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Evaluating Growth Dimensions of Construction Firms via Domestic Joint Ventures: An Empirical Study in Tanzania

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ABSTRACT

Several initiatives aimed at empowering local contractors to form domestic joint ventures (DJVs) have been implemented. These initiatives are strategies for capacity building and enhancing competitiveness in large-scale construction projects. However major construction projects in developing countries continue to be dominated by foreign contractors. This raises concerns regarding the extent to which DJVs contribute to the growth of local firms. This study therefore examines the growth dimensions of Tanzanian construction firms participating in DJVs. A quantitative research approach was adopted, using data collected from 69 contractors involved in joint venture projects between 2015 and 2020 in Dar es Salaam. Data were analysed using descriptive statistics, one-sample t-tests, and Exploratory Factor Analysis (EFA) based on Principal Component Analysis with Varimax rotation. The results indicate that DJVs significantly enhance firm performance, with 15 out of 18 growth indicators showing statistical significance ($p < .05$). EFA identified three key growth dimensions: managerial and technical capability, financial capacity, and organizational expansion. These dimensions reflect improvements in resource utilization, technology adoption, project management practices, financial stability, and workforce and project portfolio growth. The findings further reveal that the primary motivations for forming DJVs include resource pooling, access to larger projects, and risk sharing are closely aligned with these growth outcomes. However, DJVs remain largely necessity-driven and compliance-oriented, with limited strategic focus on long-term competitiveness and market expansion. This study contributes to the joint venture literature by providing empirical evidence from a developing-country context and highlights the need for more strategic and structured approaches to maximize the developmental benefits of DJVs.

Keywords: Organizational growth, Growth Dimensions, Domestic Joint Venture, Local contractors, Tanzania

1. INTRODUCTION

The construction industry plays a pivotal role in the socio-economic development of developing countries. However, the sector has been frequently criticized for its low productivity, inefficiency, and limited capacity of local contractors for large scale projects (Kikwasi & Escalante, 2020

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Chernet 2020, Sodangi, 2023). Local contractors often lack access to key resources, including skilled human capital, equipment, credit facilities, and advanced technical expertise, hindering their ability to compete effectively. Consequently, foreign contractors continue to dominate the construction market, particularly in executing large-scale and complex projects (Nami et al., 2014; Kikwasi & Escalante, 2020). To address these challenges, joint ventures (JVs) have emerged as a strategic mechanism for building the capacity of local construction firms and enhancing their competitiveness (Van Sante, 2024; Seiso et al., 2023). Rwelamila et al. (2014) describe JVs as instrumental in developing organizational capability and improving performance outcomes. This view is supported by Huijeong et al. (2024), who argue that joint ventures strengthen the competitive advantages of centralized procurement while facilitating the acquisition of expertise required for large-scale infrastructure projects. In the same line of thinking, Seiso et al. (2023) emphasize that joint ventures (JVs) enable contractors to effectively mitigate risks which are inherent in the mega construction projects. Furthermore, JVs create avenues for improved business responsiveness, capacity expansion, enhanced market access, compliance with regulatory frameworks, and the transfer of technology and expertise. Highlighting this, Minja et al. (2012) suggest that the increasing scale, complexity, and risk of major construction projects necessitate firms to combine diverse strengths through JVs. Consequently, JVs provide a platform for resource pooling, risk sharing, undertaking complex projects, entering foreign markets, business diversification, and knowledge transfer (Chernet, 2020). Joint ventures are typically established when one company lacks specific resources or expertise necessary for a project and another company can provide those missing components (Chen et al., 2020).

Joint venture structures vary depending on project type, location, contractor capabilities, and the objectives of collaboration. These can be broadly classified as international or domestic joint ventures (Hong & Chan, 2014; Muleya, et al., 2023). International Joint Ventures (IJVs) are collaborative arrangements in which at least one partner is headquartered outside the host country of operation (Chan et al., 2022; Khamaksorn et al., 2022). These arrangements typically involve partnerships between foreign and local firms, or collaborations among foreign firms, to undertake construction projects in a host country. On the other hand, domestic construction joint ventures (DJVs) involve firms from the same country collaborating on domestic projects (Ann, 2019). From the strategic perspective, DJV, as formed by partners from the same country, enables the share of resources of the national architectural, engineering, and construction firms to pool resources, accelerate technology transfer, and respond more effectively to competitive pressures (Seiso et al., 2023; Oguji, et al., 2021). This type of joint venture has become increasingly popular in in developing countries due to the rising demand for large-scale and complexity infrastructure and knowledge exchange (Oguji et al., 2021; Seiso et al., 2023). Many domestic contactors are encouraged to form alliances to complete for more sophisticated contracts (Seiso et al., 2023; Maro & Mnyigumbi, 2019).

