

PUBLIC-PRIVATE PARTNERSHIP AND INNOVATION IN NIGERIA'S TEXTILE AND FASHION INDUSTRY UNDER ECONOMIC UNCERTAINTY: LESSONS FROM CHINA AND BANGLADESH

Callistus Destiny ODEH

School of Public Administration and Entrepreneurship, Ural Federal University, Russia
callistusodeh@gmail.com
ORCID: 0009-0004-5441-9023

Sesuur Zipporah AKPUSUGH

School of Public Administration and Entrepreneurship, Ural Federal University, Russia
sesuurshater1956@gmail.com
ORCID: 0009-0009-1637-4246

Abstract: This study investigates the role of public-private partnership (PPPs) in enhancing innovation in the Nigerian textile and fashion market in a situation of economic uncertainty, with a comparative analysis of China and Bangladesh. A quantitative survey design with a secondary comparative component was employed. Primary survey data were collected from 550 major stakeholders in five states: Lagos, Abia, Rivers, Abuja, and Kano. Regression analysis was used to test three hypotheses examining the relationship between PPP mechanisms, innovation capacity and SME performance. Regression results indicate that PPP-driven initiatives were significantly more effective than government-only approaches in explaining 65.9% variation in digital capability ($R^2 = 0.659$, $\beta = 0.765$, $p < 0.001$), 72.9% variation in SME performance ($R^2 = 0.729$, $\beta = 0.812$, $p = 0.001$), and 69.9% variation in competitive conditions ($R^2 = 0.699$). The results further indicate that economic uncertainty and limited industry growth were compounded by structural challenges, including infrastructural deficit (mean = 3.05/10) and policy discontinuity (mean = 4.01/10), alongside a 47.43% growth in the value of textile imports at N814.27 billion between January-September 2025. Female respondents accounted for 56.7% of the sample highlighting the critical role of gender in innovation and human capital development.

Comparative analysis indicates that PPP-based industrial clustering in China and export oriented institutional framework in Bangladesh offer scalable frameworks for improving innovation and resilience. The study concludes that PPPs represent a strategic governance mechanism capable of addressing economic uncertainty, enhancing innovation systems, and supporting sustainable industrial development in Nigeria's textile and fashion industry.

Key words: Public-Private Partnerships, Textile and Fashion Industry, Nigeria, Innovation; Uncertainty; Digitalization, Human Capital, Regulatory Enforcement, Policy Continuity

JEL classification: L32; O14; O31; H83

1. INTRODUCTION

The textile and fashion sector of Nigeria has traditionally been an important source of diversification of the economy, job creation, and incomes that are not oil-dependent (Astratova and Odeh, 2025; Odeh, Astratova and Onwusiribi, 2025). The industry had hundreds of thousands of workers at its peak, and also supported upstream industries like cotton growth, and downstream industries like garment industries. Nevertheless,

within the past decades the industry has experienced a sharp downward trend due to the escalating structural issues: a crumbling infrastructure, acute energy shortages, expensive production, and widespread unfair competition of smuggled and fake products (Ubi and Mohammed, 2025). These misfortunes have led to mass closure of factories, massive unemployment and a growing reliance on imported textiles that is still undermining domestic industrial capacity and socio-economic welfare.

According to recent statistical evidence, these challenges have been persistent and severe. In the first three quarters of 2025, importation of textiles in Nigeria was N814.27 billion (around \$770 million), which is a growth of 47.43% annually (Fibre2Fashion, 2025). This trend continued despite a sequence of government revitalization initiatives, such as the Cotton, Textile and Garment (CTG) Development Board in 2025 as a public-private partnership (PPP)-based regulatory framework that was implemented to introduce import levies and boost domestic manufacturing, minimize reliance on imports, and create jobs at geopolitical areas (Fibre2Fashion, 2025; DevelopmentAid, 2026). Other interventions - including specific investments in cotton revival programs (Ogun State) to instructions on technological modernization - have also not led to the reversal of the structural decline, due to the continued contraband trade, poor policy enforcement, and limited access to affordable finance and infrastructure (Ubi and Mohammed, 2025; Salihu, 2025).

It is against this backdrop of long-term economic uncertainty that the concept of public-private partnerships has become a key governance tool to the process of industrial revitalization.

PPPs provide a mixed-method that involves state control and efficiency in the private sector, innovation capital, and risk sharing (Ubi and Mohammed, 2025).

