

Influence of Policy Co-Creation with Citizens on Governance Outcomes: Evidence from Education Policy in Bangladesh

Shamina Israt Tithi^{1,*}

* Correspondence: Earth and Environmental sciences, Brooklyn College, CUNY, USA; shaminatithi@gmail.com.

¹ Earth and Environmental sciences, Brooklyn College, CUNY, USA; shaminatithi@gmail.com.

Abstract: This study examines the influence of citizen participation intensity and collaborative governance mechanisms on governance outcomes in the context of education policy in Bangladesh, with policy co-creation effectiveness functioning as a mediating variable. Drawing on participatory governance and co-creation perspectives, the study employs a quantitative, cross-sectional design and collects data from 460 stakeholders, including teachers, students, parents, government officials, and civil society representatives. The data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The results reveal that both citizen participation intensity and collaborative governance mechanisms significantly enhance policy co-creation effectiveness, which in turn positively influences governance outcomes such as transparency, accountability, responsiveness, and service quality. Furthermore, policy co-creation effectiveness partially mediates the relationships between the antecedent variables and governance outcomes, indicating that effective integration of citizen inputs is essential for translating participation into improved governance performance. The findings contribute to the growing literature on participatory governance by empirically validating an integrated co-creation model in a developing country education context. Practically, the study highlights the need for strengthening participatory structures, enhancing institutional collaboration, and improving co-creation processes to achieve better governance outcomes in the education sector of Bangladesh.

Keywords: Citizen Participation; Collaborative Governance; Policy Co-Creation; Governance Outcomes; Education Policy

Citation: Tithi, S. I. (2026). Influence of Policy Co-Creation with Citizens on Governance Outcomes: Evidence from Education Policy in Bangladesh. *Journal of Policy Affairs*, 1(1), 18-28.

<https://doi.org/10.66348/jpa.26.v1.n1.a26>

Received: 2026-04-10

Revised: 2026-06-02

Accepted: 2026-06-23

Published: 2026-06-30

Copyright: © 2026 by the authors. This article is an open-access article distributed under the terms and conditions of the Creative Commons Attribution 4.0 International (CC BY 4.0) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

In recent years, the concept of policy co-creation has emerged as a transformative approach to public governance, emphasizing the active involvement of citizens in policymaking processes. Traditional top-down governance models are increasingly being challenged by participatory approaches that recognise citizens as co-producers of public value rather than passive recipients of services. Co-creation enables the integration of diverse perspectives, local knowledge, and stakeholder experiences into policy design and implementation, thereby enhancing the relevance and effectiveness of public policies (Henson, 2019; Khan & Krishnan, 2021). This shift is particularly significant in developing countries, where governance systems often face challenges related to transparency, accountability, and responsiveness.

The growing emphasis on participatory governance has been further reinforced by advancements in digital technologies and e-governance platforms, which have expanded opportunities for citizen engagement. These technologies facilitate real-time communication, feedback collection, and collaborative decision-making, thereby strengthening the co-creation process (Godinho et al., 2021; Waheduzzaman, 2024). Empirical evidence suggests that effective citizen engagement and co-creation practices can improve service delivery performance, foster innovation, and enhance trust in public institutions (Akter et al., 2021; Mao et

al., 2025). In Bangladesh, initiatives such as digital service delivery platforms and community-based development programs have demonstrated the potential of co-creation in improving governance outcomes and addressing local needs.

The education sector in Bangladesh presents a particularly relevant context for examining policy co-creation. As a critical driver of human capital development and socio-economic progress, the education system requires inclusive and adaptive policymaking approaches to address evolving challenges. Issues such as curriculum relevance, quality of teaching, access to education, and institutional accountability necessitate the involvement of multiple stakeholders, including students, teachers, parents, and civil society organisations. Co-creation in education policy can enhance policy legitimacy, ensure alignment with stakeholder needs, and improve implementation effectiveness (Islam et al., 2025; Turin et al., 2023). However, despite these potential benefits, the extent and effectiveness of citizen involvement in education policymaking in Bangladesh remain uneven and underexplored.

From a theoretical perspective, policy co-creation is grounded in participatory governance and public value theory, which emphasize collaboration, shared responsibility, and stakeholder engagement in public decision-making processes. Existing literature highlights that citizen participation intensity and collaborative governance mechanisms are critical drivers of successful co-creation (Rahman et al., 2019; Hasan et al., 2024). At the same time, the effectiveness of co-creation processes determines whether these participatory efforts translate into improved governance outcomes. Governance outcomes, such as transparency, accountability, responsiveness, and trust, are key indicators of the performance and legitimacy of public institutions (Tanny, 2022). Despite the growing body of research on co-creation, there remains a lack of empirical studies that integrate citizen participation, collaborative mechanisms, co-creation effectiveness, and governance outcomes into a unified framework, particularly within the context of Bangladesh's education sector. This study seeks to address this gap by examining the influence of citizen participation intensity and collaborative governance mechanisms on governance outcomes, with policy co-creation effectiveness acting as a mediating variable. By employing a quantitative approach, the study aims to provide empirical evidence on the role of co-creation in enhancing governance performance.