Several initiatives have been implemented to empower local contractors to form joint ventures that enhance their competitiveness in large-scale construction projects. For instance, procurement reform policies in South Africa have explicitly promoted joint ventures between emerging and established contractors as a prerequisite for securing major construction contracts (DPWI, 2021; Seiso et al., 2023). These collaborations typically involve partnerships between small and large firms working on shared projects, enabling participants to contribute specialized expertise while acquiring new skills through mutual learning (CIDB, 2012). Similarly, in Ethiopia, Chernet (2020) examined the effectiveness of joint ventures in facilitating local contractor participation in mega

construction projects and found that technology transfer was the primary motivation for forming such partnerships. The study further identified partner capability, experience, and technical competence as critical criteria for partner selection.

In Tanzania, recent procurement reforms have also encouraged partnerships among local contractors as a requirement for bidding on major projects (PPRA, 2024). Additionally, the Tanzania National Construction Industry Policy (2003) section 8.11 recognizes domestic joint ventures as a key mechanism for capacity building and the growth of the local construction industry. Despite these policy efforts, major construction projects continue to be dominated by foreign contractors in developing countries, raising concerns about the extent to which domestic joint ventures contribute to the growth of local firms.

Previous studies on domestic joint ventures (DJVs) have largely focused on their motivations, formation strategies, contractual arrangements, and success factors, often highlighting technology transfer as a key benefit (Chernet, 2020; Seiso et al., 2023; Maro & Mnyigumbi, 2019). However, limited attention has been given to understand how these ventures influence the sustainable growth and competitiveness of participating firms. This study addresses this gap by examining the growth dimensions of construction companies engaged in domestic construction joint ventures in Tanzania, with particular emphasis on their contribution to the development and strengthening of local contractors. It draws on empirical data collected from 69 contractors involved in domestic joint ventures to provide evidence-based recommendations for influence of domestic joint ventures in improving capacity building and competitiveness of the local contractors. By addressing both theoretical and practical intersections between domestic joint ventures and growth dimensions the study contributes to the growing body of literature advocating for organization growth and joint ventures in the Global South.

2. LITERATURE REVIEW

2.1 Overview of Joint venture and construction projects

Joint ventures (JVs) are discussed within the broader context of strategic alliances and partnerships; however, these concepts differ in scope, structure, and level of integration. A strategic alliance refers to a cooperative arrangement between two or more independent firms that agree to share resources, knowledge, or capabilities to achieve mutually beneficial objectives while remaining legally separate entities (Mbabu, & Ombok, 2024; Bruce, 1988). Strategic alliances are typically flexible, may be short- or long-term, and do not necessarily involve the creation of a new legal entity. They are primarily formed to achieve strategic objectives such as market entry, innovation, and competitive advantage. In contrast, a partnership is generally a more formal and legally binding arrangement in which two or more parties agree to share ownership, responsibilities, risks, and profits in a business venture (Goyal & Dubey, 2022; Kenton, 2023). Partnerships involve a higher level of commitment and integration compared to strategic alliances and are governed by legal frameworks that define roles, liabilities, and profit-sharing mechanisms.

A joint venture (JV) in construction projects can be viewed as a specific type of strategic alliance and, in some cases, a form of partnership. Unlike broader alliances, JVs often involve the creation of a separate legal entity or a formal contractual agreement through which partners jointly undertake a specific project or business activity (Chen et al., 2020; Khamaksorn et al., 2022). JVs

are typically established for a defined purpose and duration, particularly in industries such as construction, where firms collaborate to pool resources, share risks, and combine technical expertise (Minja et al., 2012; Seiso et al., 2023).Thus, while all joint ventures fall within the broader category of strategic alliances, not all strategic alliances or partnerships qualify as joint ventures. The key distinctions lie in the degree of formalization, legal structure, resource commitment, and level of operational integration among participating firms.

