Moderating effect of Nigerian government policy support on the relationship between project management framework and emerging construction contractors' sustainability

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Abstract

Purpose – In most developing countries, indigenous emerging construction contractors (ECCs) face severe problems of not adopting a project management framework (PMF) in their business activities. It has increased their business risk and threatened their sustainability. Studies showed that government policy support (GPS) helps mitigate business risks. Thus, there is a paucity of literature concerning GPS on emerging Nigerian construction contractors' business sustainability. Therefore, the paper aims to investigate the moderating effect of GPS on the relationship between PMF and ECCs in Nigeria.

Design/methodology/approach – SmartPLS was used to analyse the collected data from the useable 310 questionnaires retrieved from respondents in Abuja and Lagos, Nigeria. Systems Theory was used to support the developed framework.

Findings – Findings show that government policy support significantly moderates the relationships between PMF and ECCs in the Nigerian construction sector. It implies that the study's results offer more understanding regarding issues affecting construction entrepreneurs' sustainable business cycle via applying PMF to mitigate business sustainable associated risks.

Practical implications – The study will stir Nigeria's ECCs and policymakers to promote construction business sustainability for a new entrepreneur, emphasising business risk management via PMF and GPS to enhance the sustainable business cycle.

Originality/value – The research (PMF and GPS) is strategies to enhance ECCs business sustainability in the Nigerian construction sector and other developing countries with similar political and economic attributes. Besides the study guiding old and intending ECCs and policymakers in the developing countries industries, it would contribute to bridge the theoretical gap regarding PMF and ECC, especially ECCs in developing countries with similar business sustainability issues.

1. Introduction

The built environment sector is amongst the largest industries and delivers construction facilities for economic growth. The sector is germane due to its vital role and as one of the key economic pillars (Weber and Alfen, 2016). The industry is also called the "physical infrastructure sector" (Ebekozien, 2020). The construction sector is worth above $10tn annually (Rao *et al.*, 2022). This indicates that the sector is part of the economic growth, especially in emerging economies (Urbanski *et al.*, 2019). One way of job creation for developing countries is the ECCs engagement in projects due to the large manual labour force, but the success rate regarding quality, time, cost, and scope is not impressive. Naeem *et al.* (2018) affirmed that construction project success and performance depend on all-inclusive planning from project formation to completion via a project management approach. Many emerging construction contractors, especially in developing countries, lack training and the ability to institute plans to manage business risks (Amoah and Bikitsha, 2021). It is argued that construction planning is a comprehensive continuous process for project delivery (Idoro, 2012). Lemma (2014) emphasised that project management teams should focus on planning to improve performance.

In most developing countries, the indigenous ECCs need help to adopt PMF in their business activities. It has increased business risk and threatened sustainability (Mafimidiwo and Iyagba, 2016; Amoah and Bikitsha, 2021). Studies showed that GPS help mitigate business risks (Taofeeq *et al.*, 2020a). Thus, there is a paucity of literature concerning GPS on emerging Nigerian construction contractors' business sustainability (Ogunsanya *et al.*, 2022). Thus, the need to examine the moderating effect of GPS on the relationship between PMF and ECCs. It is pertinent to assess this connection due to the sector's role as amongst the top-rank sectors that provide employment. One way to enhance indigenous construction contractors is to promote emerging construction contractors' business sustainability and mitigate factors that negatively affect their sustainability. The results aim to stir the relevant authorities to promote emerging construction contractors in Nigeria. Present literature confirms paucity of government policy support as a moderator on the relationship between project management framework and emerging construction contractors in Nigeria. The research intends to fill the current gap. Also, it will promote emerging construction contractors' business sustainability in the Nigerian construction industry. Future studies will bring this to the research frontiers and provide a perspective.

2. Literature review

2.1 Overview of the construction industry

The construction industry is significant to the developed and developing countries' economic advancement. Besides the industry's vital contributions to the economic growth of any nation, it is one of the most labour-intensive industries (Sanchez *et al.*, 2017) and on the top list of employers of labour. Thus, improving the industry of the developing nations has become a principal demand because of the emerging economies. The industry offers the infrastructure for economic development (Osunsanmi *et al.*, 2020). It can be described as an exceptional industry that provides for projects' pre-construction, construction, and post-construction.

This cycle of activities enhances economic and social growth. The construction sector creates economic wealth, maintains the society's well-being, and organisational backbone of an economy (Weber and Alfen, 2016), and is worth over $10tn per annum (Bogue, 2018). Construction contractors are key participants in the sector.