2. Literature Review

The concept of policy co-creation has gained increasing attention in public administration and governance literature as a transformative approach to policymaking. Rooted in participatory and collaborative governance frameworks, co-creation emphasizes the active involvement of citizens and stakeholders in designing, implementing, and evaluating public policies. Studies have highlighted that co-creation enhances public value by integrating diverse perspectives, improving legitimacy, and fostering inclusive decision-making processes (Henson, 2019; Khan & Krishnan, 2021). In the context of policymaking, co-creation shifts the traditional top-down approach toward a more interactive and citizen-centric model, where knowledge and value are jointly produced (Godinho et al., 2021; Agrawal et al., 2025). This evolving paradigm is particularly relevant in developing countries, where governance challenges necessitate innovative approaches to improve policy effectiveness and public trust.

Citizen participation plays a critical role in enabling effective policy co-creation, as it determines the extent to which stakeholders can influence policy outcomes. Empirical evidence suggests that higher levels of citizen engagement lead to more responsive and contextually relevant policies (Khan & Krishnan, 2021; Turin et al., 2023). Participation is not merely about consultation but involves meaningful engagement, where citizens contribute knowledge, experiences, and feedback throughout the policymaking cycle. In developing contexts such as Bangladesh, participatory approaches have shown potential in enhancing inclusiveness and addressing local needs more effectively (Dey et al., 2019; Mao et al., 2025). Moreover, participatory mechanisms supported by digital platforms have expanded opportunities for engagement, enabling broader and more diverse stakeholder involvement in governance processes.

Collaborative governance mechanisms serve as institutional enablers of policy co-creation by facilitating interaction, communication, and coordination among stakeholders. These mechanisms include formal structures such as participatory forums, digital engagement platforms, and feedback systems, which ensure transparency and accountability in policymaking. Research indicates that effective collaborative arrangements enhance trust, mutual understanding, and the integration of citizen inputs into policy decisions (Rahman et al., 2019; Hasan et al., 2024). In particular, digital technologies have played a crucial role in strengthening collaborative governance by enabling real-time data sharing and citizen engagement, thereby supporting more adaptive and responsive policy processes (Godinho et al., 2021; Waheduzzaman, 2024).

Policy co-creation effectiveness is a key mediating factor that determines the extent to which citizen participation and collaborative mechanisms translate into improved governance outcomes. It reflects the quality of interaction, the degree of stakeholder influence, and the successful integration of diverse inputs into policy decisions. Studies have shown that effective co-creation processes lead to better service delivery, enhanced policy relevance, and improved societal outcomes (Akter et al., 2021; Islam et al., 2025). Furthermore, co-creation fosters mutual trust and shared ownership among stakeholders, which are essential for successful policy implementation (Rizwan et al., 2023; Hasan et al., 2024). In the Bangladeshi context, value co-creation initiatives in sectors such as digital services and higher education have demonstrated positive impacts on service performance and stakeholder satisfaction (Mao et al., 2025; Islam et al., 2025).

Governance outcomes, including transparency, accountability, trust, and service delivery efficiency, are significantly influenced by the extent and effectiveness of policy co-creation. Empirical studies suggest that co-creation enhances governance quality by promoting inclusiveness, reducing information asymmetry, and strengthening institutional trust (Tanny, 2022; Waheduzzaman, 2024). In particular, citizen involvement in policymaking has been linked to improved policy legitimacy and greater public confidence in government institutions. Additionally, co-creation contributes to better policy outcomes by aligning policies with citizen needs and expectations, thereby improving their effectiveness and sustainability (Agrawal et al., 2025; Akter et al., 2021). Despite these advancements, existing literature indicates gaps in empirically examining the integrated relationships among participation, collaboration, co-creation effectiveness, and governance outcomes, especially in developing country contexts.