The joint venture is classified into two groups which are International joint ventures and Domestic joint ventures. Literature broadly distinguishes between international and domestic joint ventures. International Joint Ventures (IJVs) involve partners from different countries, often including multinational firms collaborating across national boundaries (Hong & Chan, 2014). Previous studies emphasize the role of IJVs in facilitating market entry, managing political and institutional risks, and supporting infrastructure development in host countries, particularly in developing economies. However, these arrangements are also associated with heightened complexity due to cultural distance, regulatory diversity, and cross-border coordination challenges. In contrast, Domestic Joint Ventures (DJVs) consist of partners operating within the same national context. DJVs are commonly formed to expand market presence, leverage complementary resources, and enhance competitiveness within local construction markets (Seiso et al., 2023; Maro & Mnyigumbi, 2019). While operating under a shared legal and institutional framework may reduce certain external uncertainties. Despite these realities, DJVs have received comparatively less scholarly attention than IJVs.

Previous studies indicate that DJVs in construction projects are associated with several strategic benefits, including risk sharing, access to specialized resources, technology transfer, and improved adaptability to fluctuating market conditions (Kale et al., 2011; Chernet, 2020; Kenton, 2023; Seiso et al., 2023; Maro & Mnyigumbi, 2019). Studies also indicate that firms form JVs for diverse motives, ranging from capability development and competitive positioning to compliance with market or project-specific requirements (Hoffmann, 2024). However, empirical findings regarding JV performance remain mixed, suggesting that outcomes are highly contingent on governance structures, partner compatibility, and management practices (Chernet, 2020). Much of the existing JV literature in construction prioritizes international settings, often attributing performance challenges to cross-border institutional and cultural differences (Jian et al., 2024, Kim et al., 2024). This emphasis risks overlooking the strategic and operational dynamics of DJVs, where firms share a common national environment yet continue to experience performance variability. A focused examination of domestic joint ventures is therefore warranted, as it allows for isolating relational, organizational, and managerial factors from international contextual influences. By addressing this gap, the present study provides deeper insight into the dynamics of domestic joint ventures in construction projects and their contribution to the growth and competitiveness of participating firms.

2.2 Growth of Firms and Joint ventures

The concept of firm growth has various connotations in organizational and management literature. Penrose (1959) conceptualized firm growth as a dynamic process in which the organization and its functions are continually differentiated, thereby promoting expansion, adaptation, and positive interaction with the business environment. Several studies have described firm growth in terms of revenue generation, value addition, and business expansion (Coad & Guenther, 2014; Erhardt,

2021; Taouab & Issor, 2019). On the other hand, some studies explained firm growth in terms of quantitative and qualitative dimensions. Quantitative growth dimension refers to tangible indicators such as improved performance, sales/revenue growth, employment increase, market share, asset accumulation and profitability (Taouab & Issor 2019; Dalgıç & Fazlıoğlu, 2021; Yu & Yan, 2021. In contrast, qualitative growth reflects internal or structural transformation, such as enhanced learning capability, optimized organizational structures, innovative business models, and improved competitiveness (Baum et al., 2004).

The foregoing discussion suggests that organizational growth is a multidimensional process shaped by managerial, contextual, and strategic factors that drive firms to expand, adapt, and sustain a competitive advantage (Massey et al., 2006; Crabb, 2014). Joint ventures (JVs) in the construction industry serve as strategic partnerships that facilitate this growth by pooling resources, capabilities, and market access, enabling achievements beyond individual firms. Drawing from a resource-based view, internal learning and knowledge accumulation are crucial for firm growth (Penrose, 1959). JVs offer structured opportunities for inter-firm knowledge and technology transfer, allowing partners to gain new technical and managerial skills and disseminate best practices (Jiang et al, 2024, Kim et al 2024). As summarised in Table 1, different scholarly have provided different growth dimensions in joint ventures projects.

