Evaluating Business Continuity Practices in Private Educational Institutions in Batangas Province, Philippines: Toward an Enhanced School Continuity Management Framework

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Abstract

This quantitative study investigates the implementation of Business Continuity Management (BCM) in selected private institutions in Batangas Province, with particular focus on how firmographic factors—such as years of operation, curricular diversity, student population, and geographical location—affect BCM implementation across the Plan-Do-Check-Act (PDCA) framework. Survey questionnaires were distributed to administrators and key personnel, and data were analyzed using descriptive and inferential statistical tools. Frequency and percentage were used to profile institutions, weighted mean and standard deviation assessed implementation and effectiveness, chi-square tested associations, and Pearson correlation examined relationships between variables. Results indicate that newer institutions demonstrate strong BCM implementation, particularly in planning, execution, and corrective action phases. Institutions with diverse curricular offerings encounter challenges in the "Check" and "Act" components, highlighting difficulties in maintaining consistent BCM practices. Student population showed an insignificant correlation with BCM effectiveness, whereas geographical location significantly influenced response and recovery efforts. A strong positive correlation between BCM implementation and overall business continuity effectiveness underscores the importance of a structured and integrated approach. The study concludes that, while private institutions exhibit commitment to BCM, improvements are needed in areas such as KPI tracking, training programs, and benchmarking. Schools with longer operational histories should adapt and update their BCM strategies to remain resilient. An Enhanced School Business Continuity Management Framework is recommended to strengthen preparedness, response, and recovery, ensuring continuity of education during disruptions.

Introduction

Alongside the operations of various private institutions worldwide, several challenges exist, including technological difficulties, the aftermath of natural disasters, and unforeseen disruptions. With this in mind, the need for effective Business Continuity Plans (BCPs) is given greater emphasis. These plans comprehensively present all the necessary documents and procedures aimed at guiding schools in responding to and recovering from disruptions, while ensuring that essential services are maintained (Ramuthi, 2023; Tarlengco, 2024). When properly designed, its implementation significantly contributes to an institution's resilience, and adverse effects can be mitigated.

Relatedly, Business Continuity Management's (BCM) role is vital in securing strategies that prevent losses by maintaining the operations of educational institutions amidst disruptions. As noted by Spasojevic (2024) and Watts (2020), various factors, including resource availability, organizational structure, and leadership, influence the success of this approach. Through this, schools are more encouraged to plan in areas of risk mitigation, training, preparedness, and communication across their operational BCM frameworks. Through this, the sustainable and continuous delivery of quality education, despite possible disruptions, can be secured.

Given the increasing recognition of BCM in the education sector, evaluating its effectiveness in private institutions is essential. This study aims to present an in-depth assessment and analysis of the business continuity plans of selected private institutions in Batangas Province, focusing on key components, including risk assessment, emergency response, communication strategies, resource allocation, and recovery measures. By identifying strengths and areas for improvement, the study will provide insights into institutional preparedness and resilience.

Thus, this research aims to study how selected private educational institutions in Batangas Province implement their Business Continuity Plans (BCPs) in addressing specific risks and challenges they face. The researcher will further examine how the components of the BCPs, guided by the Plan-Do-Check-Act (PDCA) framework, are applied in actual school operations and planning. These findings will provide insights into current practices, highlight areas for improvement, and offer recommendations that will help enhance school business continuity management and ensure the sustainability of educational services.

Objectives of the Study

The primary objective of this study is to assess the business continuity practices of selected private educational institutions in Batangas Province, Philippines, as a basis for proposing an enhanced school continuity management framework. Specifically, it aims to (1) determine the firmographic profile of selected private educational institutions to establish contextual factors that may influence the implementation and effectiveness of business continuity management practices; (2) assess the level of implementation of the business continuity management plan in selected private institutions using the PDCA

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framework; (3) evaluate the effectiveness of the business continuity management plans in mitigating risks and ensuring the continuity of educational services during disruptions based on the PDCA framework; (4) identify the relationship between the firmographic profile of the institutions and the level of implementation of their business continuity management plans; (5) determine the relationship between the level of implementation and the effectiveness of business continuity practices in selected private institutions; and (6) propose an action plan toward an enhanced school business continuity management framework based on the findings of the study.