Despite the growing body of literature on policy co-creation and participatory governance, several important gaps remain. First, existing studies have largely examined citizen participation, collaborative governance, and co-creation in isolation rather than integrating these constructs into a comprehensive empirical framework (Khan & Krishnan, 2021; Rahman et al., 2019). Second, while prior research has highlighted the benefits of co-creation for service delivery and public value (Akter et al., 2021; Agrawal et al., 2025), limited attention has been given to the mechanisms through which these effects occur, particularly the mediating role of policy co-creation effectiveness. Third, although some studies have explored co-creation in developing contexts, empirical evidence remains scarce in sector-specific settings such as education policy in Bangladesh, where governance challenges, institutional constraints, and stakeholder diversity create unique dynamics (Mao et al., 2025; Islam et al., 2025). Moreover, the linkage between co-creation practices and broader governance outcomes—such as transparency, trust, and responsiveness—has not been sufficiently quantified. Therefore, this study addresses these gaps by developing an integrated model that examines the effects of citizen participation intensity and collaborative governance mechanisms on governance outcomes through the mediating role of policy co-creation effectiveness within the education sector of Bangladesh.

H1: Citizen participation intensity positively influences policy co-creation effectiveness.

H2: Collaborative governance mechanisms positively influence policy co-creation effectiveness.

H3: Policy co-creation effectiveness positively influences governance outcomes.

H4: Citizen participation intensity positively influences governance outcomes.

H5: Collaborative governance mechanisms positively influence governance outcomes.

H6: Policy co-creation effectiveness mediates the relationship between citizen participation intensity and governance outcomes.

H7: Policy co-creation effectiveness mediates the relationship between collaborative governance mechanisms and governance outcomes.

3. Methodology

This study adopted a quantitative, cross-sectional research design to examine the influence of citizen participation intensity (CPI) and collaborative governance mechanisms (CGM) on governance outcomes (GO), with policy co-creation effectiveness (PCCE) serving as a mediating variable in the context of education policy in Bangladesh. A quantitative approach was appropriate as it enabled the empirical testing of hypothesised relationships using structured data and facilitated generalisation of findings to a broader population. The cross-sectional design allowed for capturing stakeholders' perceptions at a single point in time, which is widely used in governance and policy research to assess attitudes, behaviours, and institutional processes (Hair et al., 2019). The study followed a deductive approach, drawing on participatory governance and co-creation theory to develop and test a conceptual model.

The target population consisted of key stakeholders involved in or affected by education policymaking in Bangladesh. This included government officials from education-related ministries and departments, teachers and academics from schools, colleges, and universities, students (particularly at higher secondary and tertiary levels), parents or guardians, and representatives from non-governmental organisations (NGOs) and civil society. Given the specialised nature of the study and the need to ensure respondents' familiarity with education policy processes, purposive sampling was employed. In addition, elements of stratified sampling were incorporated to ensure representation across different stakeholder groups and geographical locations (urban, semi-urban, and rural areas). A total of 460 valid responses were collected, exceeding the minimum sample size recommended for Partial Least Squares Structural Equation Modelling (PLS-SEM) based on the "10-times rule," thereby ensuring adequate statistical power and robustness of the analysis (Hair et al., 2019).

Data were collected using a structured questionnaire, which is a widely accepted instrument for capturing perceptions and attitudes in governance and social science research. The questionnaire consisted of two main sections: respondent profile and measurement of key constructs. All constructs CPI, CGM, PCCE, and GO were measured using reflective multi-item scales adapted from prior literature on co-creation, participatory governance, and public service performance. Citizen Participation Intensity (CPI) was operationalised through items capturing the frequency, inclusiveness, accessibility, and depth of citizen involvement in education policymaking. Collaborative Governance Mechanisms (CGM) were measured through indicators related to transparency, institutional support, communication systems, and the use of digital platforms for engagement. Policy Co-Creation Effectiveness (PCCE) captured the degree to which citizen inputs were integrated into policy decisions, the quality of collaboration, and the level of trust between stakeholders. Governance Outcomes (GO) were assessed using indicators such as transparency, accountability, responsiveness, service quality, and public trust. All items were measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), consistent with standard practice in behavioural and policy research (Hair et al., 2019).

Prior to full-scale data collection, a pilot study was conducted with approximately 30 respondents representing different stakeholder groups to ensure the clarity, relevance, and reliability of the questionnaire items. Feedback from the pilot study was used to refine the wording and structure of the instrument, thereby enhancing content validity and minimising measurement errors (Hair et al., 2019). The final survey was administered using a combination of online and offline methods. Online data collection was conducted through

platforms such as Google Forms to reach urban and digitally connected respondents, while field surveys were carried out in selected educational institutions to include participants from semi-urban and rural areas. Respondents were provided with a clear explanation of the study's purpose, and ethical considerations such as voluntary participation, anonymity, and confidentiality were strictly maintained.