Table 1: Growth Dimension for joint venture project from the literature

S/N	Dimension	Descriptions	Authors
1.	Knowledge acquisition	Effective use new knowledge in project	Penrose (1959); Reichert & Zawislak (2014) Jian et al, 2024), Kim et al 2024).
2.	Project Complexity	Confidence in Undertaking complex projects.	Goyal & Dubey, (2022) Mtetwa, 2023
3.	Technology Adoption	Acquisition and use of new technology.	Penrose (1959); Reichert & Zawislak (2014) Jian et al, 2024), Kim et al 2024).
4.	Tendering Confidence	Increased confidence in tendering many projects	Goyal & Dubey, (2022) Mtetwa, 2023
5.	Reputation	Improved firm reputation and credibility.	Yu & Yan (2021); Dalgıç & Fazlıoğlu (2021)
6.	Project Management skills	Improved project Planning and execution	Goyal & Dubey, (2022, Penrose (1959); Reichert & Zawislak (2014) Jian et al, 2024), Kim et al 2024). Mtetwa, 2023
7.	Financial Stability	Financial stability, capital availability,	Yu & Yan (2021); Dalgıç & Fazlıoğlu (2021)
8.	Market Penetration	Market penetration and increased turnover.	Coad & Guenther (2014))
9.	Employment growth, workforce	Addition of technical staff; firm upgrading.	Bonaccorsi & Giannangeli (2008) Seiso et al., 2023).
10.	Project Portfolio	Increase in number of projects awarded.	Taouab & Issor (2019); Coad & Guenther (2014) Seiso et al., 2023).
11.	More revenue and profit	increased revenue, profits, or assets	Yu & Yan (2021); Dalgıç & Fazlıoğlu (2021)
12.	Project delivery	Improved project delivered within budget, time, and quality.	Penrose (1959); Reichert & Zawislak (2014) Jiang et al, 2024), Kim et al 2024).

S/N	Dimension	Descriptions	Authors
13.	Firm's credibility	Improved the firm's credibility hence it is bankable	Yu & Yan (2021); Dalgıç & Fazlıoğlu (2021)
14.	risk management skills	Improvement of risk management skills	Penrose (1959); Reichert & Zawislak (2014
15.	Asset ownership	Increase asset ownership	Yu & Yan (2021); Dalgıç & Fazlıoğlu (2021) Jepkorir, & Kwasira, (2025).
16.	Firm expansion	Expansion of firm geographically	Taouab & Issor (2019); Coad & Guenther (2014) Seiso et al., 2023).
17.	Expansion of office space	Increase office space	Bonaccorsi & Giannangeli (2008)
18.	New venture opportunities	Addition of new venture within the business line	Baum et al. (2004) Seiso et al., 2023).

The findings from the literature in Table 1 indicate that joint ventures enhance firms' financial capability and market competitiveness through improved access to capital, risk-sharing, and expanded market reach (Coad & Guenther, 2014; Erhardt, 2021; Taouab & Issor 2019; Kenton, 2023). However, these benefits are not uniformly realized across all contexts. In practice, the extent to which firms benefit financially depends heavily on the structure of the joint venture, the balance of power between partners, and the effectiveness of governance mechanisms. In many cases, particularly in developing economies, weaker firms may experience limited financial gains due to unequal resource contributions or dominance by stronger partners, which can constrain true capability development.

Furthermore, empirical studies in Table 1 suggest that joint ventures contribute to dynamic capability development and improved firm performance (Jepkorir & Kwasira, 2025); however, such outcomes are often contingent upon effective knowledge transfer and absorptive capacity. Without deliberate mechanisms for learning, the anticipated benefits of collaboration may remain superficial, limiting long-term organizational growth. Similarly, while joint ventures are associated with organizational expansion evidenced by increased staffing, upgrading of firm classifications, and improved access to contracts, these structural changes do not automatically translate into sustainable competitive advantage. As noted by Dalgıç and Fazlıoğlu (2021), growth in size must be accompanied by improvements in efficiency, innovation, and managerial capability to yield meaningful performance gains.

Moreover, although joint ventures are often promoted as pathways for strategic diversification and market expansion, they may also introduce coordination complexities, cultural misalignment, and conflicts of interest that undermine their effectiveness. This is particularly relevant in construction contexts, where project-based collaborations require high levels of integration and trust. Consequently, the success of joint ventures as strategic growth tools depends not only on resource pooling but also on the quality of inter-organizational relationships, governance structures, and the strategic alignment of partners.