Operational Framework

The operational framework in Figure 1 illustrates the proposed MALIGAYA Framework for School Business Continuity and Resilience. Anchored on the Plan–Do–Check–Act (PDCA) cycle, the framework integrates both global standards and localized strategies to ensure that private educational institutions remain operationally prepared, responsive, and adaptive to disruptions.

Figure 1. Maligaya's School Business Continuity and Resilience Framework

The framework begins with risk identification and mitigation (**M**), where schools conduct comprehensive risk assessments and scenario analyses to determine vulnerabilities and emerging threats. This proactive approach ensures that continuity planning is grounded in realistic and evidence-based insights into the institution's operational context. The next stage, assessing business impact (**A**), involves using Business Impact Analyses (BIA) to prioritize critical operations, set recovery objectives, and determine acceptable downtime for essential services.

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In leading with governance (**L**), a dedicated Business Continuity Committee is established with clearly defined roles and responsibilities. This ensures accountability and facilitates coordinated decision-making during crises. The implementation stage (**I**) focuses on executing continuity strategies, such as maintaining hybrid learning systems, safeguarding IT backups, and activating contingency plans for both academic and administrative functions.

Financial resilience (**G**) is cultivated through the creation and maintenance of emergency funds, as well as the application of strict budget control measures. This safeguards the institution's capacity to fund continuity measures during prolonged disruptions. The activation stage (**A**) emphasizes training, drills, simulations, and plan validation exercises to ensure operational readiness at all levels.

The framework's yield phase (**Y**) ensures continuous improvement by integrating lessons learned from post-incident reviews, stakeholder feedback, and KPI monitoring into policy updates and procedural refinements. Lastly, aligning communication systems (**A**) ensures that reliable multi-channel communication protocols are in place for both internal and external stakeholders, thereby maintaining transparency and coordination throughout the continuity process.

Furthermore, this operational framework operates as a continuous cycle. Each phase not only informs but also strengthens the subsequent phase -- ensuring that continuity planning is not a static document but a living process. Risk assessments lead to governance structures that enable effective implementation; implementation generates data and experiences that feed into continuous improvement; and improved plans guide better preparedness in the next cycle. By institutionalizing this cyclical process, private educational institutions can sustain operational stability, protect learning delivery, and build a culture of resilience, adaptability, and proactive risk management.

Methodology

This study employed a descriptive–correlational quantitative research design to evaluate the implementation and effectiveness of business continuity practices among private K–12 schools in Batangas Province. A total of 140 respondents, comprising 35 administrators and 105 department heads from 35 DepEd-accredited schools, participated in the study. The schools included in the sample had been in operation for at least five years, offered basic education, and had formally adopted Business Continuity Plans (BCPs) as part of their operational framework.

A proportional stratified random sampling technique was used to ensure adequate representation across firmographic characteristics such as years of operation, curricular offerings, student population, and geographic location. The primary data were gathered through a structured survey questionnaire developed around the Plan–Do–Check–Act (PDCA) framework, divided into sections on school profile, BCP implementation, and BCP effectiveness. Each PDCA component consisted of ten items rated on a four-point Likert scale. The instrument underwent content validation by five field experts and one statistician to

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ensure clarity, relevance, and alignment with the research objectives. Reliability testing through a pilot study yielded a Cronbach's alpha score of 0.992, indicating very high internal consistency.

The data collection process strictly followed research ethics protocols, including securing permissions from school heads, providing detailed explanations of the study's objectives and procedures, obtaining signed informed consent from participants, and ensuring confidentiality through secure data handling and coded identifiers. Data were encoded and organized in Microsoft Excel and analyzed using SPSS version 28. Descriptive statistics -- frequency, percentage, weighted mean, and standard deviation -- were used to profile the schools and measure the level of BCP implementation and effectiveness. Inferential analyses employed the chi-square test of independence to determine associations between firmographic profiles and BCP implementation, while the Pearson product–moment correlation coefficient was used to examine the relationship between BCP implementation and overall effectiveness at a 0.05 level of significance. The localized findings aim to provide a basis for enhancing school business continuity management practices in Batangas and potentially inform similar initiatives in comparable contexts.