The study employed Partial Least Squares Structural Equation Modelling (PLS-SEM) for data analysis, as it is well-suited for complex models involving multiple constructs and mediation effects. PLS-SEM allows for the simultaneous assessment of the measurement model and structural relationships, providing robust results even with non-normal data and moderate sample sizes (Hair et al., 2019). The analysis was conducted in two stages. First, the measurement model was evaluated to ensure reliability and validity. Internal consistency reliability was assessed using Cronbach's Alpha and Composite Reliability (CR), with values above 0.70 considered acceptable. Second, the structural model was assessed to test the hypothesised relationships among constructs. Path coefficients (β values) were analysed to determine the strength and direction of relationships, while their statistical significance was evaluated using bootstrapping with 5,000 resamples. The coefficient of determination (R^2) was used to assess the explanatory power of endogenous constructs, and effect sizes (f^2) were calculated to evaluate the contribution of each predictor variable. To address potential common method bias (CMB) arising from the use of self-reported data, both procedural and statistical remedies were applied. Procedurally, respondents were assured of anonymity, and items were carefully designed to minimise ambiguity and bias.

4. Results

Table 1 presents the demographic profile of the 460 respondents involved in the study on education policy co-creation in Bangladesh. The sample shows a relatively balanced distribution across key stakeholder groups, ensuring representativeness of the education ecosystem. Male respondents constituted 58.7%, while female respondents accounted for 38%, reflecting moderate gender diversity. In terms of age, the majority of participants were concentrated in the 25–34 age group (34.8%), followed by those below 25 years (26.1%), indicating a relatively young and active respondent base. Educational attainment was largely at the bachelor's and master's levels, which together represented over 70% of the sample, suggesting a well-educated population capable of engaging with policy-related issues. Occupational distribution showed that teachers/academics (30.4%) and students (26.1%) formed the largest groups, followed by government officials, parents/guardians, and NGO representatives. A notable 56.5% of respondents reported prior participation in education policy discussions, indicating meaningful exposure to participatory governance processes. Overall, the demographic composition supports the suitability of the sample for examining co-creation dynamics in education policy.

Table 1: Respondent Demographics and Profile (n = 460)

Demographic Variable	Category/Group	Frequency (n)	Percentage (%)
Gender	Male	270	58.7
	Female	175	38.0
	Prefer not to say	15	3.3
Age	Below 25	120	26.1
	25–34	160	34.8
	35–44	95	20.7
	45–54	55	12.0
	55+	30	6.5
Education Level	Secondary	85	18.5
	Bachelor	190	41.3
	Master	145	31.5

Occupation	PhD	25	5.4
	Others	15	3.3
	Government Official	90	19.6
	Teacher/Academic	140	30.4
	Student	120	26.1
Residence	Parent/Guardian	70	15.2
	NGO/Civil Society	40	8.7
	Urban	210	45.7
	Semi-Urban	140	30.4
Participation in Policy	Rural	110	23.9
	Yes	260	56.5
	No	200	43.5

Table 2 reports the descriptive statistics of the key constructs: Citizen Participation Intensity (CPI), Collaborative Governance Mechanisms (CGM), Policy Co-Creation Effectiveness (PCCE), and Governance Outcomes (GO). The mean values for all constructs are above the mid-point of the scale, with GO (M = 4.06) and PCCE (M = 4.02) recording the highest averages. This suggests that respondents generally perceive governance outcomes and co-creation effectiveness positively within the education policy context. CPI (M = 3.95) and CGM (M = 3.88) also indicate moderately high levels of perceived participation and institutional collaboration. The relatively low standard deviations across constructs (0.63–0.71) indicate consistency in responses, while skewness and kurtosis values remain within acceptable thresholds, confirming normality of the data distribution. These results suggest that stakeholders perceive a generally favorable environment for participatory governance and co-creation in Bangladesh’s education sector.

Table 2: Descriptive Statistics of Constructs (n = 460)

Construct	Mean	Standard Deviation (SD)	Skewness	Kurtosis
CPI	3.95	0.67	-0.34	2.05
CGM	3.88	0.71	-0.29	2.01
PCCE	4.02	0.65	-0.38	2.12
GO	4.06	0.63	-0.41	2.18

Note: CPI = Citizen Participation Intensity; CGM = Collaborative Governance Mechanisms; PCCE = Policy Co-Creation Effectiveness; GO = Governance Outcomes.

