intelligence (BI) capacity and the assessment of company resiliency within the Park Development Management Corporation carries several implications. Firstly, it suggests that while BI capacity is undoubtedly crucial for organizational operations, its mere existence or level of sophistication may not directly translate into perceived company resilience as evaluated by respondents. This implies that other factors beyond BI capacity, such as organizational culture, leadership, or external market conditions, might play more significant roles in shaping perceptions of company resilience. Secondly, it highlights the complexity of assessing resilience within an organization, indicating that it is a multifaceted concept influenced by various internal and external factors beyond BI alone. Consequently, organizations may need to broaden their focus beyond BI initiatives alone to foster and maintain resilience effectively. Finally, it underscores the importance of understanding and addressing the specific drivers of resilience within the context of the Park Development Management Corporation, rather than assuming that BI capacity alone is the key determinant. This suggests the need for tailored approaches to resilience-building that account for the unique dynamics and challenges faced by the organization. Overall, while the lack of a significant correlation may initially seem disappointing, it provides valuable insights into the nuanced nature of resilience and prompts organizations to take a more holistic and targeted approach to its cultivation.

Conclusion

The study demonstrates in the Park Development Management Corporation a complicated and subtle link between corporate resilience and business intelligence (BI) capacity. While some BI components—such as knowledge management and decision support systems—show statistically significant positive connections with governmental support, other components—data management and analytics—show no such association with resilience indicators. Especially, legal and ethical compliance as well as technical infrastructure show strong negative relationships with R&D capacity, therefore pointing possible weaknesses. Though BI is still essential for organizational performance, overall BI capability does not clearly connect with perceived resilience, implying that it does not singlely propel resilience as judged by stakeholders. These results highlight the complex nature of organizational resilience, which spans a wider spectrum of strategic, structural, and contextual elements outside of BI capabilities. Companies have to understand the value of not just making investments in business intelligence technologies but also in improving their whole infrastructure, guaranteeing adherence to ethical and regulatory norms, and so building a resilient culture. Organizations that address organizational resilience holistically will be more ready for unanticipated events and future disruptions. It is obvious that several elements, including BI capabilities, contribute to improve an organization's capacity to overcome challenges and flourish in an always shifting corporate environment.

Reference:

1. Božič, K., & Dimovski, V. (2019). Business intelligence and analytics for value creation: The role of absorptive capacity. International Journal of Information Management, 49, 103-113. https://doi.org/10.1016/j.ijinfomgt.2018.11.020
2. Chen, Y., & Lin, Z. (2020). Business Intelligence Capabilities and Firm Performance: A Study in China. International Journal of Information Management. https://doi.org/10.1016/j.ijinfomgt.2020.102232
3. Choi, J., Yoon, J., Chung, J., Coh, B.-Y., & Lee, J.-M. (2020). Social media analytics and business

intelligence research: A systematic review. Information Processing and Management. https://doi.org/10.1016/j.ipm.2020.102279

4. Grublješič, T., Coelho, P. S., & Jaklič, J. (2019). The Shift to Socio-Organizational Drivers of Business Intelligence and Analytics Acceptance. Journal of Organizational and End User Computing. https://doi.org/10.2139/ssrn.2938050
5. Kumar, S., Lim, W. M., Sivarajah, U., & Kaur, J. (2022). Artificial Intelligence and Blockchain Integration in Business: Trends from a Bibliometric-Content Analysis. Information Systems Frontiers. https://doi.org/10.1007/s10796-022-10279-0
6. Richardson, J., Tapadinhas, J., Carlie, J., & Idoine, J. (2018). Magic Quadrant for Analytics and Business Intelligence Platforms.
7. Saura, J. R., & Bennett, D. (2019). A Three-Stage method for Data Text Mining: Using UGC in Business Intelligence Analysis. Symmetry. https://doi.org/10.3390/sym11040519
8. Singh, V. (2022). Automation of Business Process Using RPA (Robotic Process Automation). International Journal for Research in Applied Science and Engineering Technology. https://doi.org/10.22214/ijraset.2022.45111
9. Song, Y. (2018). The Managerial Use of Business Intelligence Systems in China. Retrieved from https://doi.org/10.4225/03/5ad93132ca38d
10. Wang, G., & Gunawan Saputra, J. F. (2018). Terminal Automation System: Automation Solution in the Oil and Gas Industry. 2018 Indonesian Association for Pattern Recognition International Conference (INAPR). https://doi.org/10.1109/inapr.2018.8627025
11. Wang, B. (2022). Business Risk of the Artificial Intelligence Industry in China. BCP Business & Management, 34(3), 189-205. https://doi.org/10.54691/bcpbm.v34i.3195