Business Processes Re-Engineering: Investigating the Effect of Economic and Environmental Sustainability of Outsourcing Organization in Lagos State

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Abstract

This study investigated the impact of business process reengineering on outsourcing firms, specifically focusing on Hugo Inc. Process reengineering enables businesses to attain operational efficiency and sustainable practices. Business process reengineering (BPR) is extensively employed to enhance responsiveness, organizational agility, and customer satisfaction by providing superior products and services. Sustainability pertains to the ability of a production method to endure throughout time. BPR seeks to address challenges related to resource management and process implementation. This study aims to elucidate how process reengineering might assist outsourced organizations in achieving more sustainability. A firm must recognize the significance of retaining its clientele and generating profit, as well as the necessity of strategically planning its operations to ensure neither aspect is compromised. The primary components of the study are value generation and process ownership, both of which are associated with business process reengineering. Economic and environmental factors are analyzed in relation to one another and the pertinent issue to assess sustainability. The theoretical foundation of the study was based on the triple bottom line and stakeholder theory. A quantitative survey methodology was employed for this inquiry. The survey encompassed 850 employees, with a sample size of 272 individuals who received questionnaires through purposive and simple random sampling methods. The results indicated a positive correlation between process reengineering and sustainability. The study is different because it seeks to encourage outsourcing firms to reassess their operational strategies to consistently surmount challenges and maintain profitability, and how it can contribute to economic and environmental success.

Keywords: Business Process Reengineering; Sustainability; Value Creation; Process Ownership.

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INTRODUCTION

In the contemporary corporate landscape, organizations must continuously demonstrate adaptability and resilience in responding to emerging innovations, disruptions, and market uncertainties. Rapid technological advances, global competition, and shifting consumer expectations demand that firms restructure their operations and strategies to maintain relevance and competitiveness (Chalmeta & Estevez, 2023; Omollo & Odollo, 2023). Business Process Reengineering (BPR) has emerged as one of the most significant change management approaches to achieving these goals.

According to Hammer and Champy (2015), BPR is defined as the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical performance measures such as cost, quality, service, and speed. Through restructuring, rebranding, and redesigning, BPR enables organizations to streamline operations and improve efficiency. Historical cases such as Ford Motor Company and CIGNA Corporation illustrate this process. Ford's restructuring in the 1980s enabled it to reduce operational redundancies and regain profitability, while CIGNA, a major health insurance institution, achieved substantial cost savings and improved service delivery by implementing BPR in its administrative and service functions (Hammer & Stanton, 1999; Habib, 2013).

A business process, as described by Habib (2013), is a sequence of interrelated activities that collectively produce value for both internal and external stakeholders. The primary goal of BPR, therefore, is to redesign these processes to create greater value through innovation, improved productivity, and enhanced customer satisfaction (Bako & Banmeke, 2019). In the same vein, Ogbari et al. (2015) argue that customer satisfaction remains a central determinant of corporate success, as it directly influences competitiveness, market share, and customer loyalty.

Organizational sustainability expands this concept further by emphasizing an institution's ability to adapt holistically to changes in its political, economic, social, environmental, and technological contexts (Rahman, Wahab, & Latiff, 2020). Sustainable organizations are those capable of reconfiguring their internal processes and management systems to cope with external uncertainties, such as policy shifts, environmental risks, or currency fluctuations. Nigerian businesses, for example, have responded to fluctuating macroeconomic conditions by adopting flexible work structures, remote management strategies, and process innovations to maintain operational stability (Omollo & Odollo, 2023).

During the COVID-19 pandemic, corporations such as Disney restructured their global operations, using hybrid work systems, digital transformation, and reengineered workflows to sustain profitability and continuity amid global restrictions (Chalmeta & Estevez, 2023). The integration of *Business Intelligence (BI)* and *Knowledge Management (KM)* within BPR further enhances organizational agility by facilitating data-driven decision-making. These tools enable firms to collect, store, analyze, and visualize data for strategic insight, thus bridging operational efficiency and long-term sustainability (Chalmeta & Estevez, 2023; Rahman et al., 2020).