Results and Discussion

1. Firmographic Profile of Selected Private Educational Institutions

Table 1
Consolidated Firmographic Profile of Selected Private Educational Institutions (n = 140)

Profile Category	Indicators	Frequency	Percentage (%)	Rank
Years of Operation	10–15 years	29	20.7	2
	16–20 years	16	11.4	3.5
	21–25 years	16	11.4	3.5
	26 years and above	79	56.5	1
Curricular Offerings	JHS & SHS	37	26.4	1
	All levels (Pre-school to SHS)	34	24.3	2
	Pre-school, Grade School & JHS	20	14.3	3
	Pre-school & Grade School	16	11.4	4
	Pre-school, JHS & SHS	15	10.7	5
	SHS only	12	8.6	6
	JHS only	6	4.3	7
Student Population	500 and above	50	35.7	1
	100–199	36	25.7	2
	Below 100	22	15.7	3
	200–299	21	15.0	4
	400–499	6	4.3	5
	300–399	5	3.6	6
Geographical Location	3rd District	49	35.0	1
	2nd District	46	32.9	2
	1st District	30	21.4	3
	4th District	15	10.7	4

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The study involved 140 private educational institutions in Batangas Province, with organizational profiles assessed by years of operation, curricular offerings, student population, and geographical location. This profiling provided context for analyzing variations in BCMP implementation and effectiveness across institutions.

The results show that more than half of the participating institutions (56.5%) have been operational for over 26 years, indicating a high level of institutional stability and maturity that may contribute to effective policy implementation and resilience in the face of disruptions. This finding supports Duchek's (2020) view that organizational longevity often translates into stronger adaptive capabilities due to accumulated experience and established processes. In terms of curricular offerings, the highest proportion of schools provides both Junior and Senior High School programs (26.4%), closely followed by institutions offering all grade levels from preschool to Senior High School (24.3%). This suggests a commitment to comprehensive education delivery and aligns with the K–12 program's emphasis on learner retention and continuity (Labangon et al., 2022).

Regarding student population, over one-third of the institutions (35.7%) cater to 500 or more students, suggesting the presence of larger operational structures and potentially greater resource capacity. However, a significant percentage (41.4%) have smaller populations of fewer than 200 students, which may present challenges in terms of financial resources, staffing, and program implementation. These disparities underline the need for differentiated strategies in business continuity planning, as smaller schools may require additional support mechanisms to achieve similar resilience levels.

Geographically, the concentration of institutions in the 3rd and 2nd districts (a combined 67.9%) underscores the importance of considering location-specific risks and vulnerabilities. These may include localized environmental hazards, infrastructure limitations, or socio-economic conditions that could impact continuity planning and implementation. As Gabriel et al. (2021) highlight, tailoring continuity measures to the specific context and risks of a geographic area is essential for ensuring the uninterrupted delivery of educational services. Overall, the firmographic profile points to both strengths and challenges that can influence the formulation and execution of Business Continuity Management Plans (BCMPs) in Batangas Province.

2. Level of Implementation of Business Continuity Management Plans (BCMP)

The implementation of BCMPs was measured through the Plan–Do–Check–Act (PDCA) framework. Table 2 provides a summary of findings, highlighting overall means and key indicators for each component.

The overall high ratings across the PDCA framework suggest that private schools in Batangas Province have established structured processes for implementing BCMPs, which reflects organizational readiness to manage disruptions. The Act phase's top performance (3.18) can be attributed to strong resource allocation practices (3.29), ensuring that critical supplies, personnel, and operational budgets are available to support continuity strategies. This aligns with the findings of Gabriel et al. (2021), who highlighted that resource sufficiency is a key determinant of resilience in educational institutions.

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Table 2
Summary of the Level of Implementation of BCMP by PDCA Components

PDCA Component	Overall Mean	SD	Interpretation	Highest-Rated Indicators (Mean)	Lowest-Rated Indicators (Mean)
Plan	3.09	0.792	High	Comprehensive risk assessments (3.25)	Maintaining a risk register; Regular reviews (3.02)
Do	3.06	0.800	High	Competency reviews (3.21)	Mock drills and exercises (2.86)
Check	3.10	0.834	High	Regular assessments and audits (3.29)	Periodic testing; Benchmarking (2.94)
Act	3.18	0.770	High	Resource allocation (3.29)	KPI reviews (3.06)

The Check phase (3.10) also emerged as a strong area, driven by the consistent conduct of regular assessments and audits (3.29). This indicates that schools actively monitor and evaluate their processes, allowing them to identify areas of improvement. However, the relatively low performance in periodic testing and benchmarking (2.94) reveals a gap in external comparison and scenario-based evaluations, which are essential for ensuring plans remain relevant and competitive with industry best practices.