2.2 Overview of emerging construction contractors

ECCs role in building a developing economy cannot be over-emphasised. Majority of them need help in developing their businesses to a higher grade. In South Africa, Merana (2018) identified inadequate knowledge and financial planning and administration as challenges facing ECCs. Other encumbrances being faced by ECCs include no basic construction contracting knowledge, inadequate finances, insufficient technical skills to manage pre and post-contract administration, inability to engage qualified staff, and lack of entrepreneurial and managerial skills (Thwala and Phaladi, 2009). Merana (2018) discovered late payment for work done by ECCs contributes to the inability of the contractors to provide the required resources when needed. These skills are germane to mitigating business risks and planning via PMF. In Egypt, El-Karim et al. (2017) found project parties, project features, resources, and site conditions majorly influencing construction costs and schedules. Martin and Root (2010) and Mafimidiwo and Iyagba (2016) identified high-interest rates and difficulty accessing finance. Amoah and Bikitsha (2021) suggested strategies to sustain ECCs businesses and overcome perceived major business risks. This includes human resources, quality, procurement, financial, and communication management. These are components of the project management framework. It comprises the project life cycle, control cycle, and templates and tools (Naybour, 2010). In South Africa, Bikitsha and Amoah (2022) found a delay in payment from clients (especially government institutions), extraordinary level of competition amongst the pool of emerging contractors, and inadequate financial support from the project's commencement and during execution as the encumbrances affecting emerging contractors.

In Nigeria, ECCs belong to small, medium, and micro-sized enterprises (SMMEs) (Mafimidiwo and Iyagba, 2016). They are described as small enterprises with weak business structures and have financial limitations (Aigbavboa and Thwala, 2014). This category is vital to developing countries' economic development, including Nigeria (Mafimidiwo and Iyagba, 2016). The economic value of SMMEs is acknowledged in developing and developed countries. SMMEs are job generation platforms, skills innovation for business-minded contractors, and enhance social development and growth (Cronje et al., 2001; Aigbavboa and Thwala, 2014). For ECCs that cannot execute profitable construction profits to generate income and no other source(s) of income will remain stagnant in the sector. Also, ECCs with contracts but lack the financial cash flow to execute the project before payment may have the project and the business suffer (Govender, 2017). Managing these business risks via PMF to promote ECCs business sustainability is germane. Narayanan and Huemann (2021) suggested that these issues should be addressed to improve the management of construction projects in emerging economies. Faris et al. (2022) argued the need for an all-inclusive project framework. Adams (1997) recommended that contractors be trained to promote management development. This has become pertinent because several emerging contractors in the civil engineering sector lack training and experience (Martin and Root, 2012). One way to achieve this is via PMF training. One possible outcome is an emerging ECC entrepreneur. This is part of the study's motivations via PMF and is supported by government policy.

2.3 Project management framework

Construction projects are liable to limitations, such as duration uncertainty, resource scarcity, and project complexity. These constraints are threats to ECCs business sustainability if not checked. The PMF emerged as a method to improve ECCs business sustainability and promote the process of construction project management practices (Ma et al., 2014; Akaba et al., 2016). Project Management Institute (2013) described PMF as a basic structure for understanding

project management. McConnell (2010) affirmed that PMF is a sub-set of tasks, processes, templates, tools utilised to initiate, plan, execute, control, monitor, and close construction project events. Watton (2017) explained a PMF as a structure that offers a way of applying project management practise to achieve successful construction project outcomes. For the PMF, Naybour (2010) and Larson and Gray (2018) identified three critical components of PMF. This includes project life-cycle, control cycle, and templates and tools. These key parts accelerate the project management process from the beginning to the completion. PMF is pertinent in achieving successful business activities, such as ECCs, whose solely project-based business interests (Alnaggar and Pitt, 2019). The PMF offers a structured way of utilising the project management process. Armenia et al. (2019) affirmed that five key dimensions are germane to sustainable project management. This includes organisational learning, stakeholders' engagement, life cycle orientation, resource management, and corporate policies and practices.

2.4 Business sustainability
Major sustainability descriptions are around economic, social, and environmental elements (Stubbs and Cocklin, 2008). These elements reinforce each other and are underpinned by the environmental elements, vice versa (Svensson and Wagner, 2015; Sun et al., 2018; Svensson et al., 2018; Bamgbade et al., 2019). It implies that business sustainability's social, economic, and environmental elements demand attention in juxtaposition. The most cited definition of sustainability is from the World Commission on Environment and Development (WCED) report (1987). The definition covers the three main elements of sustainable development. This includes the concept of inter-generational well-being, emphasising transformational change. The concept "sustainability" is dynamic, not in a fixed destination (Zuo et al., 2012). Thus, business sustainability concerns corporate efforts to manage their enterprise network's impact on earth's life and ecosystems. It is defined as a "*company's or an organisation's economic, social and environmental efforts to implement and manage its own and its business network's impact on earth's life and ecosystems*" (Svensson and Wagner, 2015, p. 196). Delay in payment from clients (especially government institutions), an extraordinary level of competition amongst the pool of emerging contractors, and inadequate financial support from the project's commencement and during execution are threats to business sustainability in the construction industry, especially for emerging contractors (Bikitsha and Amoah, 2022). Martin and Root (2012) emphasised that lack of training and experience with owners of these emerging companies, especially in the civil engineering sector, could threaten business sustainability.

