A Study on Measuring Business Process Management Practices Adopted At Software Solutions

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Abstract:

The application of Business Process Management (BPM) tools in organisational settings is examined in this study. It focusses on the ways in which these tools facilitate process automation, standardisation, optimisation, and monitoring. Structured questionnaires were used to gather information from 132 workers in various departments. The outcomes demonstrate increased productivity, decreased redundancy, and improved efficiency. The main obstacles noted are limited customisation, integration problems, and change aversion. The study emphasises how BPM tools support digital transformation and operational excellence.

INTRODUCTION

A methodical approach to the analysis, design, implementation, monitoring, and optimisation of business processes is known as business process management, or BPM. Its main goal is to increase productivity and efficiency by getting rid of unnecessary things. BPM is a cycle of continuous improvement that makes use of automation tools, Lean, and Six Sigma techniques. It makes it possible for businesses to adjust to shifting conditions and match procedures with strategic objectives. BPM uses performance metrics and workflow visualisation to facilitate data-driven decision-making. It promotes increased customer satisfaction, operational agility, and innovation. In the end, BPM improves organisational responsiveness, lowers expenses, and increases efficiency.

OBJECTIVES

- To examine the key Business Process Management (BPM) principles applied with Software.
- To analyze Software's performance in streamlining business procedures and increasing efficiency.
- To find key performance indicators, also known as KPIs, for measuring the impact of BPM processes using Software.
- To identify the obstacles and limits organizations experience when implementing BPM processes using Software.

SCOPE

Business Process Management (BPM) techniques and their effects on organisational effectiveness are assessed in this study. It emphasises workflow optimisation, process automation, and performance tracking. The study looks at results like lower costs, fewer mistakes, and better use of resources. It also

looks into the role of technology integration, implementation difficulties, and user adoption. Benefits, drawbacks, and opportunities for development unique to the industry are examined. Surveys, interviews, and case studies are used to collect data.

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REVIEW OF LITRRATURE

Benjamin T. Harris, Olivia N. Martinez (2025) The expanding role of robotic process automation (RPA) in improving business process management (BPM) is reviewed in this study. Benefits like quicker processing and cost savings in industries like banking and insurance are highlighted. Process selection, change management, and monitoring are important success factors. To overcome obstacles and increase productivity, the authors suggest a hybrid RPA-AI strategy.

Putra, H., & Er, M. (2024) The changing function of business process management (BPM) in relation to digital transformation. They draw attention to the ways that technologies like cloud computing, blockchain, and artificial intelligence improve productivity and judgement. According to the study, implementing BPM increases scalability, automation, and organisational agility. Among the difficulties mentioned are data integration problems and change aversion.

Rosemann, M. (2024) Three significant changes in BPM brought about by AI are identified in this study: greater automation, improved decision-making, and the requirement for flexibility. AI uses machine learning and predictive analytics to increase efficiency while reducing the need for human intervention. To remain competitive, organisations need to adapt their BPM frameworks. By removing duplications and optimising processes, AI also enhances the customer experience.

Ricardo Seguel Pérez, Jorge Munoz-Gama (2023) This study looks at how workflow prediction, process discovery, and automated decision-making are how AI changes BPM. It addresses issues like bias, ethics, and transparency while highlighting the efficiency gains from machine learning. To strike a balance between creativity and responsibility, the authors support a hybrid human-AI strategy. When applied correctly, AI in BPM provides competitive advantages and cost savings.

Rachel S. Foster, Michael B. Clarke (2023) In evaluating organisational process capabilities, this study compares frameworks such as CMMI and BPMM while reviewing BPM maturity models. It concludes that improved process optimisation, risk management, and customer satisfaction are all correlated with higher BPM maturity. Nevertheless, current models are frequently inflexible and unable to adjust to changing conditions. The authors suggest adaptable, sector-specific methods for evaluating BPM maturity more successfully.

RESEARCH METHODOLOGY

The methodology used in this study was a descriptive research design. Using the Morgan Table, 132 trainees were chosen through purposive sampling from a population of 200. Data was collected from the participants using a structured questionnaire that included Likert scale questions. Non-parametric tools such as the Kruskal-Wallis H-Test and Spearman's Rank Correlation were employed for analysis because the Kolmogorov-Smirnov normality test did not reveal that the data was normally distributed.

6. DATA ANALYSIS AND INTERPRETATION
PERCENTAGE ANALYSIS

Table 1: Demographic profile of respondents

| Categories	Sub categories	No. of respondents	Percentage (%)
Age	18-24 years	69	52.3
	25-34 years	41	31.1
	35-44 years	11	8.3
	45-54 years	6	4.5
	55+ years	5	3.8
Gender	Male	114	86.4
	Female	18	13.6
Education	Diploma	4	3
	Bachelor's Degree	92	69.7
	Master's Degree	24	18.2
	PHD	12	9.1
Experience	Less than 1 year	6	4.5
	1-3 years	76	57.6
	4-6 years	34	25.8
	7-10 years	10	7.6
	More than 10 years	6	4.5
Total	**All categories**	**132**	**100.00**

FINDINGS

There are fewer respondents in older age groups, with the majority (52.3%) being between the ages of 18 and 24 and 31.1% being between the ages of 25 and 34. Just 13.6% of participants are female, compared to 86.4% of participants who are male. Regarding education, the majority (69.7%) have a bachelor's degree, while the smaller percentages have master's (18.2%) and doctoral (9.1%) degrees. Of those surveyed, most (57.6%) have one to three years of work experience, 25.8% have four to six years, and fewer have more. All things considered, the data points to a young, well-educated, early-career population that is primarily male.