The Plan phase (3.09) demonstrated a solid approach to comprehensive risk assessments (3.25), but the low scores for maintaining a risk register and conducting regular reviews (3.02) suggest that while risks are initially identified, documentation and updating of these risks may not be consistently practiced. As BCMPs are dynamic documents, regular updates are crucial to address emerging threats.

Meanwhile, the Do phase (3.06) indicated effective competency reviews (3.21) but a shortfall in mock drills and exercises (2.86), which are vital for testing actual response capabilities. This gap is significant because even well-crafted plans may fail without regular hands-on practice, as emphasized by Duchek (2020). Thus, future efforts should focus on institutionalizing these drills as part of the operational calendar.

Overall, while the high scores affirm that BCMP implementation is well-established, prioritizing improvements in periodic testing, benchmarking, risk register maintenance, and drill execution will strengthen the operationalization of continuity plans, moving institutions toward a more proactive and resilient posture.

3. Evaluate the Effectiveness of BCMPs in Mitigating Risks and Ensuring Educational Continuity

Table 3
Effectiveness of BCMPs Based on the PDCA Framework

PDCA Component	Overall Mean	SD	Interpretation	Highest-Rated Indicators (Mean)	Lowest-Rated Indicators (Mean)
Plan	3.16	0.745	High Level	Training sessions for employees (3.23)	Risk assessments (3.09)
Do	3.11	0.762	High Level	Emergency response teams (3.20)	Incident tracking system (3.05)
Check	3.17	0.734	High Level	Inventory of resources (3.28)	Key performance indicators (3.01)
Act	3.15	0.661	High Level	Corrective actions and lessons learned (3.24)	Senior management training (3.01)

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The study assessed the effectiveness of Business Continuity Management Plans (BCMPs) using the Plan-Do-Check-Act (PDCA) framework across selected private institutions in Batangas Province. Results showed a high level of effectiveness across all PDCA components, with notable strengths in preparedness, communication, and organizational responsiveness.

The findings confirm that the selected private institutions in Batangas Province demonstrate a generally high level of effectiveness in implementing their Business Continuity Management Plans (BCMPs) as evaluated through the PDCA framework. This indicates that BCMPs are not only in place but are also actively integrated into institutional operations, promoting preparedness, risk mitigation, and educational continuity.

In the Plan phase, the strong performance in employee training and designation of response teams reflects institutional commitment to readiness. This aligns with the emphasis in the literature on capacity building as a foundation for resilience. However, the relatively lower rating in risk assessment suggests a gap in systematic hazard identification and scenario planning. Institutions may benefit from adopting more comprehensive and frequent risk assessment protocols to anticipate evolving threats, especially those related to natural disasters, technological disruptions, or socio-political instability.

The Do phase results reveal commendable emergency response capabilities, supported by organized teams and established procedures. Yet, incident tracking systems remain an area for improvement. Without a robust system to record, monitor, and analyze incidents, organizations may miss opportunities to learn from past events and refine their response strategies. Enhancing digital tracking and documentation can support faster decision-making during disruptions.

For the Check phase, the highest overall mean score across PDCA phases underscores the importance institutions place on evaluating resource availability and communication efficiency. Maintaining an updated inventory of resources -- both physical and human -- is essential for rapid deployment during emergencies. However, the lower ratings for KPI utilization imply that monitoring of specific performance benchmarks is not yet maximized. Strengthening KPI-driven evaluations can offer more measurable insights into BCMP performance and outcomes.

The Act phase findings highlight that corrective actions and lessons learned are generally applied, demonstrating a feedback-oriented culture. Still, the relatively low rating for senior management training suggests a need for leadership-level preparedness enhancement. Since leadership directly influences institutional priorities and crisis decision-making, targeted training for senior administrators could lead to stronger governance and a more cohesive continuity culture.

Overall, the high ratings across PDCA components validate that BCMPs in the studied institutions are functional and beneficial in mitigating risks and ensuring educational continuity. Nonetheless, strategic improvements -- particularly in proactive risk assessment, incident documentation, KPI-based monitoring, and senior management preparedness -- can further elevate the resilience and adaptability of these institutions in the face of future disruptions.