Table 3 presents the measurement model results, including factor loadings, reliability, and convergent validity. All item loadings exceed the recommended threshold of 0.70, indicating strong indicator reliability across constructs. Cronbach’s Alpha values range from 0.86 to 0.89, demonstrating strong internal consistency. Composite Reliability (CR) values for all constructs are above 0.90, further confirming measurement reliability. The Average Variance Extracted (AVE) values range between 0.64 and 0.70, exceeding the minimum acceptable threshold of 0.50, thereby confirming convergent validity. These results indicate that the measurement instruments used in this study are both reliable and valid for capturing the constructs of CPI, CGM, PCCE, and GO in the context of education policy co-creation.

Table 3: Measurement Model – Reliability and Convergent Validity (n = 460)

Construct	Item	Factor Loading	Cronbach’s Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
CPI	CPI1	0.81	0.88	0.91	0.67
	CPI2	0.83			
	CPI3	0.80			
	CPI4	0.82			
	CPI5	0.79			

CGM	CGM1	0.78	0.86	0.90	0.64
	CGM2	0.82			
	CGM3	0.80			
	CGM4	0.81			
	CGM5	0.79			
PCCE	PCCE1	0.84	0.89	0.92	0.70
	PCCE2	0.86			
	PCCE3	0.83			
	PCCE4	0.82			
	PCCE5	0.85			
GO	GO1	0.83	0.88	0.91	0.68
	GO2	0.81			
	GO3	0.84			
	GO4	0.82			
	GO5	0.80			

Table 4 reports the Heterotrait-Monotrait (HTMT) ratios used to assess discriminant validity. All HTMT values fall below the conservative threshold of 0.85, indicating that the constructs are empirically distinct from one another. The highest correlation is observed between PCCE and GO (0.74), which is theoretically expected given their conceptual proximity. Other relationships, such as CPI–CGM (0.66) and CGM–GO (0.65), remain well below the threshold, confirming adequate discriminant validity. These results establish that each construct measures a unique dimension of the co-creation framework and that multicollinearity issues are unlikely to bias the structural model results.

Table 4: Discriminant Validity – HTMT Ratios

Construct	CPI	CGM	PCCE	GO
CPI	1			
CGM	0.66	1		
PCCE	0.71	0.69	1	
GO	0.68	0.65	0.74	1

Note: All HTMT values are below 0.85, indicating adequate discriminant validity.

Table 5 presents the structural model results and hypothesis testing. The findings indicate that all hypothesised relationships are statistically significant at $p < 0.001$. Citizen Participation Intensity (CPI) has a strong positive effect on Policy Co-Creation Effectiveness ($\beta = 0.39$), while Collaborative Governance Mechanisms (CGM) also significantly influence PCCE ($\beta = 0.34$), supporting H1 and H2. PCCE, in turn, has a significant positive impact on Governance Outcomes ($\beta = 0.41$), confirming H3. Additionally, both CPI ($\beta = 0.28$) and CGM ($\beta = 0.25$) directly influence Governance Outcomes, supporting H4 and H5. These results suggest that both participation and institutional mechanisms independently enhance governance outcomes, while also operating through co-creation effectiveness as a key pathway.

Table 5: Structural Model Results and Hypothesis Testing (n = 460)

Hypothesis	Path	β Value	t-value	p-value	Decision
H1	CPI $\rightarrow$ PCCE	0.39	7.12	<0.001	Supported
H2	CGM $\rightarrow$ PCCE	0.34	6.45	<0.001	Supported
H3	PCCE $\rightarrow$ GO	0.41	7.89	<0.001	Supported
H4	CPI $\rightarrow$ GO	0.28	5.67	<0.001	Supported
H5	CGM $\rightarrow$ GO	0.25	5.02	<0.001	Supported

Note: β = standardized path coefficient; significance tested using bootstrapping (5,000 resamples).

Table 6 reports the coefficient of determination (R^2) and effect sizes (f^2). The R^2 value for Policy Co-Creation Effectiveness is 0.58, indicating that 58% of its variance is explained by CPI and CGM, reflecting substantial explanatory power. Similarly, Governance Outcomes achieve an R^2 of 0.66, suggesting a strong model fit and high predictive capability. The effect size values show that CPI and CGM have large and meaningful effects on PCCE ($f^2 = 0.36$), while their combined influence on GO is also substantial ($f^2 = 0.29$). These results confirm that the model has strong explanatory strength and that the predictors play significant roles in shaping both co-creation processes and governance outcomes.

Table 6: Coefficient of Determination (R^2) and Effect Size (f^2)

Endogenous Construct	R^2	Predictor(s)	Effect Size (f^2)	Interpretation
PCCE	0.58	CPI, CGM	0.36	Large
GO	0.66	CPI, CGM, PCCE	0.29	Medium-Large

Note: R^2 indicates explanatory power; f^2 thresholds: 0.02 small, 0.15 medium, 0.35 large.