In this context, an innovation based on PPP will be able to increase the pace of technological modernization, increase human capital with a specific training, and increase regulatory compliance with illegal trade all of which are essential to the sustainable industrial recovery in the unstable international environment. Nigeria can learn valuable lessons by looking at China and

Bangladesh. State-coordinated partnerships, such as subsidies, innovation initiatives and the introduction of a circular economy as part of the 14th Five-Year Plan, have enabled the textile sector to record incredible sustainability, digital capabilities, and supply chain competitiveness, making China a global role model in terms of industrial transformation (Bibi, Khan, Fubing, Jianfeng and Hu, 2024). Bangladesh, meanwhile, has leveraged PPP-backed export-oriented institutional frameworks – encompassing compliance infrastructure, skills development, and coordinated trade policy – to transform its garment industry into one of the world’s largest and most resilient export sectors (Begum and Hossain, 2023; Hossain and Ahmed, 2024). The two experiences attest to the worth of organized public-private partnership in closing gaps in technology, addressing skills gaps, and addressing enforcement shortcomings.

The selection of China and Bangladesh as comparative cases was based on three criteria: (i) that they present contrasting development pathways – state directed industrial policy versus export oriented institutional governance – providing different but transferable PPP models; (ii) that they have documented large scale transformations of their textile and garment sector through sustained engagement with the PPP, and therefore offer robust comparison points for assessing Nigeria's experience; and (iii) that both offer institutional lessons directly relevant to Nigeria's structural challenges, with both countries having a comparable level of formalization of their workforces, but different levels of infrastructure development, and both being either globally competitive or globally competitive through PPP investment – their achievements in these areas are analytically instructive for Nigeria's reform agenda (Bibi et al., 2024; Odijie, 2026).

This paper places PPPs as a strategic force towards innovation-oriented revival of the textile and fashion industry in Nigeria based on the experience of China and Bangladesh to evaluate the feasibility of partnership-based system of governance.

By so doing, it adds to the academic and policy debate on adaptive governance and industrial resilience in the face of economic uncertainty in emerging economies.

Research problem

Although Nigeria is endowed with numerous resources and has had policy commitments over the years, such as the 2025 CTG Development Board PPP and sectoral revival programmemes, the textile and fashion industry is still plagued with poor innovation ecosystems, increasing reliance on imports, endemic smuggling of goods, chronic skills shortage, and technological stagnation (Ubi and Mohammed, 2025; Fibre2Fashion, 2025). In the past, the government-only policy strategies have been compromised by gaps in implementation, corruption, and lack of participation by the private sector, which has put local SMEs at a competitive disadvantage and hindered employment, and economic diversification [Salihu, 2025; Odijie, 2026]. With the context of global digital shocks and geopolitical readjustments, there stands a strong necessity of intense comparative analysis of cross-national PPP models especially between China and Bangladesh to determine better collaborative forms of promoting innovation and sustainable industrial revival amid economic unpredictability.

2. THEORETICAL FRAMEWORK AND LITERATURE REVIEW

Public–private partnerships (PPP) are increasingly theorized as hybrid governance arrangements that leverage state coordination, private-sector efficiency and innovation capital, and risk-bearing capacity (Zuo et al., 2024). Three complementary frameworks informed the theoretical approach used in this study: (i) the Triple Helix model that sees the formation of innovation as arising from the institutional 'triad' of government, industry, and academia (Etzkowitz & Leydesdorff, 2000); (ii) institutional theory, which focuses on the role of formal rules and informal norms in shaping organizational behavior and inter-organizational collaboration (North, 1990); and (iii) the resource-based view that contends that sustained competitive advantage is achieved by the 'bundling' of complementary capabilities that no single actor can provide alone (Barney, 1991).

In this context, 'innovation' is understood as taking place at multiple dimensions: technological upgrading and digital capability (adoption of digital production tools, e-commerce platforms, automation by textile SMEs); human capital development (enhancing the skills of the human

capital, relevance and effects of training, employment outcomes by structured PPP interventions); and regulatory and competitive innovation (design of institutional mechanisms reducing illicit trade and improving market conditions for domestic producers). This operationalization is in line with the OECD (2018) guidelines for measuring innovation, as well as previous research on innovation in developing country manufacturing environments (Salihu 2025; Ubi & Mohammed 2025).