4. Relationships Between Firmographic Profiles and BCMP Implementation

The study examined how firmographic characteristics -- years of operation, curricular offerings, student population, and geographical location -- affect BCMP implementation, helping identify key attributes that shape continuity practices.

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Table 4

Correlation Between Firmographic Profiles and BCMP Implementation

Profile	Plan		Do		Check		Act		Overall Implementation	
	coef	p-value	Coef	p-value	Coef	p-value	Coef	p-value	coef	p-value
Years of Operation	-0.414	<0.001	-0.359	<0.001	-0.336	<0.001	-0.463	<0.001	-0.338	<0.001
Curricular Offerings	-0.209	0.034	-0.155	0.118	-0.297	0.002	-0.331	<0.001	-0.208	0.035
Student Population	-0.001	0.989	-0.112	0.260	-0.146	0.140	-0.153	0.124	-0.054	0.585
Geographical Location	-0.330	<0.001	-0.288	0.003	-0.368	<0.001	-0.395	<0.001	-0.305	0.002

The study examined the relationship between firmographic characteristics - namely, years of operation, curricular offerings, student population, and geographical location -- and the level of BCMP implementation across the PDCA components.

Results showed significant negative correlations between years of operation and all BCMP components. This suggests that newer institutions tend to adopt more structured and active continuity practices, potentially due to modern compliance requirements, updated operational frameworks, and agility in adopting ISO 22301-aligned systems (EFR Cert, 2020). As Duchek (2020) notes, adaptability is often higher in institutions not bound by long-standing traditional structures, enabling them to integrate current best practices more effectively.

For curricular offerings, the findings revealed significant negative correlations with Check and total BCMP implementation (r = -0.208, p = 0.035). Institutions offering more diverse programs may face complexity in ensuring consistent BCMP execution across varied academic units, echoing Labangon et al. (2022), who observed that program diversification often increases logistical and policy alignment challenges in continuity planning.

The student population variable showed no significant correlation with any BCMP component (p > 0.05), indicating that institutional size alone does not determine continuity success. This reinforces Adams' (2023) assertion that organizational preparedness depends more on governance, leadership commitment, and systematic processes rather than enrollment numbers.

Meanwhile, geographical location demonstrated consistent significant negative correlations with all BCMP components. Schools in areas with environmental and logistical challenges may encounter barriers in resource allocation, communication infrastructure, and risk-specific policy adaptation, consistent with the observations of Gabriel et al. (2021) on location-driven vulnerability in school operations.

These findings indicate that institutional age, program breadth, and geographical context are influential factors in BCMP implementation levels, whereas student population size has minimal direct impact. Tailoring continuity strategies to address the specific limitations posed by these characteristics can

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help strengthen preparedness and ensure more consistent application of BCMP practices across varied school contexts.

5. Relationships Between BCMP Implementation and Effectiveness

The study examined the direct relationship between the level of BCMP implementation and its effectiveness in mitigating risks and ensuring educational continuity, highlighting how the depth and consistency of applying PDCA components contribute to overall institutional resilience.

Table 5
Correlation Between BCMP Implementation and Effectiveness

BCMP Component	With Plan	With Do	With Check	With Act	With Overall Effectiveness
Plan	1.000	0.797**	0.845**	0.783**	0.811**
Do	0.750**	1.000	0.878**	0.847**	0.906**
Check	0.696**	0.766**	1.000	0.727**	0.770**
Act	0.847**	0.834**	0.902**	1.000	0.891**

(p < 0.001 for all correlations)

The study analyzed the direct relationship between the level of BCMP implementation and its effectiveness in mitigating risks and ensuring educational continuity.

Results indicate strong and statistically significant correlations across all PDCA components ($p < 0.001$), confirming that higher levels of implementation are associated with greater effectiveness. The Do component registered the strongest link with overall effectiveness ($r = 0.906$), underscoring the critical role of execution - such as training programs, drills, and timely resource deployment - in producing tangible continuity outcomes. This finding is consistent with the assertions of Labangon et al. (2022) and Adams (2023), who highlight that operational readiness directly translates to organizational resilience.