Table 7 presents the mediation analysis of Policy Co-Creation Effectiveness. The results show that PCCE partially mediates the relationships between CPI and GO, as well as CGM and GO. The indirect effect of CPI on GO through PCCE is significant ($\beta = 0.16$, $t = 6.22$, $p < 0.001$), while the indirect effect of CGM is also significant ($\beta = 0.14$, $t = 5.80$, $p < 0.001$). Since both direct and indirect effects remain significant, the mediation is classified as partial rather than full. These findings suggest that while citizen participation and governance mechanisms directly improve governance outcomes, a substantial portion of their impact is transmitted through effective co-creation processes.

Table 7: Mediation Analysis – PCCE as Mediator ($n = 460$)

Path	Direct Effect (β)	Indirect Effect (β)	Total Effect (β)	t-value (Indirect)	p-value	Mediation Type
CPI → PCCE → GO	0.28	0.16	0.44	6.22	<0.001	Partial Mediation
CGM → PCCE → GO	0.25	0.14	0.39	5.80	<0.001	Partial Mediation

Note: Indirect effects assessed using bootstrapping (5,000 resamples).

Table 8 reports the predictive relevance (Q^2) values for endogenous constructs. Both PCCE ($Q^2 = 0.41$) and GO ($Q^2 = 0.46$) demonstrate strong predictive relevance, indicating that the model has good out-of-sample predictive power. These values confirm that the structural model is not only explanatory but also predictive, reinforcing its robustness. Overall, the results across all eight tables collectively demonstrate that citizen participation and collaborative governance mechanisms play a critical role in enhancing governance outcomes in Bangladesh's education sector, both directly and through the mediating role of policy co-creation effectiveness.

Table 8: Predictive Relevance (Q^2) of Endogenous Constructs ($n = 460$)

Construct	Q^2 Value	Interpretation
PCCE	0.41	Medium Predictive Relevance
GO	0.46	Medium-to-High Predictive Relevance

Note: $Q^2 > 0$ indicates predictive relevance of the model.

5. Discussions

The findings of this study provide strong empirical support for the role of policy co-creation in improving governance outcomes within the education policy context of Bangladesh. The results confirm that both citizen participation intensity and collaborative governance mechanisms significantly enhance policy co-creation effectiveness, which in turn improves governance outcomes such as transparency, responsiveness, trust, and service quality. These findings are consistent with participatory governance and co-creation literature, which emphasizes the importance of stakeholder engagement in generating public

value through collaborative processes (Henson, 2019; Khan & Krishnan, 2021). The study extends this understanding by demonstrating that co-creation is not merely a normative ideal but an empirically measurable mechanism that translates participation into governance performance.

The significant relationship between citizen participation intensity and policy co-creation effectiveness aligns with prior evidence suggesting that meaningful engagement of citizens improves policy relevance and institutional responsiveness. Studies have shown that when citizens actively contribute to policymaking, particularly in service-oriented sectors, the resulting policies are more context-sensitive and effective (Akter et al., 2021; Dey et al., 2019). In the context of Bangladesh's education sector, the involvement of teachers, students, and parents appears to play a crucial role in shaping more inclusive and adaptive education policies. This finding also resonates with research by Turin et al. (2023), which highlights that structured engagement frameworks enhance the quality of co-produced knowledge and policy decisions.

Similarly, the role of collaborative governance mechanisms in enhancing co-creation effectiveness is strongly supported by the literature. Prior studies emphasize that institutional structures such as digital platforms, feedback systems, and transparent communication channels are essential for enabling sustained collaboration between government and citizens (Rahman et al., 2019; Waheduzzaman, 2024). The current study reinforces this argument by demonstrating that governance mechanisms act as enabling conditions for effective co-creation in education policymaking. Moreover, the increasing use of digital technologies in Bangladesh has likely contributed to improved accessibility and interaction, aligning with findings by Godinho et al. (2021), who argue that data-driven participatory systems enhance collaborative governance outcomes.

The mediating role of policy co-creation effectiveness is a key contribution of this study. The results indicate that while both citizen participation and collaborative governance directly influence governance outcomes, a substantial portion of their impact operates through effective co-creation processes. This supports the argument that participation alone is insufficient unless it is meaningfully integrated into decision-making structures. Similar conclusions are drawn by Hasan et al. (2024) and Agrawal et al. (2025), who emphasize that value co-creation is contingent upon trust, mutual influence, and institutional responsiveness. In the Bangladeshi education context, this suggests that improving governance outcomes requires not only encouraging participation but also ensuring that citizen inputs are effectively incorporated into policy decisions.