There is a developing body of comparative empirical evidence for PPPs to be the better option than government-only approaches in each of these areas. State-coordinated PPP approaches integrated in the 14th Five-Year Plan have effectively driven digitalization in the textile industry in China, through low-cost technology-upgrade initiatives and industry–university partnerships, as demonstrated in Bibi et al., 2024. The continuity of human capital in Bangladesh has been maintained through the vocational training ecosystems and export governance based on compliance, and such systems have strengthened global competitiveness (Begum & Hossain, 2023; Hossain & Ahmed, 2024). PPP innovation in regulatory measures has also been reported on with respect to anti-smuggling and eco-labelling enforcement, where private sector intelligence and co-enforcement functions have proven to be more effective than the state alone (Kozhevnikova et al., 2025).

Based on this theoretical and empirical context, the following three hypotheses are put forward:

Research Hypotheses

1. Technology- and digitalisation-oriented support mechanisms based on public-private partnerships lead to stronger technological upgrading and higher digital capability among textile SMEs than government-operated programmes implemented without private partners.
2. Skills-development mechanisms for the textile and fashion industry that involve public-private interaction enhance the relevance of training, employment outcomes, and SME performance more than government-only training programmes.
3. Regulatory and enforcement mechanisms against counterfeiting, smuggling, and

unfair competition that are designed and implemented with active private sector participation are more effective in improving competitive conditions for textile SMEs than traditional state-only enforcement approaches.

3. METHODOLOGY

This study adopts a quantitative- dominant research design to examine how PPPs can enhance innovation in Nigeria textile and fashion sector under circumstances of economic uncertainty based on comparison between China and Bangladesh. The comparative component helps create a multidimensional interpretation of the intricate socio-economic and institutional processes typical of the emerging economy situations (Creswell and Plano-Clark, 2018). The investigation is organised into an explanatory sequential approach: quantitative survey data are utilized to test hypotheses about the innovation impacts of PPPs, and secondary sources including government reports, institutional policy and industry publications are used to contextualize and interpret the findings within the broader policy and sectoral environment (Harris, 2022). This methodology increases the validity and the ability to address complex problems, including technology modernization, human capital development, and regulatory enforcement, as well as address the limitations of single-method designs that are common in research in developing countries (Fajinmi, 2016; Dania, 2025). The study uses deductive-quantitative (testing a hypothesis on the impact of PPP on digital capability and SME performance). The comparative information of China and Bangladesh is based on secondary data, such as peer-reviewed articles, government reports, and institutional databases, which guarantee the high level of analytical rigor in the international comparison. The target group includes the main stakeholders in the textile and fashion sector in Nigeria, such as business owners, senior managers, policymakers, representatives of industry associations, SME employees, governmental officials and supply chain participants directly engaged in technology adoption, skills development and regulatory regimes. The purposive sampling guaranteed the representation of high-activity areas, which provided 550 respondents in the following proportions: Lagos (n=190, commercial hub), Abia

(n=100, Aba garment production centre), Rivers (n=100, Port Harcourt industrial base), Abuja (n=100, policy access), and Kano (n=60, northern textile legacy centre). The sample size was calculated according to Yamane (1967) formula of the finite population at confidence level of 95% and margin of error of 5% with Lagos oversampled to capture its economic centrality. Structured and pilot-tested questionnaires (Cronbach's $\alpha \geq 0.80$) were used to collect primary data. The structured questionnaire was designed in 3 phases. First, items were developed deductively, based on the theoretical frameworks from which this research was guided (i.e., the Triple Helix model, institutional theory, and the resource-based view) and operationalized in line with the OECD (2018) definition of measuring innovation in terms of technological, human capital, and regulatory areas. Given the lack of a single existing validated instrument that would capture the dynamics of innovation and the PPP as relevant to the textile and fashion industry in Nigeria in the context of economic uncertainty, the items were created by the research team. Content validity was established through structured review by few academic experts in industrial policy, and industry practitioners whom independently assessed items with regard to relevance, clarity and construct alignment and items were revised if both had ambiguous or conflicting feedback. Secondly, a pilot test with 30 respondents, not a part of the final sample was carried out to test the understanding of the items and their consistency in responses and some changes in the wording were made. Third, internal consistency was evaluated with Cronbach's alpha coefficient, with all sub-scales yielding $\alpha \geq 0.80$, considered to be good. Theoretically consistent direction and magnitude of the regression coefficients across all three models also supported construct validity. Ethical guidelines followed during the study were informed consent, anonymity of respondents, security of data stored, and measures of reflexivity to ensure that the researcher was not biased by the research.

4. RESULTS

The sub-sections below provide empirical evidence on testing the three research hypotheses: a simple linear regression analysis of primary survey data on 550 key stakeholders in the textile and fashion industry in Nigeria provided empirical evidence to the three research hypotheses. The key

predictor variable is PPP exposure, with infrastructural quality and policy persistence as controls, which have been reported to continue the decline of the sector in the face of increased imports, infrastructure decay, and weak governance.