Omollo and Odollo (2023) further emphasize that evolving technologies and intensified global competition are reshaping customer preferences and shortening product life cycles. As a result, organizations must adopt reengineering strategies not only for profitability but also for sustainability—particularly within developing economies such as Nigeria, where service-oriented industries are increasingly central to national growth. Despite extensive research on BPR across manufacturing and financial sectors, there remains a need for studies exploring how BPR can be redefined to support sustainability objectives within Nigeria's service industry.

In conclusion, the effective implementation of Business Process Reengineering can help organizations achieve competitive advantage, reduce operational inefficiencies, and deliver superior products and services in a dynamic business environment. As Hammer and Champy (2015) assert, BPR ensures that clients receive better-quality products and services more swiftly and efficiently—an outcome that aligns with the modern imperatives of innovation, sustainability, and customer-centricity.



RESEARCH METHODS

Research Design

This study examined the relationship between sustainability and business process reengineering (BPR) within corporate organizations in Lagos State, Nigeria. A descriptive quantitative research design was adopted to identify characteristics, frequencies, and patterns across the study variables. Descriptive research facilitates the collection of numerical data to describe and interpret relationships among variables (Creswell & Creswell, 2018; Saunders, Lewis, & Thornhill, 2019). The quantitative survey approach was used to obtain structured responses that could be statistically analyzed, providing insights into how BPR influences sustainability outcomes within the selected organization.

Population of the Study

The research population comprised **employees of Hugo Inc.**, a Lagos-based organization specializing in business process outsourcing (BPO) and information technology (IT) services. Hugo Inc. was selected purposively because of its active implementation of business process reengineering practices that optimize operational efficiency. The target population consisted of approximately 850 employees, ranging from senior management to lower-level staff, including both on-site and remote workers. Selecting a single organization ensures contextual relevance and data accessibility (Mugenda & Mugenda, 2003).

Sample Frame

The sampling frame included all 850 employees of Hugo Inc. operating in Lagos State, Nigeria. The questionnaire was administered to these employees to obtain their perspectives regarding sustainability and BPR implementation. The sampling frame delineates the accessible population from which the sample was drawn (Kothari, 2014). This approach ensured the inclusion of diverse job categories and operational units across the organization.

Sampling Techniques

The study employed a **mixed sampling technique** comprising purposive and simple random sampling. Purposive sampling was adopted to select Lagos-based employees due to the city's prominence as Nigeria's technological and outsourcing hub (Etikan, Musa, & Alkassim, 2016). Subsequently, simple random sampling was applied within the identified group to minimize bias and enhance representativeness (Saunders et al., 2019). This combination allowed the study to obtain a balanced representation of participants across departments and ranks.

Research Instrument

Data were collected through a **structured closed-ended questionnaire**, divided into three sections (A, B, and C). Section A gathered demographic information (gender, age, education, position), while Section B contained items measuring the independent variable (Business Process Reengineering) and Section C addressed the dependent variable (Sustainability). A five-point Likert scale ranging from Strongly Agree (5) to Strongly Disagree (1) was used to measure participants' perceptions. The Likert scale is widely recognized for its reliability in capturing attitudinal responses (Joshi, Kale, Chandel, & Pal, 2015).

Validity and Reliability of the Research Instrument

Content validity was ensured through expert review by the research supervisor and academic specialists in management and organizational studies. This process verified the alignment of questionnaire items with research objectives (Taherdoost, 2016). Reliability was assessed using the Cronbach's Alpha method, which determines the internal consistency of scalebased items. According to Hair, Black, Babin, and Anderson (2019), a Cronbach's alpha coefficient of 0.70 or higher indicates acceptable reliability, suggesting that the instrument produces stable and consistent results.

Method of Data Analysis

Data collected from the survey were analyzed using Structural Equation Modeling (SEM) to examine relationships between BPR and sustainability indicators. SEM is particularly effective for analyzing latent variables and assessing the direct and indirect effects among constructs (Kline, 2016). Descriptive statistics such as frequency counts and percentages were also used to





summarize demographic data and response distributions. Statistical analyses were conducted using software such as SPSS and AMOS, following recommended procedures for quantitative research (Creswell & Creswell, 2018).