2.5 Government policy support as a moderator
This sub-section reviewed academic materials relevant to government policy support as the moderating variable between PMF and ECCs in Nigeria. In this research, government policy support refers to the policies, programmes, rules, and regulations enacted by government ministries/departments/agencies to expedite the spread of PMF for construction businesses by ECCs. Government policies and programmes necessitate construction firms to attain certain performance requirements for some services or goods with staffers' safe working environment (Porter, 1996). Many researchers, such as Taofeeq et al. (2020b), Adeleke et al. (2022), Ebekozien et al. (2022a, d), Taofeeq et al. (2022) and Rehman and Ishak (2022) affirmed that government agencies/ministries play a critical role in promoting PMF in construction activities. Also, Niu (2008) advocated that government policies and programmes would positively impact the outcome of construction firms' activities, including ECCs business profitability and sustainability. The application of PMF will mitigate business risks that threaten ECCs sustainability. Studies showed that the government is becoming more committed to risk reduction as a key criterion for project management (Wijethilake and Lama, 2019). Bamgbade et al. (2017) asserted that the government has a critical role in mitigating construction risk management. But the level of compliance by stakeholders, in this instance, the ECCs, is key to

facilitating results. Government policy was adopted as a moderator because it has been employed as an independent construct in Iroegbu's (2005) work in Ismail (2001) in Malaysia. Also, it has been employed as a dependent variable by Niu (2008) and Aniekwu (1995) in China and Nigeria. Iroegbu (2005) found that government policy positively impacts Nigeria's construction projects. Some of the policies were tailored towards taxes and construction materials importation. Substantial studies have been conducted regarding government policy as a moderator, but none regarding government policy support as a moderating variable between PMF and ECCs within and outside Nigeria, to the best knowledge of this study. This is one of the study's implications and contributions to knowledge. Bamgbade *et al.* (2019) affirmed that government's support regarding rules and regulations positively influences materials utilised in projects. It implies that government policy support can enhance innovation and improve construction quality, access to finance, promote safe working procedures on construction sites, and improve construction standards (Taofeeq *et al.*, 2020a).

2.6 The theory that informed this study
Several theories are connected to project management and sustainability and have evolved over the decades because sustainability is dynamic. Systems Theory can be applied to project management because it deals with project complexity (Sun *et al.*, 2018) and adopted for this study, as presented in the research mode (Figure 1). von Beryalanffy (1972) proposed a General Systems Theory that described systems as being open. Using von Bertalanffy conceptualisation, the study adopted Systems Theory. Project management itself is a
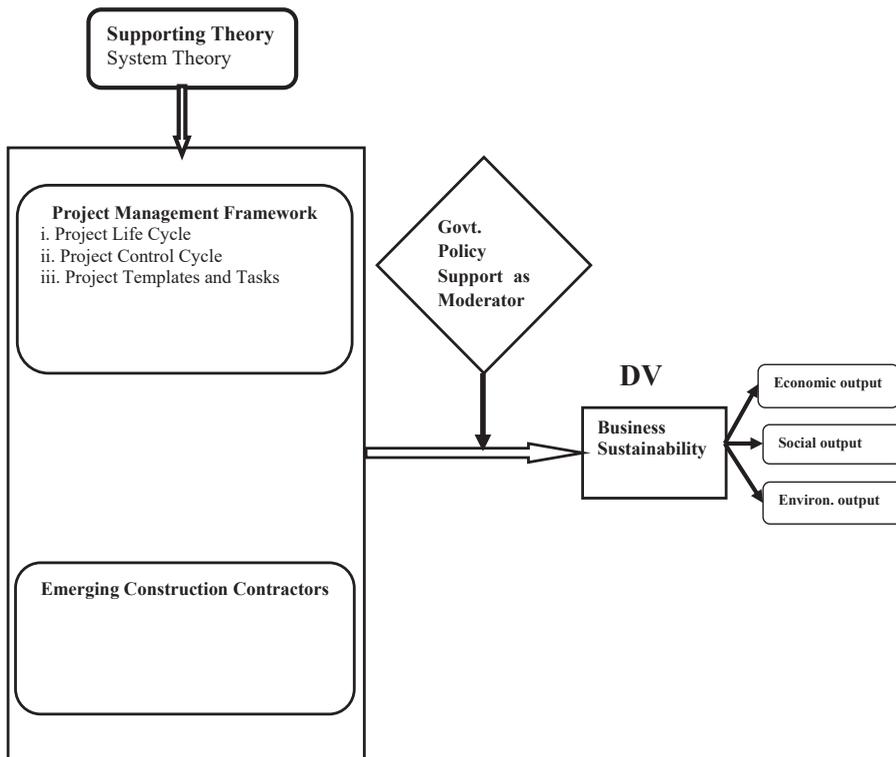
Source(s): Authors work

Figure 1.
Research mode

complex system. Sherrer (2010) affirmed that construction projects are complex because it involves people, businesses, and environments. These elements interconnect externally and internally. The theory is a concept that emerged from the biology field and integrated into engineering and social sciences (de Weck et al., 2011). It is also called systems thinking and is introduced to develop project management tools such as network charts or Gantt charts (Association for Project Management, 2008).

This research focuses on ECCs sustainability via integrating PMF and complemented with government policy. It is in line with Systems Theory that does not aim to substitute the conventional top-down thinking but rather complement it. The study adopted government policy support as the moderating variable because previous studies have established that government policy support could influence the outcome positively and complement the outcome of business sustainability. This is the novel part of System Theory (complementary role to improve outputs). The theory focuses on how to help innovation projects to be more successful by providing flexibility in planning and communication, and controlling tasks (Kapsali, 2011). In this context, the business sustainability of the ECC is the innovation project, as presented in Figure 1. The flexibility to manage complexity, novelty, and ambiguity in innovation construction projects cannot be over-emphasised. Also, the theory supports business sustainability because businesses would employ eco-systemic thinking to be innovative, adaptive, self-aware, self-determined, and resource-led (Sun et al., 2018). The theory contributes to the framework to foster innovation to mitigate construction business risks and create sustainable businesses for ECCs in Nigeria, as illustrated in Figure 1.