INFERENCE

- Those between the ages of 18 and 24 make up the majority of respondents (52.3%).
- The majority of respondents (86.4%) are Male.
- The majority of respondents (69.7%) Educated with Bachelor's Degree.
- Most responders (57.6%) have one to three years of experience.

Figure 1: Demographic profile of respondents
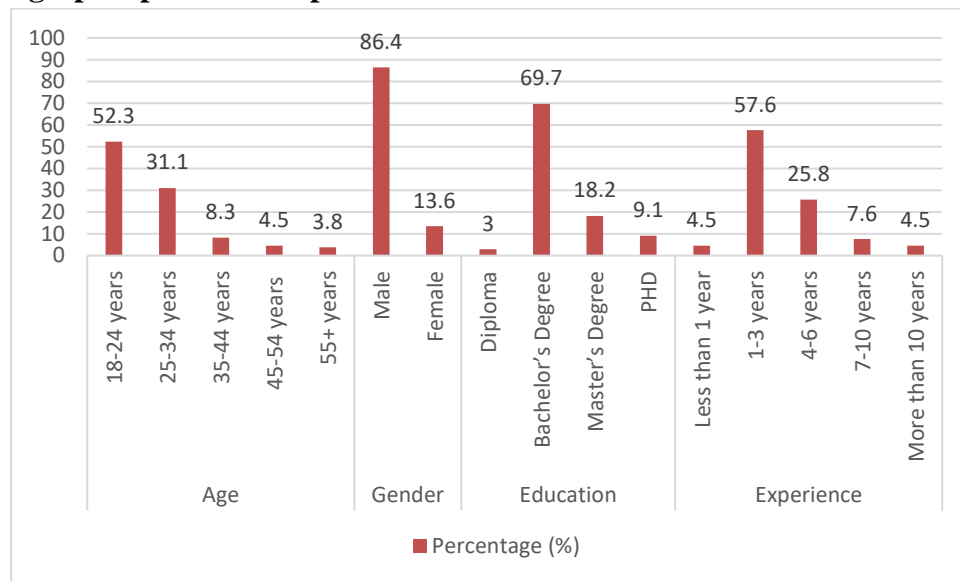
SPEARMAN'S RANK CORRELATION

Null Hypothesis H0: The variables are not correlated with each other.

Alternative Hypothesis H1: The variables are correlated with each other.

Table 2: Showing spearman's rank correlation.

Correlations

			The Software effectively supports process Standardization across different business units	Alfie Software aligns well with our organization's BPM strategies
Spearman's rho	The Software effectively supports process Standardization across different business units	Correlation Coefficient	1.000	.529''
		Sig. (2-tailed)	.	.000
		N	132	132
	Alfie Software aligns well with our organization's BPM strategies	Correlation Coefficient	.529''	1.000
		Sig. (2-tailed)	.000	.
		N	132	132

**. Correlation is significant at the 0.01 level (2-tailed).

Interpretation

Based on the test results, the variables' significance value (p-value) is less than 0.05, or $P < 0.05$. Consequently, the null hypothesis is rejected. There is a correlation between the variables.

KRUSKAL-WALLI'S H-TEST:

Null Hypothesis H0: There is no significant improvement in key performance metrics (such as cycle time, cost reduction, and error rates) after implementing the Software.

Alternative Hypothesis H1: There is a significant improvement in key performance metrics (such as cycle

time, cost reduction, and error rates) after implementing the Software.

Table 3: Showing KRUSKAL-WALLI'S H-TEST.

Ranks

	EDUCATION	N	Mean Rank
Alfie Software provides accurate and real Time data on business process performance	Bachelors Degree	92	63.43
	Master's Degree	24	39.58
	Total	116	
Key performance metrics (Eg- Cycle time, cost reduction, error rates) have improved after implementing Alfie Software	Bachelors Degree	92	63.15
	Master's Degree	24	40.67
	Total	116	

Test Statistics^{a,b}

	Alfie Software provides accurate and real Time data on business process performance	Key performance metrics (Eg- Cycle time, cost reduction, error rates) have improved after implementing Alfie Software
Chi-Square	13.388	13.672
df	1	1
Asymp. Sig.	.000	.000

a. Kruskal Wallis Test

b. Grouping Variable: EDUCATION

Interpretation

Since the p-values are greater than 0.05, we are unable to rule out the null hypothesis (H0). There is no significant improvement in key performance metrics (such as cycle time, cost reduction, and error rates) after implementing the Software.

SUMMARY OF FINDINGS

- Those between the ages of 18 and 24 make up the majority of respondents (52.3%).
- The majority of respondents (86.4%) are Male.
- The majority of respondents (69.7%) Educated with Bachelor's Degree.
- Most responders (57.6%) have one to three years of experience.
- The variables are correlated with each other.
- There is no significant improvement in key performance metrics (such as cycle time, cost reduction, and error rates) after implementing the Software.

SUGGESTIONS

- Add performance tracking, sophisticated automation, and frequent updates based on user feedback to

build on high user satisfaction.

- Increased technical assistance, thorough integration manuals, and wider platform compatibility can all help with integration issues.
- To facilitate transitions and increase acceptance, support change management through pilot programs, clear communication, and   stakeholder involvement.

CONCLUSION

This study Through workflow simplification and operational cost reduction, the software effectively supports business process management (BPM). It helps to improve cycle times and task completion rates, among other performance metrics. Customers expressed great satisfaction with its features and general operation. Organisational preparedness and adequate user training are essential for successful implementation. Change management and system integration present difficulties. In BPM environments, the tool exhibits high reliability in spite of these difficulties. It has a great deal of potential to boost competitiveness and digital transformation with continued improvements.

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