Finally, the direct and indirect effects on governance outcomes align with broader literature on public value and institutional trust. Studies by Tanny (2022) and Rizwan et al. (2023) highlight that participatory and co-creative governance enhances public trust and accountability, particularly in developing countries where institutional gaps often weaken policy effectiveness. The current findings further extend this understanding by showing that education governance outcomes improve significantly when participation and collaboration are structurally embedded within policymaking processes. Overall, the study contributes to the growing body of literature by empirically validating an integrated co-creation model and demonstrating its relevance for improving education governance in Bangladesh.

6. Conclusions

This study examined the influence of citizen participation intensity and collaborative governance mechanisms on governance outcomes in Bangladesh's education policy context, with policy co-creation effectiveness as a mediating variable. The findings demonstrate that both citizen participation and institutional collaboration significantly enhance governance outcomes, both directly and indirectly through effective co-creation processes. The results confirm that governance performance improves when stakeholders such as teachers, students, parents, and policymakers actively engage in structured and meaningful policy development processes. Overall, the study highlights that policy co-

creation is a central mechanism for strengthening transparency, responsiveness, and trust in the education sector of Bangladesh.

This study contributes to the literature on participatory governance and value co-creation by developing and empirically validating an integrated model linking citizen participation, collaborative governance mechanisms, policy co-creation effectiveness, and governance outcomes. While prior research has examined these constructs independently (Khan & Krishnan, 2021; Rahman et al., 2019), this study advances theory by demonstrating the mediating role of co-creation effectiveness as the key mechanism translating participation and collaboration into governance performance. The findings extend public value theory by showing that value is not only created through participation but through the effectiveness of interaction and integration processes among stakeholders. Furthermore, the study enriches governance literature in developing country contexts by providing empirical evidence from Bangladesh's education sector, where institutional complexity and stakeholder diversity make co-creation particularly relevant.

The findings offer important implications for education policymakers and governance practitioners in Bangladesh. First, increasing citizen participation in education policymaking should be prioritized through structured and inclusive consultation mechanisms involving teachers, students, and parents. Second, strengthening collaborative governance mechanisms—such as digital platforms, feedback systems, and transparent communication channels—can significantly improve stakeholder engagement and policy responsiveness. Third, policymakers should focus not only on participation but also on ensuring the effectiveness of co-creation processes, ensuring that citizen inputs are meaningfully incorporated into final policy decisions. Institutional reforms that enhance accountability, transparency, and inter-agency coordination are essential for translating participation into tangible governance improvements. Finally, integrating digital governance tools can further expand access and inclusivity in education policymaking processes.

Despite its contributions, this study has certain limitations that provide avenues for future research. First, the cross-sectional design limits the ability to capture changes in co-creation processes and governance outcomes over time. Future studies could adopt longitudinal designs to examine dynamic relationships and policy evolution. Second, the study is limited to the education sector in Bangladesh; future research could extend the model to other sectors such as healthcare, local government, or infrastructure to enhance generalizability. Third, future studies may incorporate additional variables such as political trust, digital literacy, or institutional capacity as moderators to better understand contextual influences on co-creation effectiveness. Finally, qualitative or mixed-method approaches could provide deeper insights into the behavioral and institutional dynamics underlying citizen participation and policy co-creation processes.

Declarations

Ethics and Guidelines: The study was conducted in accordance with the Declaration of Helsinki. The ethical approval specifically covers the research procedures and data collection activities conducted for this study.

Consent to participate: Written informed consent was obtained from all participants prior to data collection. Consent was obtained using a standardized written form, signed by each participant before participation in the survey.

Consent to publish: The authors have provided consent to publish.

Competing interests: The authors declare no competing interests.

Data availability statement: Data will be made available on reasonable request from the corresponding author.

Funding: This research received no external funding.

Clinical Trial Number: Not Applicable.

Declaration of using generative AI: During the preparation of this work the author(s) used ChatGPT in order to correct the grammatical errors. After using this tool/service, the author(s) reviewed and edited the content as needed and take full responsibility for the content of the published article.

Author Contributions: Conceptualization, S.I.T.; methodology, S.I.T.; formal analysis, S.I.T.; writing—original draft preparation, S.I.T.; writing—review and editing, S.I.T. All authors have read and agreed to the published version of the manuscript.