Ethical Considerations

Ethical standards were strictly adhered to throughout the study. Participants were informed about the purpose of the research and assured of confidentiality and voluntary participation. No identifying personal information was included in the final report. Ethical considerations in this research align with the **American Psychological Association (APA, 2020)** guidelines, emphasizing informed consent, confidentiality, and responsible data handling. The study was conducted solely for academic and research purposes, ensuring the validity and credibility of the findings.

RESULTS AND DISCUSSION

Presentation of Data

Employees at Hugo Inc. in Lagos State concluded the online survey disseminated via Google Forms. The collection of participants' personal data initiated the data analysis process.

Table 1 Response Frequency

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Questionnaire	Frequency	Valid percentage						
Valid	262	96.32%						
Invalid/unfilled	10	03.68%						
Total	272	100%						

Source: Researcher's Survey, 2024

Table 1 shows figures for the response rate are presented in Table 1 above. With meticulous follow-up, the researcher substantially enhanced the response rate. Out of the 272 distributed surveys, ten (3.68%) were not collected, while 262 (96.32%) were successfully obtained for analysis. This indicates a 96.32% response rate, sufficiently high to conclude the interrelationship of the variables.

Demographic Profile of Respondents

Table 2: Demographic Profile

		Percentage
Male	139	53.1
Female	123	46.9
	262	100.0
20 - 30 years	204	77.9
31 - 40 years	53	20.2
41- 50 years	3	1.1
51 years and above	2	.8
	262	100.0
Undergraduate	107	40.8
Graduate	93	35.5
Postgraduate	62	23.7
	262	100.0
Staff	165	63.0
Team lead	43	16.4
Line managers	15	5.7
Supervisor	17	6.5
Manager	22	8.4
	262	100.0
	Female 20 – 30 years 31 - 40 years 41- 50 years 51 years and above Undergraduate Graduate Postgraduate Staff Team lead Line managers Supervisor	Female 123 262 20 - 30 years 204 31 - 40 years 53 41- 50 years 3 51 years and above 2 262 Undergraduate 107 Graduate 93 Postgraduate 62 262 262 Staff 165 Team lead 43 Line managers 15 Supervisor 17 Manager 22



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Experience	1 - 3 years	118	45.0
	4 – 6 years	96	36.6
	7 – 9 years	36	13.7
	10 – 12 years	11	4.2
	Above 13 years	1	.4
Total		262	100.0

The results shown in Table 2 depict the demographic characteristics of respondents.

Table 2 show the 165 participants in the study, of which 139 (53.1%) were male and 123 (46.1%) were female. The majority were aged 20 to 30, with a significant proportion aged 31 to 40. Undergraduates were the majority, including 107 individuals (40.8%), while graduates represented 35.5%. 63.0% of the participants were employees, 16.4% were team leads, 5.7% were line managers, 6.5% were supervisors, and 8.4% were managers. A modest fraction of the participants possessed over 13 years of experience, whereas the majority had between 1 and 3 years of experience.

Test of Hypotheses Hypothesis One

H_0 = There is no relationship between value creation and economic sustainability

This hypothesis consists of one exogenous variable (Value creation) and one endogenous variable (Economic sustainability).

The path coefficient, the prototype's prognostic importance index, the predictive relevance of the model, the t-statistic value, and the determination/r-squared coefficient were the major metrics utilized to evaluate the structural model, as shown in Figures 1 and 2. A 5-point Likert scale and a standardized questionnaire have been utilized to assess every area of the study. Tables 3 and 4 illustrate that value creation is an implicit variable with three components. Three elements compose to the endogenous variable of economic sustainability. After an organizational and model evaluation, the data from the study were merged with the partial least squares structural equation modeling technique.

Because PLS-SEM ignores distribution assumptions, it is typically appropriate for small sample sizes. Using multiple regression analysis and normalized assumptions, Figure 1 depicts how value creation influences economic sustainability. According to Nordhoff, Malmsten, Arem, Liu, and Happee (2021), a finding is considered statistically significant if it achieves or above the significance level of 0.05.