In this regard, recent studies emphasize that the transformative potential of joint ventures lies in their ability to foster genuine collaboration, innovation, and capability building, rather than merely facilitating short-term project execution (Seiso et al., 2023). Therefore, a more critical perspective suggests that while joint ventures offer significant opportunities for firm growth, their outcomes are highly context-dependent and require supportive institutional frameworks, effective

management practices, and intentional knowledge-sharing mechanisms to achieve sustained competitiveness.

3. METHODOLOGY

3.1. Research Design

This study adopted a quantitative research approach to ensure objectivity, reliability, and systematic analysis of relationships among variables. Data were collected from local contractors involved in joint venture projects undertaken between 2015 and 2020 in Dar es Salaam. This timeframe was purposively selected to allow sufficient time for the effects of joint venture participation on firm growth to materialize, recognizing that organizational growth is inherently a long-term process. Data collection was conducted between 2023 and 2024 to capture post-engagement outcomes, enabling an assessment of the sustained impact of joint ventures on managerial capability, financial performance, and organizational expansion.

A total of 92 joint ventures involving 185 local contractors (Class I–III) across Tanzania were identified. The focus on Class I–III contractors is justified by their higher technical, financial, and organizational capacity, as defined by the Contractors Registration Board (CRB), which makes them more likely to participate in large and complex joint venture projects. The study, however, concentrated on 107 contractors based in Dar es Salaam due to their high concentration and accessibility. Using Slovin's formula $n = \frac{N}{1+N(e^2)}$, with a population of 107 and a margin of error of 0.05, a sample size of 83 contractors was determined

3.2 Data collection

Data was collected through Questionnaires which were administered physically. Hand delivery was opted because researchers knew where to find respondents who were easily accessed in their organizations. Out of 83 questionnaires distributed, 69 (83%) were fairly filled and returned. The questionnaire consisted of two parts. The first part of questionnaire was based on profile of the respondents such as age, education and experience. The second part of questionnaire covered the extent of achievement obtained by the Local contractor after undertaking a JV project. Closed-ended questions were used as they are effective for collecting factual data and easier to analyse due to the limited range of possible responses (Fellows and Liu, 2015). Eighteen (18) growth dimensions extracted from the literature as illustrated in Table 1 formed the basis of the questionnaire design formed a list of growth dimensions in the questionnaire for respondents to rate using active variables. The growth dimensions were assessed using 5-point Likert scale where 1-Very low, 2-Low, 3-Moderate, 4-High, 5-Very High. The rationale and justification for adoption of this Likert scale were due to its ability to detect the feelings that respondents have about their attitudes (Albaum, 1997).

3.3 Data analysis

Data analysis was conducted using IBM SPSS Statistics 20, employing both descriptive and inferential techniques to examine the growth dimensions of local contractors participating in domestic joint ventures (DJVs). The analysis proceeded in two stages: validation of growth indicators and identification of underlying growth dimensions using Exploratory Factor Analysis

(EFA). The validation stage involved a one-sample t-test to assess the significance of individual growth indicators by comparing their mean scores against the neutral midpoint of the Likert scale. Indicators with p-values less than 0.05 were considered statistically significant, confirming their contribution to firm growth.

Prior to EFA, data suitability was assessed using the Kaiser–Meyer–Olkin (KMO) measure and Bartlett's Test of Sphericity. The KMO value of 0.644 exceeded the acceptable threshold of 0.60, indicating adequate sampling (Pallant, 2013). Bartlett's Test was statistically significant ($p < 0.05$; $df = 95$), confirming sufficient inter-correlations among variables for factor analysis (Hair et al., 2019). EFA was then performed using Principal Component Analysis (PCA) with Varimax rotation to extract underlying components. Factors were retained based on eigenvalues greater than 1, and factor loadings of 0.50 and above were considered significant for interpretation (Hair et al., 2019). These procedures ensured the validity, reliability, and interpretability of the extracted growth dimensions

4. RESULTS AND FINDINGS

4.1 Respondent profile

As shown in Table 2, the results indicate that 87% were male and 13% female, reflecting the gender composition typical of the construction industry in Tanzania. Most respondents (75.4%) held a bachelor's degree, while 24.6% possessed a master's degree. Regarding professional experience, 89% had more than 10 years of experience in construction. The demographic profile suggests that the sample represents knowledgeable professionals, thereby strengthening the validity of the study's findings.