References

- Agrawal, A. K., Rahman, Z., Hussain, Z., & Chatterjee, S. (2025). Examining the issues related to consumer co-created value: From policy perspective. *International Journal of Law and Management*, 67(5), 523–542. <https://doi.org/10.1108/IJLMA-05-2024-0143>
- Akter, S., Mohiuddin Babu, M., Hossain, M. A., & Hani, U. (2021). How does value co-creation transform quality of life at the bottom of the pyramid? *Journal of Marketing Management*, 37(9–10), 962–992. <https://doi.org/10.1080/0267257X.2021.1919745>
- Alam, Md. N., Masroor, I., Rifat, S. M., Dey, S., Nabi, Md. N. U., & Khan, S. M. (2022). Service co-creation in destination exporting—Does decision-making logic foster the service co-creation process in designing new services. *International Journal of Export Marketing*, 5(1), 4. <https://doi.org/10.1504/IJEXPORTM.2022.127776>
- Dey, B. L., Babu, M. M., Rahman, M., Dora, M., & Mishra, N. (2019). Technology upgrading through co-creation of value in developing societies: Analysis of the mobile telephone industry in Bangladesh. *Technological Forecasting and Social Change*, 145, 413–425. <https://doi.org/10.1016/j.techfore.2018.05.011>
- Godinho, M. A., Borda, A., Kariotis, T., Molnar, A., Kostkova, P., & Liaw, S.-T. (2021). Knowledge co-creation in participatory policy and practice: Building community through data-driven direct democracy. *Big Data & Society*, 8(1), 20539517211019430. <https://doi.org/10.1177/20539517211019430>
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European business review*, 31(1), 2–24.
- Hasan, M. M., Chang, Y., Lim, W. M., Kalam, A., & Shamim, A. (2024). A social cognitive theory of customer value co-creation behavior: Evidence from healthcare. *Journal of Health Organization and Management*, 38(9), 360–388. <https://doi.org/10.1108/JHOM-02-2024-0074>
- Henson, C. R. (2019). Public value co-creation: A pedagogical approach to preparing future public administrators for collaboration. *Teaching Public Administration*, 37(3), 327–340. <https://doi.org/10.1177/0144739419851154>
- Islam, M. M., Islam, M. A., Rashid, M. U., Islam, M. I., Al Mansur, A., & Mohiuddin, M. G. (2025). Co-creation for Sustainable Well-being: A Value-Driven Initiative in Bangladeshi Higher Education. In M. G. Jamil, C. O'Connor, & F. Shelton (Eds.), *Co-Creation for Academic Enhancement in Higher Education* (pp. 87–113). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-66316-1_5
- Khan, A., & Krishnan, S. (2021). Citizen engagement in co-creation of e-government services: A process theory view from a meta-synthesis approach. *Internet Research*, 31(4), 1318–1375. <https://doi.org/10.1108/INTR-03-2020-0116>
- Mao, Z., Biswas, B., Nur Ullah, M., Rahman, M. M., & Rahman, F. (2025). The Role of User Value Co-Creation Behavior on Service Delivery Performance of Union Digital Center in Bangladesh. *SAGE Open*, 15(2), 21582440251339460. <https://doi.org/10.1177/21582440251339460>
- Rahman, M., Bose, S., Babu, M. M., Dey, B. L., Roy, S. K., & Binsardi, B. (2019). Value Co-Creation as a Dialectical Process: Study in Bangladesh and Indian Province of West Bengal. *Information Systems Frontiers*, 21(3), 527–545. <https://doi.org/10.1007/s10796-019-09902-4>
- Rizwan, A., Naveed, S., & Salman, Y. (2023). An analysis of policies, challenges and outcomes in Pakistan through co-creation of COVID-19 responses. *Public Administration and Policy*, 26(1), 107–119. <https://doi.org/10.1108/PAP-05-2022-0041>
- Tanny, T. F. (2022). Institutional Trust in Bangladesh: Determinants from Good Governance Stance. In A. Farazmand (Ed.), *Global Encyclopedia of Public Administration, Public Policy, and Governance* (pp. 6799–6805). Springer International Publishing. https://doi.org/10.1007/978-3-030-66252-3_4184
- Turin, T. C., Lasker, M. A. A., Rahman, N., Rumana, N., & Chowdhury, N. (2023). 'Engagement and involvement matrix': A co-creation blueprint for inclusive community engaged research and knowledge mobilisation. *Evidence Based Nursing*, 26(1), 4–9. <https://doi.org/10.1136/ebnurs-2022-103644>
- Waheduzzaman, W. (2024). Unveiling the Link Between E-Participation and Corruption Control: Insights From a Co-Creation Framework. *Public Administration Quarterly*, 48(3), 123–137. <https://doi.org/10.1177/07349149241231143>

Disclaimer: All statements, viewpoints, and data featured in the publications are exclusively those of the individual author(s) and contributor(s), not of JPA and/or its editor(s). JPA and/or the editor(s) absolve themselves of any liability for harm to individuals or property that might arise from any concepts, methods, instructions, or products mentioned in the content.