3. Research framework
This research would add fresh insights in evaluating participants' discernments by engaging Systems Theory to promote ECCs business sustainability via integrating PMF in the construction business and supported by government policy. A possible integration of project management principles by emerging construction contractors in Nigeria via the modified framework with the three components during the pre-to post-contract administration can promote business sustainability. This is germane because of the contribution from RCCs to the economic development in employment generation. This is one of the reasons for adopting government policy support as a moderating variable due to past empirical proof of enhancing productivity and construction business sustainability as a moderator to a framework (Iroegbu, 2005). Government policies and programmes tailored towards construction business sustainability and productivity and supported by PMF will mitigate factors that threaten ECCs business sustainability. The outcome will be ECCs business sustainability. This will enhance innovation, grow indigenous contracting, and create more employment. Applying Systems Theory as a supporting theory is part of the theoretical contribution. The research outcomes reviewed literature from related previous studies and analysed primary data. The main constructs are the moderating effect of Nigeria's government policy support between PMF, ECCs, and business sustainability. It has two independent variables, namely PMF and ECCs. The dependent variable is business sustainability, and the moderating variable is government policy support. Figure 1 shows a detailed illustration.

The reviewed study's main constructs developed into a fresh framework. Figure 1 shows a detailed illustration. The study adopted Systems Theory as the supporting theory, as previously explained. Thus, the study hypotheses were generated based on the study model, and the method to achieve the study's objectives is presented in the following section.

RP1. There is a significant positive relationship between project management framework and business sustainability.

RP2. There is a significant positive relationship between emerging construction contractors and business sustainability.

RP3. There is a significant positive relationship between government policy support and business sustainability.

RP4. Nigerian Government policy support and moderates the relationship between project management framework and business sustainability.

RP5. Nigerian Government policy support and moderates the relationship between emerging construction contractors and business sustainability.

4. Research method
4.1 Sample size and data collection procedure
The secondary and primary data were collected from reviewed literature and selected respondents. The research populations were construction contractors (medium and small scale), construction consultants, and clients (government) in Lagos and Abuja, Nigeria. These two locations are top cities with a high level of construction activities (Ebekozien *et al.*, 2022c). In line with Faul *et al.* (2007), GPower 3.1 was utilised in defining the study's sample size and arrived at 360 sample size using power (1-β err prob. = 0.9). It agreed with Sekaran and Bougie (2016), who recommended a sample size of 30–500 as perfect. The questionnaires were administered via an online survey and email. From the 360 questionnaires administered, 320 were retrieved, but only 310 were useable and adopted. This represented 86.11% good response rate and is judged acceptable for subsequent analysis with earlier results (Kassem *et al.*, 2020). Before questionnaire administration, the measurement items were assessed by an academician and industry-based professional. Sequel was a pilot study with 30 selected respondents in line with In (2017). The main study data collected followed with a slight modification. Respondents' privacy was guaranteed to avoid common approach unfairness. The study utilised SPSS software (version 26) for the preliminary analysis.

4.2 Measures
A "5-point Likert scale," from 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, and 1 = strongly disagree, was utilised to rank the items, and the significance of "effect" variables, as adopted. Refer to Table 1 for the sources of the measurement instrument.

S/N	Variables	Sub-variables	Items	Sources	Remarks
1	Project Management Framework (PMF)	Project Life Cycle (PLC)	5	McConnell (2010) and Larson and Gray (2018)	Adapted
		Project Control Cycle (PCC)	3	Larson and Gray (2018)	
		Project Templates and Tools (PTT)	3	Rose (2014) and Larson and Gray (2018)	
2	Emerging Construction Contractors (ECCs)		6	Martin and Root (2010) and Amoah and Bikitsha (2021)	Adapted
3	Government Policy Support		6	Adeleke *et al.* (2018) and Moshood *et al.* (2020)	Adapted
4	Business Sustainability	Economic Sustainability	6	Stubbs and Cocklin (2008) and Svensson and Wagner (2015)	Adapted
		Social Sustainability	6		
		Environmental Sustainability	6		
Source(s): Compilation from various sources by authors					

Table 1.
Sources of the measurement instrument

5. Analysis and results

5.1 Demographic distribution of the respondents

The background profile of respondents is pertinent and can influence the outcome of the results. The study's demographic profile of the respondents regarding academic qualification, post, work experience, city, are as follows: the respondents were all male and above 23 years old. Regarding location, 160 respondents (51.6%) were from Lagos, and 150 respondents (48.4%) were from Abuja. The number of clients was 20 (6.5%), the number of construction consultants was 120 (38.7%), and the number of construction contractors was 170 (54.8%). Regarding academic qualification, most respondents (78%) had a minimum of HND/BSc./B.Tech, followed by respondents with master's (20%), and six respondents had PhD degrees (2%). Referring to the demographic data, majority of the respondents had experience. Only 20% of the respondents had below ten years of work experience. About 80% of the respondents had above ten years of work experience. This would be an added advantage and shows that most respondents are equipped with satisfactory work experience. The result would produce improved and satisfactory findings.