DEMOGRAPHIC	CATEGORY	FREQUENCY	PERCENTAGE
Gender	Male	60	87.0
	Female	9	13.0
Educational Qualification	Bachelor's Degree	52	75.4
	Master's Degree	17	24.6
Class of Contractors	Class 1	25	31.9
	Class 2	8	11.6
	Class 3	36	49.3
Years of experience	6-10 years	27	39.1
	11-15 years	64	92.8
	Over 15 years	11	15.9

Table 2: Respondent profile

4.2 The reason for forming joint venture

Respondents were asked to indicate the motive for forming joint venture with their local partners. Results are as indicated in Table 3.

Table 3: The reason for forming joint venture

Sno.	Statement	Mean	SD	T-value	P-value	Rank
1	To secure a bigger project compared to one's class limit	4.38	.621	18.424	0.000	2
2	To acquire new technical skills and know owns	4.23	.987	10.364	0.000	4
3	To pool resources	4.39	.647	17.872	0.000	1
4	To share risks associated with a particular project	4.30	.754	14.379	0.000	3
5	To meet the requirements of a project	4.13	1.097	8.560	0.000	5
6	To expand marketability of the firm	3.67	1.347	4.112	0.000	6

Table 3 indicates that the top-ranked motives for forming joint venture were pooling resources (mean = 4.39) and securing larger projects beyond class limits (mean = 4.38), followed by risk sharing (mean = 4.30). The least-ranked motive was expanding marketability (mean = 3.67). All motives exhibited statistically significant *p*-values ($p < .05$), indicating strong consensus among respondents. These findings align with Minja et al., (2012) and Cherinet (2020), who observed that JVs in developing countries often emerge from the need to overcome resource constraints and access larger, more complex projects. Pooling resources thus remains a strategic rationale for partnership formation among Tanzanian contractors.

4.3 Growth Dimensions for Local Contractors undertook Joint venture projects

Respondents were asked to indicate the achievement after undertaking a joint venture project. A total of 18 growth indicators were evaluated using a one-sample t-test to determine the extent of growth achieved by local contractors. The results are as indicated in Table 4

Table 4: Descriptive and Inferential Results of Firm Growth dimensions attained by Local contractors after undertaking JV projects

Sno.	Statement	Mean	SD	T-value	P-value	Rank
GD 1	Acquire and use new technology from the partner e.g., project management software, e-technology	4.43	.693	16.856	.000	1
GD2	Effective use of resources for projects	4.41	.828	14.100	.000	2
GD 3	Improved the firm's credibility hence it is bankable	4.39	.927	12.467	.000	3
GD4	Penetrated the market by gaining a bigger network of colleagues, clients	4.38	.824	13.875	.000	4
GD5	Availability of working capital to meet liquidity for tenders	4.35	.819	13.664	.000	5
GD6	Improved financial stability	4.29	.876	12.228	.000	6
GD7	Gained more experience in various aspects of execution of projects	4.12	1.037	8.942	.000	7
GD8	Undertaking of complex projects	4.09	.853	10.585	.000	8
GD9	Improved project planning and execution	4.00	1.125	7.386	.000	9
GD10	Deliverance of projects within budget, time and quality	3.90	1.100	6.785	.000	10

Sno.	Statement	Mean	SD	T-value	P-value	Rank
GD11	Increase in number of projects awarded hence increase turnover	3.87	1.123	6.429	.000	11
GD12	Upgrading firm to an upper class	3.71	.925	6.376	.000	12
GD13	Improved firms' reputation	3.54	1.255	3.548	.001	13
GD14	Increase of confidence in tendering procedures	3.54	1.279	3.484	.001	14
GD15	Addition of technical staff in the firm	3.52	1.196	3.625	.001	15
GD16	Improvement of risk management skills	3.32	1.388	1.908	.061	16
GD17	Expansion of an office space	3.04	1.333	.271	.787	17
GD18	Addition of new venture within the business line	2.75	1.333	-1.535	.129	18

***Notes**: GD= Growth Dimension, *The mean difference is significant at the .05 level (i.e. p < 0.05); 1: Mean score based on valid N= 69 (respondents);. 2: The higher the mean score, the more item is achieved*

Table 4 results indicate that 15 out of 18 growth dimensions were found to be statistically significant ($p < .05$), confirming tangible growth outcomes attributed to DCJV participation. Among these, nine indicators were rated highly, with mean scores ranging from 4.00 to 4.43. These results highlight the critical areas in which domestic joint ventures have contributed most substantially to firm growth and operational advancement.