The Check ($r = 0.770$) and Act ($r = 0.891$) components also demonstrated substantial correlations with overall effectiveness. These results emphasize the importance of systematic monitoring, evaluation, and continuous improvement in sustaining BCMP performance over time, echoing the recommendations of Gibbard (2024) and Lightfoot (2023) on the value of feedback loops and adaptive management.

The Plan phase, while slightly lower in correlation with overall effectiveness ($r = 0.811$), still revealed strong interconnections with other PDCA stages (e.g., with Check at $r = 0.845$ and with Do at $r = 0.797$). This reflects the foundational nature of thorough risk assessment, business impact analysis, and preparedness planning in enabling the successful execution and evaluation of continuity measures, aligning with ISO 22301 guidelines (EFR Cert, 2020).

Taken together, these results affirm the PDCA model as an integrated and mutually reinforcing cycle. Strength in one component has the potential to amplify the performance of others, leading to a more resilient and adaptive institutional continuity framework.

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6. Propose Actionable Recommendations for an Enhanced Framework

Based on the results of the study, the *MALIGAYA Framework for School Business Continuity and Resilience* is proposed as a comprehensive model that integrates the principles of the PDCA cycle with context-specific strategies tailored for private educational institutions in the Philippines.

This framework addresses the identified gaps -- such as improving proactive risk assessments, strengthening incident tracking, enhancing KPI monitoring, and expanding leadership training -- while reinforcing the strengths observed in preparedness, communication, and resource management. It also responds to the recommendation that continuity practices be tailored to institutional characteristics, with particular attention to modernization for older schools, streamlined processes for those with broad curricular offerings, and targeted logistical and planning support for geographically challenged areas.

Table 6
Summary of the MALIGAYA Framework Components

Component	Focus Area	Key Action Points
M	Mitigate Risks	Conduct comprehensive risk assessments and scenario analysis to identify vulnerabilities and emerging threats.
A	Assess Business Impact	Use Business Impact Analysis (BIA) to prioritize critical operations and define recovery objectives.
L	Lead with Governance	Establish a Business Continuity Committee with clearly defined roles and responsibilities.
I	Implement Continuity Strategies	Maintain hybrid learning systems, IT backups, and robust contingency planning.
G	Grow Financial Resilience	Create and sustain emergency funds; apply strict budget monitoring and control measures.
A	Activate Training and Testing	Conduct regular drills, simulations, and plan validation exercises to ensure readiness.
Y	Yield Continuous Improvement	Use post-incident reviews, stakeholder feedback, and KPI results to update and refine policies.
A	Align Communication Systems	Develop reliable multi-channel communication protocols for internal and external stakeholders.

This model promotes a cyclical and strategic approach to continuity planning, ensuring institutions remain prepared and adaptable. It emphasizes leadership commitment, financial discipline, technological readiness, and stakeholder engagement as critical to resilience, with strong links between implementation and effectiveness, particularly in the Do and Act phases.

By embedding ISO 22301-aligned practices (EFR Cert, 2020) alongside locally responsive measures, the MALIGAYA Framework provides a practical yet standards-based roadmap. Its design ensures that schools can:

- Institutionalize preparedness as a continuous priority,
- Respond swiftly and effectively to both natural and human-induced disruptions, and
- Sustain the delivery of essential educational services under crisis conditions.

Adopting the MALIGAYA Framework positions private schools to safeguard operational continuity while fostering a culture of resilience, adaptability, and continuous improvement, consistent with the recommendations of Duchek (2020), Gibbard (2024), and Yulo Loyzaga & Porio (2022) on sustainable organizational preparedness. Furthermore, its integration into institutional policy supports the call for regular drills, cross-functional collaboration, standardized documentation, performance monitoring through clear KPIs, and continuous policy updates -- ensuring that the framework is not only theoretical but actively operationalized in daily practice.

Conclusion

The study found that most private schools in Batangas Province are long-established, larger in student population, and concentrated in the 3rd District, with fewer institutions in transitional age brackets and in the 4th District. This distribution reflects a landscape dominated by mature institutions that have established operational systems, yet may require modernization to address evolving risks. BCMP implementation across the PDCA cycle was generally high, demonstrating strong preparedness in planning, communication protocols, resource management, and integration of corrective actions. However, several improvement areas were identified -- namely, the consistent conduct of comprehensive Business Impact Analyses (BIAs), the institutionalization of regular drills and simulations, systematic KPI monitoring for performance measurement, and targeted leadership-focused training to strengthen governance in continuity management.