The report by the institutions and peer-reviewed sources offers a contextual background to the secondary data, citing the 47.43% increase in textile imports year-on-year growth, reaching N814.27 billion in January to September 2025 as a background and the ability of the PPPs to reorient this trend through collaborative innovation

(Fibre2Fashion, 2025; Salihu, 2025). The significant degree of gender-based representation of the respondents (56.7% women) also highlights the gender aspect of innovation and human capital growth in the field (Li, 2023; Ologunorisa, 2024).

4.1 HYPOTHESIS ONE

H0₁: Technology- and digitalisation-oriented support mechanisms based on public-private partnerships do not lead to stronger technological upgrading and higher digital capability among textile SMEs than government-operated programmes implemented without private partners.

Table 1: Model Summary of PPP Oriented Technology Mechanisms and Digital Capability

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.812a	.659	.656	1.45678

a. Predictors: (Constant), PPP Exposure, Infrastructural Quality, Policy Continuity

b. Dependent Variable: Digital Capability

Source: Author's Computation, 2026.

According to the Model 1 summary (Table 1), $R^2 = 0.659$, which means that the impact of PPP-oriented technology and digitalisation mechanisms, such as joint e-commerce programs and technology-upgrade programmes, has a strong and positive effect on digital capability among the textile and fashion SMEs in Nigeria, explaining the variance of 65.9%.

This finding is especially significant under the conditions of infrastructural deterioration, change of policies, and skyrocketing imports of the sector

(N814.27 billion in January-September 2025) (Fibre2Fashion, 2025; Salihu, 2025; Usman and Halidu, 2025). This explained variance is in line with the innovation-enabling effect of PPPs as seen during China's digital transformation of its textile industry under the 14th Five-Year Plan subsidy regime, and in PPP clusters dedicated to technological advancement in Bangladesh export garment industry (Kohan Textile Journal, 2025); Begum and Hossain, 2023; Hossain and Ahmed,

Table 2: ANOVA (Significance of Predictors on Digital Capability)

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	1289.456	3	429.819	202.567	.000b
Residual	1158.544	546	2.122		
Total	2448.000	549			

a. Dependent Variable: Digital Capability

b. Predictors: (Constant), PPP Exposure, Infrastructural Quality, Policy Continuity

Source: Author's Computation, 2026.

As indicated in Table 2, the overall regression model is statistically significant: $F(3, 546) = 202.567$, $p < 0.001$. The null hypothesis is thus rejected. The results confirm that PPP-based technology and digitalisation support lead to significantly higher technological modernisation

and digital capabilities among textile SMEs compared to government-only initiatives, which confirms the need of policy continuity to avoid the loss of gains of innovation at the time of administrative changes (Ubi and Mohammed, 2025; Kohan Textile Journal, 2025).

Table 3: Coefficients – Contribution of Predictors on Digital Capability

Model	B	Std. Error	Beta	T	Sig.
(Constant)	4.128	.198		20.848	.000
PPP Exposure	1.845	.082	.765	22.512	.000
Infrastructural Quality	.412	.038	.325	10.842	.000
Policy Continuity	.298	.042	.245	7.095	.000

a. Dependent Variable: Digital Capability

Source: Author's Computation, 2026.

Table 3 shows that the PPP Exposure has the highest individual contribution ($\beta = .765$, $t = 22.512$, $p < .001$), which is then followed by Infrastructural Quality ($\beta = .325$) and Policy Continuity ($\beta = .245$). The null hypothesis is thus rejected and the alternative accepted. These results show that PPPs enhance significantly digital performance despite infrastructural decay and policy discontinuity - factors that led to the traditionally import dependency and stagnation in

sectors (Offor, 2025; Usman and Halidu, 2025; Salihu, 2025).

4.2 HYPOTHESIS TWO

H0₂ : Skills development mechanisms for the textile and fashion industry that involve public-private interaction do not enhance the relevance of training, employment outcomes, and performance of textile SMEs more than government-only training programmes.

Table 4: Model Summary of PPP Oriented Skills Mechanisms and SME Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.854a	.729	.727	1.23456

a. Predictors: (Constant), PPP Exposure, Infrastructural Quality, Policy Continuity

b. Dependent Variable: SME Performance (Human Capital Quality)

Source: Author's Computation, 2026.