5.2 Collinearity statistics (variance inflation factor [VIF])

Refer to Table 2 for the multicollinearity test for exogenous latent variables. This task is germane before the proposed framework testing (Hair *et al.*, 2006). The variance inflation factor (VIF) ranges from 1.481 to 2.029, as presented in Table 2. It implies that the maximum VIF's value is lesser than the recommended value of 3.3. Therefore, results show that common method bias is not the study's major issue. This aligned with suggestions from Kock (2015) for evaluating collinearity. It shows that there is no multicollinearity issue.

5.3 Evaluation of measurement model (outer model)

The outer model, the measurement model, was examined via the Partial Least Squares Structural Equation Modelling (PLS-SEM) (3.0 software) technique before testing the research hypotheses (Zailani *et al.*, 2016; Taofeeq *et al.*, 2020a; Zaman *et al.*, 2020; Rehman and Ishak, 2022; Onubi *et al.*, 2022). PLS-SEM was adopted because of the investigating approach and the complex framework introducing a moderating variable (Hair *et al.*, 2016). The study deleted six of the 41 items. It is because the loadings were lower than the benchmark. This includes project marking tools (PMF10), risk operations (PMF11), upskilling contractors (ECC6), reskilling contractors (ECC7), government policy creating a conducive environment (GPS6), and encouraging sustainability (BS17). Thus, 35 items were utilised for the developed framework with the loading between quality control of construction activities (PMF4 - 0.709) and promoting policies that enhance social sustainability (BS8 - 0.949). Table 3 illustrates details. Refer to Appendix for the main constructs and items utilised.

Variables	VIF
Project Management Framework (PMF)	2.029
Emerging Construction Contractors (ECCs)	1.650
Government Policy Support (GPS)	1.481
Business Sustainability (BS)	1.779
Source(s): Authors' work	

Table 2.
Multicollinearity test for exogenous latent constructs

Variables	PMF	ECCs	GPS	BS
PMF1	0.784			
PMF2	0.893			
PMF3	0.901			
PMF4	0.709			
PMF5	0.794			
PMF6	0.838			
PMF7	0.921			
PMF8	0.799			
PMF9	0.846			
ECC1		0.789		
ECC2		0.822		
ECC3		0.809		
ECC4		0.745		
ECC5		0.755		
GPS1			0.921	
GPS2			0.745	
GPS3			0.789	
GPS4			0.766	
GPS5			0.843	
BS1				0.754
BS2				0.843
BS3				0.791
BS4				0.845
BS5				0.791
BS6				0.901
BS7				0.784
BS8				0.949
BS9				0.928
BS10				0.911
BS11				0.789
BS12				0.810
BS13				0.791
BS14				0.799
BS15				0.745
BS16				0.795

Note(s): (PMF) Project management framework, (ECC) Emerging construction contractors, (GPS) Government policy support, (BS) Business sustainability
Source(s): Authors work

Table 3.
Factor analysis and
loading of the items
(cross-loadings)

5.4 The construct validity

The construct will be assessed via the content and convergent validity in line with Hair *et al.* (2012).

5.4.1 Content validity. Referring to Figure 2, it shows that each outer indicator loading was bigger than its separate load. Thus, it is suitable to assess the construct's concept.