Effectiveness levels were likewise consistently high, especially in employee training and structured response systems, indicating that existing protocols are functional and well-communicated. Nevertheless, experiential readiness, robust incident tracking, and periodic risk updates emerged as priority improvement points to ensure that preparedness translates into real-world performance during disruptions.

Firmographic factors played a notable role in implementation. Newer schools demonstrated greater adaptability and more effective BCM adoption, suggesting that flexibility and openness to modern frameworks facilitate higher compliance and integration. Conversely, institutions with broader curricular offerings encountered challenges in maintaining consistency across diverse program areas, particularly in the monitoring and action phases. Student population showed no significant effect, reinforcing that institutional size does not guarantee continuity of success. Geographical factors, however, moderately influenced implementation depth, with environmental and logistical constraints limiting the extent of preparedness in some areas.

A strong, positive correlation was established between BCMP implementation and effectiveness, with the "Do" phase exerting the greatest impact -- underscoring the central role of execution, including training, drills, communication systems, and resource deployment, in achieving resilience outcomes. This

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finding supports the view that planning alone is insufficient without effective operationalization and continuous testing of strategies.

In response to these insights, the proposed **MALIGAYA** Framework offers a structured, PDCA-based approach tailored to Philippine private educational institutions. It emphasizes stronger leadership engagement, rigorous and recurring risk and impact assessments, enhanced employee preparedness through practical exercises, standardized documentation for ease of access and consistency, cross-functional collaboration for shared accountability, and performance tracking using well-defined KPIs. By integrating ISO 22301-aligned global standards with localized, context-specific measures, the framework provides a roadmap for building an agile, adaptive, and resilient continuity system.

Ultimately, this study highlights that resilience in the education sector is not achieved through isolated efforts but through an ongoing, institution-wide culture of preparedness, adaptability, and continuous improvement. By adopting the recommendations and implementing the MALIGAYA Framework, private schools in Batangas Province can ensure not only the survival of their operations during crises but also the sustained delivery of quality education in an increasingly unpredictable environment.

Recommendations

Private educational institutions in Batangas Province should strengthen their Business Continuity Management (BCM) systems by building on existing strengths and addressing the gaps identified in this study. Long-established schools are encouraged to review and update their continuity strategies to ensure alignment with today's dynamic risk environment, while newer institutions -- already demonstrating stronger BCM practices -- should maintain their momentum through regular training, drills, and testing. Older institutions can benefit from benchmarking against newer schools to adopt modern best practices, especially in areas where adaptability and rapid implementation are critical.

To improve BCMP implementation, schools should enhance their conduct of Business Impact Analyses (BIAs), keep risk registers updated, and perform periodic risk reviews to ensure planning remains relevant. Experiential preparedness should be prioritized by institutionalizing drills, simulations, and scenario-based testing, coupled with benchmarking against national and international standards. Developing clear Key Performance Indicators (KPIs) will help strengthen monitoring, while promoting cross-department collaboration will ensure continuity strategies are coordinated and mutually reinforcing.

Regarding effectiveness, regular and comprehensive risk assessments should be integrated into institutional routines, with more robust incident tracking and systematic system testing under the "Do" phase. Leadership involvement must be deepened through targeted training for senior management to enhance strategic oversight, decision-making, and commitment to continuity objectives.

BCM strategies should also be tailored to institutional characteristics. Older schools should modernize their frameworks to reflect current risks and technologies; institutions with broad curricular offerings should streamline protocols to promote consistency and reduce complexity; and geographically

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challenged schools should receive targeted support, including region-specific risk assessments, customized training, and logistical planning resources.

Given the strong positive correlation between implementation and effectiveness, all PDCA components should be consistently applied, with particular focus on the "Do" phase to ensure operational readiness. Finally, the adoption of the MALIGAYA Framework -- emphasizing leadership engagement, rigorous risk assessment, preparedness drills, standardized documentation, cross-functional collaboration, KPI-based monitoring, and continuous improvement -- offers a practical and sustainable roadmap for resilience. By implementing these recommendations, private schools in Batangas Province can create an adaptive, agile, and enduring business continuity system that safeguards operations and ensures the uninterrupted delivery of quality education in the face of any disruption.

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