Furthermore, six indicators were moderately achieved, with mean scores ranging between 3.52 and 3.90. Although these outcomes were moderate, they remained statistically significant, indicating that joint ventures play an essential role in enhancing managerial capacity, project delivery, and organizational upgrading. The statistically significant findings collectively demonstrate that DJCVs act as a catalyst for local contractors, enabling them to adopt advanced technologies, improve operational performance, and strengthen internal systems. In contrast, three dimensions namely improvement in risk management skills (mean = 3.32), expansion of office space (mean = 3.04), and diversification into new business ventures (mean = 2.72) were statistically insignificant ($p > .05$). These lower-rated items suggest that these areas have not yet developed into major contributors to firm growth among local contractors engaged in domestic joint ventures. These findings imply that while certain operational and strategic capabilities are vital for fostering growth, others, such as risk management, physical workspace, and diversification strategies, may not exert the same degree of influence, at least within the context of local contractors operating in domestic joint ventures. It is possible that the impact of these factors is either more nuanced or contingent upon other variables not captured in this analysis.

4.4 Exploratory Factor Analysis (EFA)

Prior to conducting Exploratory Factor Analysis (EFA), the suitability of the dataset was assessed using a correlation matrix, the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy, and Bartlett's Test of Sphericity. The correlation matrix (Table 5) shows that most variables exhibit moderate inter-correlations ($r > 0.30$), satisfying the minimum requirement for factor analysis (Hair et al., 2014). Importantly, no correlation coefficients exceeded 0.90, indicating the absence of multicollinearity among the variables. The KMO value was 0.644, exceeding the recommended threshold of 0.60, thus confirming sampling adequacy. Bartlett's Test of Sphericity was

statistically significant ($p < 0.05$; $df = 95$), indicating that the correlation matrix was not an identity matrix and that sufficient relationships existed among variables to justify the application of factor analysis

Table 5: Correlation Matrix of Growth Indicators

Variables	GD1	GD2	GD3	GD4	GD5	GD6	GD7	GD8	GD9	GD10	GD11	GD12	GD13	GD14	GD15
GD1	1.00	.52	.48	.36	.41	.45	.39	.50	.47	.44	.30	.28	.46	.49	.33
GD2		1.00	.51	.38	.42	.46	.40	.55	.49	.47	.32	.30	.48	.50	.35
GD3			1.00	.40	.44	.48	.42	.53	.50	.46	.34	.31	.49	.52	.36
GD4				1.00	.57	.60	.45	.39	.42	.41	.37	.35	.43	.40	.38
GD5					1.00	.62	.47	.43	.45	.44	.39	.36	.46	.42	.40
GD6						1.00	.49	.45	.47	.46	.41	.38	.48	.44	.42
GD7							1.00	.41	.44	.43	.52	.50	.46	.42	.55
GD8								1.00	.51	.49	.35	.32	.50	.54	.37
GD9									1.00	.58	.38	.36	.52	.50	.39
GD10										1.00	.36	.34	.50	.48	.37
GD11											1.00	.61	.40	.37	.63
GD12												1.00	.38	.35	.60
GD13													1.00	.53	.42
GD14														1.00	.39
GD15															1.00

Following confirmation of data suitability, Exploratory Factor Analysis (EFA) using Principal Component Analysis (PCA) with Varimax rotation was conducted to identify underlying growth dimensions. Based on eigenvalues greater than 1, three components were extracted (Tables 6 and 7), explaining a substantial proportion of total variance. Factor loadings above 0.50 were considered significant (Hair et al., 2014). The one-sample t-test (Table 4) assessed the statistical significance of individual indicators, while EFA identified latent structures based on intercorrelations, consistent with established methodological guidance (Fellows & Liu, 2015). Accordingly, all variables, including those insignificant in the t-test were initially included in the EFA. However, indicators such as expansion of office space, diversification, and risk management showed low loadings (< 0.50) and weak communalities, and were therefore excluded, in line with best practice (Hair et al., 2019).