5.4.2 Convergent validity analysis. Hair *et al.* (2006) stated that Cronbach alpha reliability coefficients should be 0.70 or more. The nearer the value is to 1.000, implies that the instrument is reliable. For Composite Reliability (CR) scores, Fornell and Larcker (1981) recommend that the Average Variance Extracted (AVE) score should be 0.5 or above. Also, the square root of the AVE should be larger than the correlation amongst latent constructs, as presented in Table 4. The Cronbach's alpha of the main constructs ranged from 0.794 to 0.929. Findings show that the CR scores exceed the minimum 0.7 set standard to determine the appropriateness of the study's scales (Hair *et al.*, 2016). The AVE of the main variables ranged
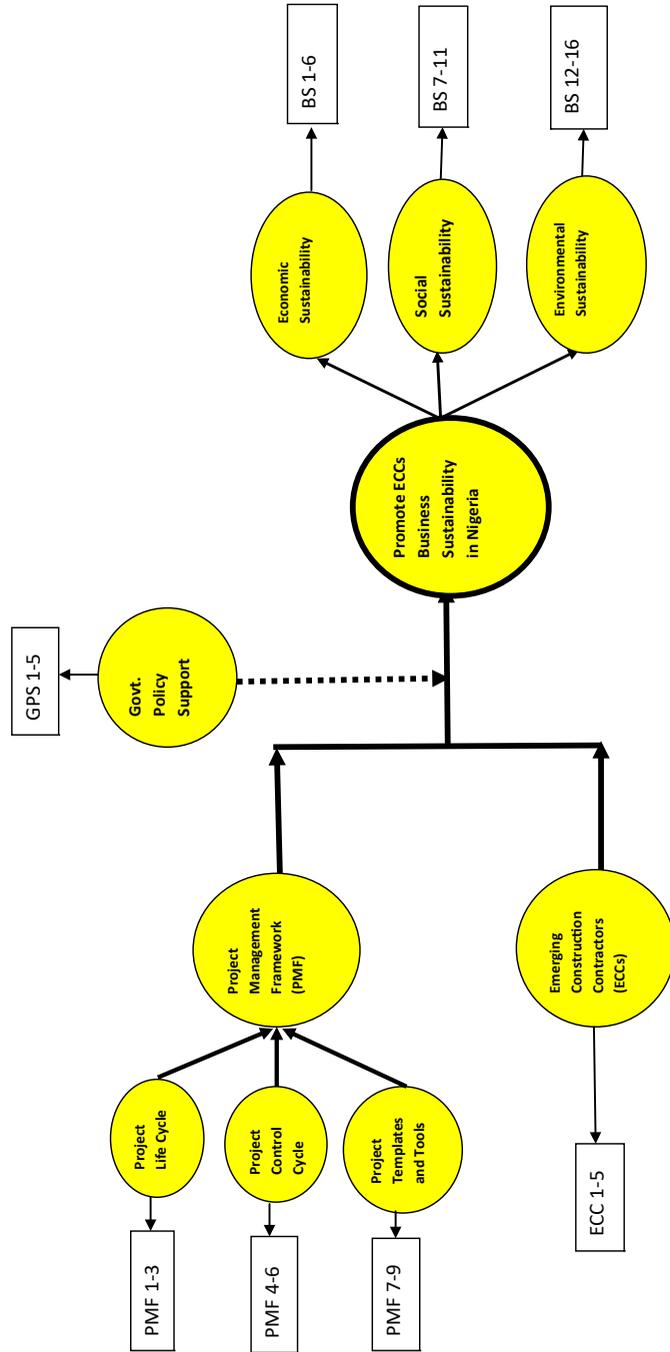
Figure 2.
Revised research
model developed
through PLS
bootstrapping

Source(s): Authors work

Variables	Loading	AVE	CR	Cronbach's alpha
PMF1	0.784	0.723	0.929	0.822
PMF2	0.893			
PMF3	0.901			
PMF4	0.709			
PMF5	0.794			
PMF6	0.838			
PMF7	0.921			
PMF8	0.799			
PMF9	0.846			
ECC1	0.789	0.733	0.911	0.790
ECC2	0.822			
ECC3	0.809			
ECC4	0.745			
ECC5	0.755			
GPS1	0.921	0.719	0.845	0.811
GPS2	0.745			
GPS3	0.789			
GPS4	0.766			
GPS5	0.843			
BS1	0.754	0.794	0.794	0.914
BS2	0.843			
BS3	0.791			
BS4	0.845			
BS5	0.791			
BS6	0.901			
BS7	0.784			
BS8	0.949			
BS9	0.928			
BS10	0.911			
BS11	0.789			
BS12	0.810			
BS13	0.791			
BS14	0.799			
BS15	0.745			
BS16	0.795			

Note(s): (PMF) Project management framework, (ECC) Emerging construction contractors, (GPS) Government policy support, (BS) Business sustainability
Source(s): Authors' work

Table 4.
Convergent validity
analysis

from 0.719 to 0.794. They were acceptable because they surpassed the limit (0.50), as presented in Table 4.

5.5 Assessment of structural model (inner model)

The structural model was examined to test the causal relationships between project management framework, business sustainability, emerging construction contractors, and government policy support as a moderating construct. Table 5 presents the results. Referring to Table 5, the T-Values with each path coefficient were examined via bootstrapping method, and p-Values were consequently developed. Findings reveal that hypotheses RP_1 to RP_3 predicted that there is a significant relationship between PMF and BS ($\beta = 0.128$, $t = 1.880$, $p < 0.01$), ECCs and BS ($\beta = 0.288$, $t = 6.100$, $p < 0.01$), and GPS and BS ($\beta = 0.009$, $t = 3.007$, $p < 0.01$), there were all supported and possess a positive relationship each. Also, hypotheses

RP$_4$ to RP$_5$ forecasted that government policy support correlated between PMF and BS and between ECCs and BS. Results in Table 5 show that government policy support posses a positive relationship between PMF and BS ($\beta = 0.049$, $t = 2.225$, $p < 0.01$) and between ECCs and BS ($\beta = 0.200$, $t = 2.043$, $p < 0.01$), as presented in Figure 2.

5.6 Testing and determining the strength of the moderating effect
The research utilised a product indicator method with the help of PLS-SEM to find the strength of the moderating effect of government policy support on the correlation amid PMF and BS and between ECCs and BS in the Nigerian construction sector. A product indicator technique was adopted because the study moderating variables are continuous (Rigdon *et al.*, 1998). Regarding the strength of the moderating effects, Cohen's (1988) effect size was administered, as presented in Table 6. Referring to Table 6, findings show that the statistical significance is in the effect size, calculated using eta squared. Cohen (1988, pp. 284–287) classifies 0.01 as a small effect, 0.06 as a medium effect, and above 0.14 as a large effect, as adopted. The formula for eta squared is the "sum of squares between groups" divided by the "total sum of squares" (Pallant, 2016, p. 373). Thus, with Eta^2 (0.07), the moderating variable had a medium effect in line with Cohen's thumb rule.