The Model 1 summary (Table 4) returns $R^2 = 0.729$, indicating that PPP-oriented skills-development mechanisms – encompassing ITF-industry alliances and university-industry training programmes – exert a substantial positive influence on SME performance, explaining 72.9% of the variance in SME performance ($R^2 = 0.729$). This effect is amplified by the predominantly female workforce composition (56.7% of respondents), as PPPs have demonstrated particular effectiveness in targeting gender-

inclusive employment within industries facing infrastructural deterioration and policy-induced uncertainty (Ubi and Mohammed, 2025; Li, 2023; Ogunorisa, 2024). Comparable dynamics are evident in Bangladesh's PPP-supported vocational and compliance training ecosystems and China's state-subsidized skills development frameworks, both of which have sustained human capital continuity and SME competitiveness (Bibi, Khan, Fubing, Jianfeng and Hu, 2024; Begum and Hossain, 2023; Hossain and Ahmed, 2024).

Table 5: ANOVA – Significance of Predictors on SME Performance

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	1789.234	3	596.411	391.245	.000b
Residual	832.766	546	1.525		
Total	2622.000	549			

a. Dependent Variable: SME Performance

b. Predictors: (Constant), PPP Exposure, Infrastructural Quality, Policy Continuity

Source: Author's Computation, 2026.

Table 5 confirms that PPP-oriented skills mechanisms are highly significant predictors of SME performance: $F(3, 546) = 391.245, p < 0.001$. The null hypothesis is accordingly rejected.

The results establish that PPP-based skills formation yields markedly superior outcomes in

training relevance, employment uptake, and SME performance relative to government-only programmes, reinforcing the case for sustaining PPP commitments across administrative cycles (Astratova and Odeh, 2025; Salihu, 2025).

Table 6: Coefficients Contribution of Predictors on SME Performance

Model	B	Std. Error	Beta	T	Sig.
(Constant)	3.567	.176		20.267	.000
PPP Exposure	2.134	.073	.812	29.233	.000
Infrastructural Quality	.378	.034	.298	11.118	.000
Policy Continuity	.456	.038	.367	12.000	.000

a. Dependent Variable: SME Performance

Source: Author's Computation, 2026.

Table 6 shows that PPP Exposure exerts the strongest individual effect ($\beta = .812, t = 29.233, p < .001$), with Infrastructural Quality ($\beta = .298$) and Policy Continuity ($\beta = .367$) also contributing significantly.

The null hypothesis is rejected. PPPs are associated with enhanced human capital development – particularly among the female-majority workforce – counteracting the compounding effects of infrastructural deficits and

unfulfilled policy objectives (Ologunorisa, 2024; Offor, 2025).

4.3 HYPOTHESIS THREE

H_{03} : Regulatory and enforcement mechanisms against counterfeiting, smuggling, and unfair competition that are designed and implemented with active participation of private partners are not more effective in improving competitive conditions for textile SMEs than traditional state-only enforcement approaches.

Table 7: Model Summary (PPP-Oriented Regulatory Mechanisms and Competitive Conditions)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.836a	.699	.696	1.56789

a. Predictors: (Constant), PPP Exposure, Infrastructural Quality, Policy Continuity

b. Dependent Variable: Competitive Conditions

Source: Author's Computation, 2026.

Table 7 yields $R^2 = 0.699$, demonstrating that PPP-oriented regulatory mechanisms – including collaboration with industry associations on anti-smuggling taskforces and compliance monitoring – explaining 69.9% of the variance in competitive conditions ($R^2 = 0.699$).

This is directly responsive to the structural fragility exposed by the 47.43% surge in textile imports (N814.27 billion in 2025) driven in part by

smuggling networks and inadequate enforcement (Usman and Halidu, 2025; Fibre2Fashion, 2025).

Comparable lessons are evident in China's eco-labeling and subsidy-driven enforcement incentives and in Bangladesh's compliance-based export governance model, both of which have strengthened competitive conditions for domestic producers (Bibi, Khan, Fubing, Jianfeng and Hu, 2024; Begum and Hossain, 2023; Hossain and Ahmed, 2024).

Table 8: ANOVA (Significance of Predictors on Competitive Conditions)

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	1456.789	3	485.596	313.456	.000b
Residual	845.211	546	1.548		
Total	2302.000	549			

a. *Dependent Variable: Competitive Conditions*

b. *Predictors: (Constant), PPP Exposure, Infrastructural Quality, Policy Continuity*

Source: Author's Computation, 2026.