Table 3. Factor loading for Value creation and Economic sustainability

	Factor loading	vif	Composite reliability	AVE	Cronbach alpha	No indicators	of
Indicators	> o.7	< 5	≥0.7	≥0.5	≥0.7		
Value creat	ion						
VC ₁	0.877	2.033	_				
VC ₂	0.899	2.466	0.903	0.757	0,840	3	
VC ₃	0.833	1.796					
Economic s	ustainability						
ES ₁	0.902	2.022	_				
ES ₂	0.821	1.669	0.882	0.714	0.799	3	
ES ₃	0.809	1.638					

Table 3 indicates that all elements associated with value creation and economic sustainability possess composite internal consistency values exceeding 0.70 and Cronbach's alpha reliability coefficients more than 0.70. The loading coefficients for the specific construct assessments ranged from 0.809 to 0.902. The essential fitness criterion was well fulfilled; hence,



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the gadget is deemed dependable and lawful. Conversely, factor loadings exceeding 0.7 indicate that the variable exerts a moderate influence on the factor. The conclusions of the inner structural model are illustrated in Figures 1 and 2, indicating that each item had factor loadings of no less than 0.7.

Evaluation of inner structural modeling

It represents the internal variant in structural equation modeling. The values and significance of the path coefficients can be utilized to construct the structural model. As stated by Chin (2010). Value creation constitutes 40.8% of the variance in economic sustainability, as seen by Figure 1 and Table 4.

The R-value/variance indicates the relationship between the independent variable (value generation) and the dependent variable (economic sustainability). A moderate correlation exists between economic sustainability and value creation. Figure 1 illustrates the predictive capability of the relationship between the variables. An increase in value creation will yield a 63.8% enhancement in economic sustainability, assuming all other parameters remain constant.

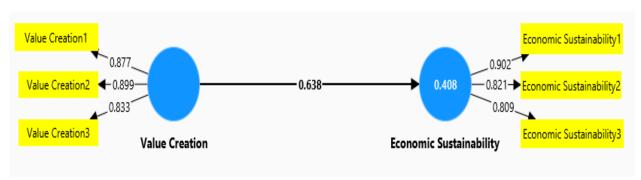


Figure 1 - Predictive (Path coefficient) of Value creation and Economic sustainability

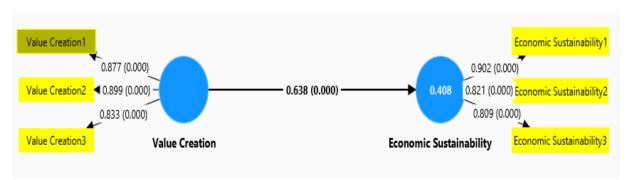
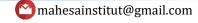


Figure 2 - Path Coefficient and P-values for Value creation and Economic sustainability

Partial Least Squares (PLS) was employed to obtain the route coefficients and the standardized β coefficient. The proposition's value was utilized to ascertain its relevance. As the value increases, the impact on the endogenous construct becomes more significant. Figure 2 illustrates how Hugo Inc. in Nigeria generates value through bootstrapping to achieve economic sustainability.

Table 4 - Path coefficients for Value creation and Economic sustainability

Variables and Cross- Loading			Path co-efficient (O)	Std. Dev (STDEV)	T-statistics (O/STDEV)	P-values
Value creation	?	Economic sustainability	0.638	0.41	15.502	0.000
			R-Square (R2)		R2	
				Adjusted		



Value	?	Economic	0.408	0.405
creation		sustainability	- 1	1 9
			F ₂	
Value	?	Economic	0.688	
creation		sustainability		

Source: Researcher's Survey, 2024

As shown in Table 4, the path coefficient I indicates that value creation exerts a direct and significant influence on economic sustainability at a significance level of P<0.05. The findings indicated a positive, direct, and significant impact on value creation and economic sustainability (b=0.638, tval=15.502, f2=0.688, p<0.05).

The significance threshold being below 0.05 indicates that the beta values of the specified dimensions, which demonstrate a robust correlation, affirm the substantial relationship between value creation and economic sustainability at Hugo Inc. in Lagos, Nigeria. This indicates that the null hypothesis must be refuted.

HYPOTHESIS TWO

H₀ = Process ownership has no significant impact on environmental sustainability

This hypothesis consists of a variable: process ownership) and variable (Environmental sustainability).

The primary features utilized to evaluate the structural model were the path coefficient, predicted weight index of the framework, predictive importance of the prototype, t-statistic value, and determination coefficient (R-squared), as shown in Figures 3 and 4. A prepared questionnaire and a 5-point Likert scale have been utilized to examine every area of the study. As demonstrated in Tables 5 and 6, process ownership is a latent variable with three components, while environmental sustainability is an endogenous variable with three characteristics. Partial least squares structural equation modeling was utilized in the study to combine data analysis at the organizational and model levels.