6. Discussion
In the past few years, implementing a project management framework in construction activities by emerging construction contractors in developing countries has been considered one of the germane feasible measures to promote business sustainability (Akaba *et al.*, 2016; Amoah and Bikitsha, 2021). Also, it can increase profitability for small and medium construction contractors. In the literature, most of the research were silent in the Nigerian context. Thus, findings corroborate that government policy support significantly moderates the connection between PMF and BS, and between ECCs and BS. It implies that the role of government policy support in enhancing business sustainability cannot be overstated. This has been confirmed by a few studies, such as Akaba *et al.* (2016), Adeleke *et al.* (2018), Taofeeq *et al.* (2020a), and Amoah and Bikitsha (2021) but not in Nigeria's context.

Regarding the research objectives, Hypotheses RP1, RP2, and RP3 are presented in Table 5. Based on the reviewed literature, they (PMF, ECCs, and GPS) were hypothesised

	Variables	Std. Beta	t Value	p value	Decision
RP$_1$	PMF > BS	0.128	1.880	0.041	Supported ***
RP$_2$	ECCs > BS	0.288	6.100	0.050	Supported ***
RP$_3$	GPS > BS	0.009	3.007	0.029	Supported ***
RP$_4$	GPS***PMF > BS	0.049	2.225	0.027	Supported ***
RP$_5$	GPS***ECCs > BS	0.200	2.043	0.042	Supported ***

Note(s): ***Significant at 0.01 (1-tailed), **significant at 0.1 (1-tailed)
Source(s): Authors' work

Table 5.
Summary of bootstrapping for structural model evaluation

Variable	Sig	Eta^2	Effect
Government policy support	0.037	0.07	Medium

Source(s): Authors' work

Table 6.
The strength of the moderating effects

with a positive relationship with BS (Iroegbu, 2005; Aniekwu, 1995; Niu, 2008; Akaba *et al.*, 2016; Amoah and Bikitsha, 2021). Table 5 presents the results of the relationships to offer solutions to Hypotheses RP1, RP2, and RP3. It reveals significant relationships. Findings suggest that PMF, ECCs, and GPS are crucial for Nigerian construction sector business sustainability, especially for upcoming contractors. Undoubtedly, economic, social, and environmental sustainability may not be feasible if there is no comprehensive project life cycle, project control cycle, and project templates and tools during the pre- and post-contract administration and supported by a pro-business sustainability policy from the government.

Also, the study examined the moderating effect of government policy support on the relationship between PMF and BS, and ECCs and BS. According to the bootstrapping, RP4 and RP5 were significant, as presented in Table 5 and Figure 2. The developed framework is customised to enhance ECCs sustainable business cycle, increase competitiveness, and enhance the corporate brand. Findings agree with Firmenich (2017), which developed a customised dynamic framework for project risk management concept. It shows that for business sustainability to be sustained in the construction sector, government policy support is germane, and key stakeholders' compliance is also key. It is an all-inclusive task. Findings agree with Stubbs and Cocklin (2008), Amoah and Bikitsha (2021), and Taofeeq *et al.* (2020a). Taofeeq *et al.* (2020a) found that government regulations moderate the relationships amongst the key variables affecting the construction firms in Malaysia. Stubbs and Cocklin (2008) recommended enhanced capacities and collaboration amongst the stakeholders, in this instance, the ECCs, to achieve firm-level business sustainability.

7. Implications of the study's framework

Studies have been conducted regarding moderating the role of government policy with variables in the construction sector. There is none regarding project management framework and business sustainability in one study. More so, in Nigeria, there is paucity of literature regarding the subject matter, knowing the importance of ECCs role in employment generation, if effective. This is part of the study's motivation. The study contributes to the existing literature scarcity regarding Nigeria's Government policy support as the moderating effect on the relationship between PMF and ECCs. Integrating Systems Theory as the underpinning support to the framework is one of the research implications. The insight is that the study's theory will complement conventional top-down thinking. This can be achieved by focussing on how to help innovation projects to be more successful by providing flexibility in planning and communication and controlling tasks (Kapsali, 2011). The flexibility to manage novelty, complexity, and ambiguity in innovation construction projects cannot be over-emphasised. Also, the developed four variables and 35 items (all ranked above 3.3 mean scores) and developed framework from the structural model via PLS bootstrapping (Figure 2) form part of the theoretical contribution. Appendix presents the utilised 35 items.

Thus, government role is germane by supporting ECCs via policies and programmes to enhance the contracting activities' economic, social, and environmental sustainability (Svensson and Wagner, 2015). The policy should improve construction process quality, encourage innovation, and promote safe site working procedures. Thus, ECCs may lead to a sustainable business cycle, and improve green construction, consistency, and long-term perspective. This is pertinent for business sustainability. Also, although the research is engrossed in moderating the effect of GPS on the relationship between PMF and ECCs in Lagos and Abuja of Nigeria, findings may be applicable in other cities and beyond Nigeria, especially ECCs in developing countries with similar business sustainability issues. These are components of the study's practical implications.