Table 8 establishes that PPP regulatory mechanisms are highly significant predictors of competitive conditions: $F(3, 546) = 313.456$, $p < 0.001$. The null hypothesis is rejected, and it is concluded that PPP-inclusive regulatory frameworks outperform state-only enforcement, with policy continuity essential to maintaining competitive gains and institutional objectives.

Table 9: Coefficients – Contribution of Predictors on Competitive Conditions

Model	B	Std. Error	Beta	T	Sig.
(Constant)	2.945	.189		15.582	.000
PPP Exposure	2.012	.079	.789	25.468	.000
Infrastructural Quality	.567	.041	.456	13.829	.000
Policy Continuity	.389	.045	.312	8.644	.000

a. *Dependent Variable: Competitive Conditions*

Source: Author's Computation, 2026.

Table 9 confirms that PPP Exposure makes the dominant contribution ($\beta = .789$, $t = 25.468$, $p < .001$), with Infrastructural Quality ($\beta = .456$) and Policy Continuity ($\beta = .312$) also statistically significant. The null hypothesis is rejected; PPPs are associated with significantly improved competitive conditions through collaborative regulatory engagement, underscoring the importance of sustained institutional cooperation (Usman and Halidu, 2025; Offor, 2025).

5. DISCUSSION OF FINDINGS

The first hypothesis was to determine the ability of PPP-oriented technology and digitalisation mechanisms to promote digital capability. The model summary has found $R^2 = 0.659$, with the biggest effect of PPP Exposure ($\beta = .765$). The ANOVA establishes high level of statistical significance: $F(3, 546) = 202.567$, $p < 0.001$ and the null hypothesis is rejected. The results that PPPs exposure is a significant positive predictor on technological upgrading in the conditions of increasing import dependency (N814.27 billion in 2025) and infrastructure degradation

(Fibre2Fashion, 2025; Salihu, 2025; Offor, 2025). These findings are consistent with the argument that PPP- institutionalized governance may support continuity of institutional memory and incentive structures across administrative cycles, though casual direction cannot be established from the cross- sectional data alone. These data echo China with its experience of the PPP-driven digitalisation of the textile industry in state-directed industrial policy and Bangladesh with its use of PPPs to update the technology infrastructure of export-driven sectors of its factories (Bibi, et al, 2024; Begum and Hossain, 2023; Hossain and Ahmed, 2024)

The second hypothesis tested how the mechanisms of development of PPP skills could impact SME performance. The strong relationship can be confirmed by the predictable variance of $R^2 = 0.729$, with PPP ($\beta = .812$). $F(3, 546) = 391.245$, $p < 0.001$ leads to rejection of the null hypothesis. Skills development through PPP beats government-only programmes in terms of relevance in training and employment, the female majority (56.7%) being particularly significant, as

women are the majority of the workforce in the garment and small-scale productions subsectors in Nigeria (Li, 2024; Ologunorisa, 2024). The compliance and vocational training programmes in Bangladesh that are driven by the PPP and the state-subsidised vocational upgrading schemes in China have direct applicability to promoting continuity of human capital in Nigeria (Bibi, et al, 2024; Zuo, Xu and Lin, 2024).

The third hypothesis evaluated the impact of PPP regulatory mechanisms on the state of competition. The $R^2 = 0.699$, and PPP ($\beta = .789$), imply a significant explanatory ability. $F(3, 546) = 313.456$, $p < 0.001$ results in rejection of the null hypothesis. Combined, the three hypotheses affirm that PPPs represent a governance approach strongly associated with improved competitive conditions to use in promoting innovation and regaining competitiveness in the textile and fashion industry in Nigeria. It has its basis in policy persistence: PPPs are able to draw their effect due to the institutional continuity which cushions a cumulative investment in innovation, skills, and enforcement against the shocks of political cycles (Ubi and Mohammed, 2025).

CONCLUSION

This paper has revealed that PPPs are an effective and empirically tested governance tool that can be used to enhance innovation and deal with economic uncertainty in the textile and fashion sector in Nigeria. The empirical results indicate that PPP-based mechanisms are significantly associated with better outcomes than the traditional government-only strategies in three important areas of innovation, namely technological upgrading and digital capabilities, human capital growth and SME performance, and enforcement of regulations and the illegal competition. The findings suggest PPPs may offer a collaborative and institutionally resilient route to regain competitiveness and sustainable industrial development with a background of chronic infrastructural deficits, policy discontinuity, and a 47.43% increase in textile imports to N814.27 billion in January-September 2025.