Because PLS-SEM ignores distribution assumptions, it is typically appropriate for small sample sizes. On the other hand, as indicated by Liu, Nordhoff, Happee, Arem, and Malmsten (2021), Figure 4 employs structural equation modeling with standardized estimates to show how process ownership influences environmental sustainability. At the 0.05 significance level, a well is considered effective if it is statistically valid.

Table 5 - Factor loading for process ownership and Environmental sustainability

	Factor loading	VIF	Composite reliability	AVE	Cronbach alpha	No. of indicators
Indicators	> 0.7	< 5	≥0.7	≥0.5	≥0.7	
Process own	ership					
P01	0.863	1.934				
PO2	0.627	1.422	0.856	0.671	0.782	3
P03	0.935	1.801				
Environmen	tal sustainal	oility				
ENS1	0.852	1.965				
ENS2	0.895	1.896	0.902	0.754	0.840	3
ENS3	0.857	2.116				

According to Table 5, all parts of process ownership and environmental sustainability principles have dependability metrics of Cronbach's alpha and composite internal consistency that are greater than 0.70. Factor loadings for a number of construct measures ranged from 0.627 to 0.935. The model is deemed acceptable and efficient since the key fitness requirement was



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sufficiently met. The outcomes of the inner structural model are displayed in Figure 3 and Figure 4, respectively. A considerable influence on the factor is indicated by factor loadings of 0.7 or above.

Evaluation of inner structural modeling

In structural equation modeling, the created model is termed the internal model. According to the data in Table 6 and Figure 3, process ownership accounts for 15.7% of the variation in environmental sustainability.

The correlation between the independent variable (process ownership) and the dependent variable (environmental sustainability) is represented by the R-value/variance. As a result, there is little association between environmental sustainability and process ownership. Additionally, Figure 3 demonstrated that the predictive potential analysis was centered on the related components. According to the results, a one-unit increase in process ownership will result in a 39.6% improvement in environmental sustainability, provided all other aspects stay the same.

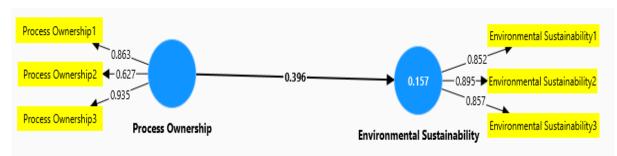


Figure 3 - Predictive (Path coefficient) of process ownership and Environmental sustainability

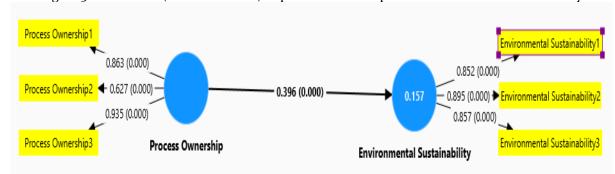


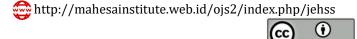
Figure 4 - Path Co-efficient and (P-values) for process ownership and Environmental sustainability

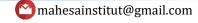
Table 6 - Path coefficients for process ownership and Environmental sustainability

Variables	and	Cross Leading	Path co- efficient (O)	Std. Dev (STDEV)	T-statistics (O/STDEV)	P- values
Process ownership	?	Environmental sustainability	0.396	0.064	6.179	0.000
			R-Square (R2)		R2 Ad	justed
Process ownership	?	Environmental sustainability	0.157		0.154	
			F2			
Process ownership	?	Environmental sustainability	0.186			

Source: Researcher's Survey, 2024

The path coefficient in Table 6 indicates that process ownership exerts a direct and significant influence on environmental sustainability at a significance level of P < 0.05. Direct





influence was determined to have a positive and substantial effect on process ownership and environmental sustainability (b=0.396, tval=6.179, f2=0.186, p<0.05).

The beta value of the defined components indicates that the relationship between process ownership and environmental sustainability is considered significantly relevant. Considering that P<0.05 represents the significance level. Consequently, it is imperative to exclude the null hypothesis.