8. Conclusion and recommendations

The study presents a structured framework showing the relationship between the four critical variables (PMF, ECCs, BS, and GPS). Government policy support moderated PMF and ECCs with a better BS output, with economic, social, and environmental sustainability as sub-outputs. Systems Theory supported the conceptualised framework and developed the revised research model via PLS bootstrapping. Studies, including the present study, show that ECCs face various business-threatening factors. These factors are threats to the sustenance of ECCs. One feasible measure is the use of PMF from the pre-to post-contract administration and supported by pro-business sustainable policies and programmes, as revealed in the study. Majority of risk-threatening issues will be minimised using PMF and government policy tailored towards enabling an environment for a young entrepreneur to flourish.

Based on the findings, training on the benefits of PMF and how to apply the tools from pre- to post-contract administration for ECCs and intending construction entrepreneur is sacrosanct. The process will assist ECCs in management planning and identifying possible risks before accepting or tendering for the construction contract. This can be achieved if an engaged personnel team or construction consultant has sound technical knowledge. Also, the study suggests policies that can make access to finance and innovation training and retraining easy for ECCs to execute construction projects. This is pertinent for the sustainability drive. The study's limitation is that it was restricted to clients (public), ECCs, and construction consultants in Nigeria's two cities (Lagos and Abuja). But the recommendations may be appropriate in other Nigerian cities as the major respondents have executed construction projects in other cities. The statistical investigation is limited because of the technique utilised. It does not influence the study's findings outcome. The study filled the theoretical gap concerning policy support as a moderating role to develop a better business sustainable framework for ECCs sustainable business cycle. Future pragmatic research is required to examine and validate the revised research model.

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Further reading

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(The Appendix follows overleaf)

Appendix

Construct/Item	Description
1	*Project Management Framework (PMF)*
1A	*Project Life Cycle*
PMF1	Project goal and scope
PMF2	Source of resources and feasible budget
PMF3	Project control and evaluation
1B	*Project Control Cycle*
PMF4	Quality control of construction activities
PMF5	Managing problems
PMF6	Track progress
1C	*Project Templates and Tools*
PMF7	Work breakdown plan
PMF8	Risk management plan
PMF9	Project priority
PMF10	Project marking tools
PMF11	Risk operations
2	*Emerging Construction Contractors (ECC)*
ECC1	Engage skilled and technical staff
ECC2	Be proactive regarding resources and proper planning
ECC3	Set goals and targets in clear terms
ECC4	Engage an expert in the bill of quantities pricing and tender bidding
ECC5	Engage in all-inclusive supervision and risk management
ECC6	Upskilling contractors
ECC7	Reskiiling contractors
3	*Government Policy Support (GPS)*
GPS1	Government policy can improve standards (design and construction inspection)
GPS2	Government policy can mitigate ECCs' business risks
GPS3	Government policy can enhance innovation and improve construction quality
GPS4	Government policy can make access to finance for project execution easy
GPS5	Government policy can promote safe working procedures on construction sites
GPS6	Government policy creating conducive environment
4	*Business Sustainability (BS)*
4A	*Economic Sustainability*
BS1	Sustainable business cycle
BS2	Increase competitiveness
BS3	Enhance corporate brand
BS4	Financial benefits to staff and owner
BS5	Promote employment and improves productivity
BS6	Minimise production wastage and increase construction profitability
4B	*Social Sustainability*
BS7	Enhance corporate reputation
BS8	Promote policies that enhance social sustainability
BS9	Consistency and long-term perspective
BS10	Promote healthy and safe working procedure
BS11	Enhance compliance with government sustainability policies
4C	*Environmental Sustainability*
BS12	Encourage efficiency improvement programmes
BS13	Enhance green construction and mitigate global warming
BS14	Improve construction environment to enhance performance
BS15	Establish environmental standards
BS16	Improve business performance
BS17	Encourage sustainability

Table A1.
Adapted items

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Dr Andrew Ebekozien is an Academic Fellow in the School of Social Sciences, Universiti Sains Malaysia, Malaysia. Also, Dr Andrew is a Postdoctoral Fellow at the University of Johannesburg, South Africa. He obtained his PhD in Cost Management from Universiti Sains Malaysia, Malaysia. Andrew Ebekozien is the corresponding author and can be contacted at: ebekoandy45@yahoo.com

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Erratum: It has come to the attention of the publisher that the article, Ebekozien, A., Aigbavboa, C., Samsurijan, M.S., Amadi, G.C. and Duru, O.D.S. (2023), "Moderating effect of Nigerian government policy support on the relationship between project management framework and emerging construction contractors' sustainability", *International Journal of Building Pathology and Adaptation*, Vol. 41 No. 6, pp. 269-289. https://doi.org/10.1108/IJBPA-01-2023-0007 incorrectly listed Mohamad Shaharudin Samsurijan's affiliation as "School of Social Sciences, Universiti Pulau Pinang, Minden, Malaysia". This has now been corrected to "School of Social Sciences, Universiti Sains Malaysia - Pulau Pinang, Minden, Malaysia", in the online version. This error was introduced due to incorrect information in Emerald's systems, the publisher sincerely apologises for this error and for any inconvenience caused.