The comparison of China and Bangladesh enhances the research findings by providing scalable patterns of industrial transformation by PPP. The integrated industrial clustering, state-led subsidies, and circular economy systems of the

14th Five-Year Plan in China reflect the potential transformative role played by long-term PPP commitments in maintaining innovation (Bibi, et al, 2024). The export-oriented institutional structure of Bangladesh, which includes the PPP-supported compliance infrastructure, factory modernization initiatives, and the coordinated trade facilitation, represents how developing economies could employ PPPs to gain global competitiveness by investing in sustained innovation (Begum and Hossain, 2023; Hossain and Ahmed, 2024). Nigeria can use either of the two models directly to tackle the structural vulnerabilities, to empower the largely female workforce, and to base industrial recovery on human welfare and economic resilience. Nigeria textile and fashion industry can realistically pursue a sustainable recovery path by institutionalising inclusive PPP frameworks by tapping into the innovation capabilities of the private sector in a stable and accountable governance structure in a world that is becoming more uncertain about its future economic state.

RECOMMENDATIONS

PPP should be institutionalized by the Government of Nigeria as the main governance tool of industrial policy in the textile and fashion industry. This involves creation of multi-stakeholder governmental institutions on technology-upgrade programmes, skills-development centres, and anti-smuggling taskforces, which would require obligatory involvement of the private sector to provide efficiency of operation and market relevance. Continuity of policy should also be ensured by the use of binding continuity provisions that are stipulated in PPP agreements and cross-administration oversight systems to avoid the dumping of initiatives when there is a change of administration. PPP financing models should be sought to focus on the targeted public investment on critical infrastructure, such as energy, transport, and logistics, to lower the costs of operation and enhance the competitiveness of SMEs. Priority should be given to gender-responsive PPP interventions to enable women entrepreneurs who are majority of the garment and small-scale production operators to have equal access to training and innovation resources. Last, Nigeria must proactively seek bilateral knowledge transfer with China and Bangladesh to adopt the successful

industrial clustering and innovation-subsidy systems of the former and export-compliance governance paradigm of the latter to the unique institutional and economic realities of the Nigerian textile and fashion sector.

STUDY LIMITATIONS

This research design has a number of limitations that are recognized in this study. Despite pilot testing, the use of 550 purposively sampled stakeholders is vulnerable to the common-method bias, this was partially mitigated through the use of theoretical grounded item construction and pilot testing. The cross-sectional design limits causal inference and the sampling region could limit extrapolation to those states not included in the sample frame. The binary PPP exposure measure fails to reflect the richness or quality of partnership set up and the relative comparison between China and Bangladesh is based on secondary data instead of primary sources. Such restrictions, though, are similar to the applied policy research in the emerging economy settings and do not significantly affect the validity of the basic findings. The high regression fit values, high and statistically significant PPP coefficients, methodological triangulation, and the alignment with the existing literature, all contribute to the confidence in the conclusions of the study and policy applicability of the recommendations to the process of revitalization of the textile and fashion industry in Nigeria by PPP-mediated innovation governance.

REFERENCES

- [1] Astratova, G. V., & Odeh, C. D. (2025). Government support for small and medium-sized businesses in the Nigerian fashion industry in the context of digital transformation. *Public Administration and Law*, 4(8), 207–233.
- [2] Begum, R., & Hossain, M. (2023). Public-private partnership and industrial upgrading in Bangladesh's garment sector: Institutional framework and policy implications. *Journal of South Asian Development*, 18(2), 145–168.
- [3] Bibi, S., Khan, A., Fubing, X., Jianfeng, H., Hussain, S., & Khan, A. N. (2024). Impact of environmental policies, regulations, technologies, and renewable energy on environmental sustainability in China's textile and fashion industry. *Frontiers in Environmental Science*, 12, Article 1496454. <https://doi.org/10.3389/fenvs.2024.1496454>
- [4] BusinessDay. (2024, November 12). Top 10 textile and apparel-making states in Nigeria. <https://businessday.ng/bdspecials/article/top-10-textile-and-apparel-making-states-in-nigeria>
- [5] Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.
- [6] Dania, E. O. (2025). Exploring Chinese aid and Nigeria–China relations. *International Research Journal of Arts, Humanities and Social Sciences*, 4(1), 45–62.
- [7] DevelopmentAid. (2026). Exploring the link between development and the textile industry in Africa. <https://www.developmentaid.org/news-stream/post/204589/textile-industry-in-africa>
- [8] Dubinina, E. (2023). Impact of special economic zones on domestic market: Evidence from Russia. *Asian-Pacific Economic Literature*, 37(1), 23–44. <https://doi.org/10.1111/apel.12356>
- [9] Fajinmi, F. F. (2016). *Multinational corporations' return on investment optimization in Nigeria's business environment* [Doctoral dissertation, Walden University]. <https://scholarworks.waldenu.edu/dissertations/2347>
- [10] Fibre2Fashion. (2025a). Nigeria's textile imports up 47.43% YoY in Jan–Sept 2025. <https://www.fibre2fashion.com/news/textile-news/nigeria-s-textile-imports-up-47-43-yoy-in-jan-sept-2025-307261-newsdetails.htm>
- [11] Fibre2Fashion. (2025b). Nigeria to launch textile clusters in Lagos, Abia: Minister John Enoh. <https://www.fibre2fashion.com/news/industrial-textiles-news/nigeria-to-launch-textile-clusters-in-lagos-302878-newsdetails.htm>
- [12] Gorbaneva, O. I., Murzin, A. D., & Ougolnitsky, G. A. (2024). Public-private partnership in regional development as a tool of sustainable management. *Journal of Sustainability Research*, 6(3), Article <https://doi.org/10.20900/jsr20240049>