Discussion of Findings

Value creation and economic sustainability demonstrate a robust positive correlation, supported by research emphasizing strategic business models that integrate social, economic, and environmental objectives. Donner, Radić, and Veldhuizen (2020) developed circular business models that transform agricultural waste into value-added products, significantly enhancing economic sustainability. Similarly, Laukkanen and Tura (2020) highlight that sharing economy models contribute to economic sustainability through innovative and resource-efficient solutions. Furthermore, Schaltegger, Hansen, and Lüdeke-Freund (2012) assert that innovative strategies addressing environmental challenges and stakeholder expectations foster both economic viability and sustainability.

The relationship between Value Creation and Economic Sustainability is substantiated by a path coefficient (β) of 0.638 and a T-statistic of 15.502, both statistically significant at p < 0.05. The R² value of 0.408 indicates that 40.8% of the variance in Economic Sustainability is explained by Value Creation.

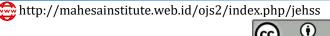
Research further demonstrates that Process Ownership significantly enhances Environmental Sustainability. Gross, Leimeister, and Schneider (2019) found that corporate procedures with clearly defined responsibilities improve environmental outcomes and resource optimization. Hrabal, Tuček, Molnár, and Fedorko (2020) argue that process ownership improves resource utilization, thereby advancing environmental sustainability. Additionally, Egesimba (2021) emphasizes that business process reengineering initiatives contribute to improved environmental performance. The results of this study show that Process Ownership significantly influences Environmental Sustainability, evidenced by a T-statistic of 6.179 and a path coefficient (β) of 0.396, both significant at p < 0.05. The R² value of 0.157 indicates that Process Ownership accounts for 15.7% of the variance in Environmental Sustainability, suggesting that while it is a critical factor, other elements also play a role.

CONCLUSION

Research indicates that value addition positively influences economic sustainability. The proper implementation of value creation techniques can yield substantial financial advantages, including the development of innovative products and services and the enhancement of operational efficiency. The findings indicate that to ensure economic sustainability, firms must focus on value addition alongside profit generation. This program will enhance companies' long-term financial stability and competitiveness.

Moreover, process ownership is an essential element in enhancing environmental sustainability. The study supports the notion that instilling a sense of accountability in employees about business operations and clearly delineating their tasks can lead to significant improvements in environmental performance, encompassing waste reduction, resource optimization, and minimization of environmental impact. Consequently, outsourcing firms must focus on cultivating a culture of process ownership and environmental responsibility to attain improved sustainability outcomes. To advance sustainable practices in Lagos' outsourcing sector, these findings provide valuable insights for stakeholders, including managers, legislators, and scholars. Implementing these strategies will enhance organizational performance while furthering the primary goals of sustainable development.

LIMITATIONS





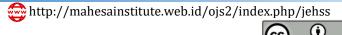
- **Odunayo P Salau, Regan O Okwaraogoma, & Fisayo J Aremu**, Business Processes Re-Engineering: Investigating the Effect of Economic and Environmental Sustainability of Outsourcing Organisation in Lagos State
 - i. The study's geographic reach was restricted to Lagos, and solely examined a single outsourcing company in Lagos.
 - ii. The study was limited to a single research method (questionnaire) used in gathering data of individuals in the organization.
- iii. The research did not investigate other potential influences on the relationship of BPR, such as changes in organizational structure, policy implementation or leadership style.
- iv. The study's context-specific results might not apply to other businesses or industries such as agriculture, mining, aviation and manufacturing.
- v. The researcher needed help convincing the respondents to fill out the online questionnaire. Which involved constant calling, messages and convincing.

SUGGESTIONS FOR FURTHER STUDIES

- i. Future researchers can investigate potential variables that impact the connection between business process reengineering and sustainability.
- ii. To further understand how BPR and organizational sustainability change over time, future researchers can conduct broad studies and give insights into how BPR practices affect organizational goals.
- iii. Comparative studies can be done by comparing different organizations or industries to explore variations in the relationship between BPR and Sustainability and investigate whether the relationship holds across different business practices or organizational settings.
- iv. The current study was restricted to a single outsourcing organization. Therefore, the author recommends extending this type of study to all firms in the technology and service industry and other sectors.

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