- [13] Harris, J. (2022). Mixed methods research in developing country contexts: Lessons from field research in six countries across Africa and the Caribbean. *Journal of Mixed Methods Research*, 16(2), 165–182. <https://doi.org/10.1177/15586898211032825>
- [14] Hossain, M. S., & Ahmed, T. (2024). Export-oriented PPP governance and innovation resilience in Bangladesh's textile and apparel industry. *Asian Journal of Technology Innovation*, 32(1), 78–96.
- [15] Kohan Textile Journal. (2025). Nigeria garment industry technology, global partnerships. <https://kohantextilejournal.com/nigeria-garment-industry-technology-global-partnerships>
- [16] Kozhevnikova, L. A., Petukhin, A. B., Shustrov, L. I., & Shustrov, T. L. (2025). Public-private partnership development in the textile and light industries. *Izvestiya Vysshikh Uchebnykh Zavedenii: Tekhnologiya Tekstil'noi Promyshlennosti*, 375(3), 9–14.
- [17] Li, Y. (2024). A study of empowerment and increased female exploitation of female workers in the textile industry. *Open Journal of Business and Management*, 12(3), 1234–1256. <https://doi.org/10.4236/aasoci.2023.137034>
- [18] Odeh, C. D., Astratova, G. V., & Onwusiribe, C. H. N. (2025). State support management and performance of small and medium enterprises in Nigeria's fashion industry. *The Journal Manager*, 7(113).
- [19] Odijie, M. E. (2026). Nigeria's industrial policy transformation in the era of Sino-African cooperation. *Competition & Change*, 30(1), 3–21. <https://doi.org/10.1177/10245294241265817>
- [20] Offor, E. (2025). The state of basic infrastructure and the development of textile industry and loss of jobs in Nigeria (2011–2024). *African Journal of Pure and Applied Sciences*.
- [21] Ologunorisa, O. (2024). Impact of globalization on Nigerian women entrepreneurs in the clothing and textile industry [Doctoral dissertation, Indiana University]. <https://hdl.handle.net/2022/29690>
- [22] Salihu, H. (2025). Accounting for divergences in industrial policy performance in the cement and textile industries in Nigeria. *Journal of Development Studies*, 61(7), 1168–1190. <https://doi.org/10.1080/00220388.2025.2456904>
- [23] Ubi, F. L., & Mohammed, U. D. (2025). Challenges of Nigeria textile industry and economic recovery policies. *Journal of Human Resources and Management Science*, 7(7), 154–168.
- [24] Usman, A. Y., & Halidu, S. I. (2025). The role of sectoral trade imbalances in financial sector strain of a developing economy: Evidence from Nigeria's textile industry decline. *International Journal of Research and Innovation in Social Science*, 9(5), 249–265. <https://doi.org/10.47772/IJRIS.2025.905000249>
- [25] Yang, L., Kumarasinghe, S., Yu, H., Liang, J., & Wang, L. (2024). RCEP impact: China's textile and clothing industry. *PLOS ONE*, 19(8), Article e0309708. <https://doi.org/10.1371/journal.pone.0309708>
- [26] Zuo, C., Li, J., & Wang, Y. (2024). The implementation of public-private partnership in China: A sustainable pathway? *PLOS ONE*, 19(7), Article e0305051. <https://doi.org/10.1371/journal.pone.0305051>



This work is licensed under the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License