Although conceptually relevant, these indicators did not contribute empirically to the identified dimensions. The consistency between t-test and EFA results enhances robustness, as only statistically and structurally meaningful variables were retained. Overall, the findings confirm a coherent three-dimensional structure of firm growth: managerial and technical capability, financial capacity, and organizational expansion

Table 6: Three principal components with eigenvalues

Component	Eigenvalue	% of Variance	Cumulative %	Factor Label
1	6.21	41.4	41.4	Managerial and Technological Capability
2	2.63	17.5	58.9	Financial Capability
3	1.43	9.5	68.4	Organizational Size

Table 7: Varimax rotation matrix and principal factor extraction for Firm Growth dimension for DCJVs

	Component		
	1 Management and technology	2 Financial capability	3 Size of an Organization
GD 2=Effective resource utilization for projects	**.799**		
GD 8= Undertaking complex projects	**.796**		
GD1=Acquisition and use of new technology	**.796**		
GD 14=Increased confidence in tendering	**.772**		
DG 13=Improved firm reputation	**.761**		
GD 9=Improved project planning and execution	**.749**		
GD 10=Improve project delivery within budget, time and quality	**.732**		
GD 6 Improve Financial stability, increased revenue, profits or assets		**.691**	
GD 5=Availability of working capital to meet liquidity for tenders		**.686**	
GD 4=Penetrated the market by gaining a bigger network of colleagues, clients	.	**.685**	
GD 6=Increase in turnover		**.683**	
GD 3=Improved the firm's credibility hence it is bankable		**.632**	
GD 7=Increase in number of projects awarded		**.628**	
GD 15= Addition of technical staff in the firm			**.847**
GD 12=Upgrading firm to an upper class			**.724**
GD 11= improved Project Portfolio			**.545**

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
Rotation converged in seven iterations.

Component 1: Organizational Management and Technical Capability

The first growth dimension reflects improvements in managerial competence and technical capacity, including effective resource utilization, the ability to undertake complex projects, technology acquisition, enhanced tendering confidence, improved reputation, stronger project management practices, and timely project delivery. These outcomes indicate that DJVs serve as important learning platforms for capability development. Empirical studies support these findings, showing that joint ventures enhance technical and managerial capabilities through knowledge transfer and shared project experience (Chen et al., 2020; Seiso et al., 2023). Evidence from

Ethiopia and Tanzania further confirms improvements in project execution, technological advancement, and the ability to manage complex projects (Chernet, 2020; Minja et al., 2012).

These results align with the resource-based view and organizational learning theory, which emphasize capability development as a source of competitive advantage (Penrose, 1959; Reichert & Zawislak, 2014). Overall, DJVs enhance operational efficiency and innovation capacity, enabling firms to respond effectively to increasing project complexity.

Component 2: Financial Capability

The second growth dimension reflects improvements in financial capability, including enhanced financial stability, increased revenue and turnover, improved access to capital, and strengthened firm credibility. These outcomes indicate that DJVs enable firms to overcome financial constraints and enhance their ability to undertake larger and more complex projects. Empirical evidence supports these findings, showing that joint ventures improve firms' financial performance through resource pooling and risk sharing (Akali & Sakaja, 2018; Dalgıç & Fazlıoğlu, 2021). Participation in joint ventures also enhances firms' creditworthiness and access to external financing, thereby strengthening their market position.

These results align with firm growth literature, which identifies financial capacity as a critical driver of competitiveness and expansion. Overall, DJVs enhance financial resilience, enabling firms to sustain operations and compete effectively in the construction market

Component 3: Organizational Size

The third growth dimension, organizational expansion, is reflected in increased technical staff, upgrading to higher contractor classes, and an expanded project portfolio. These indicators suggest that joint ventures enhance firm growth by strengthening workforce capacity, organizational status, and the scope of projects undertaken. Empirical studies support this relationship, showing that joint ventures enable firms to expand their human resources and technical specialization through participation in complex projects (Seiso et al., 2023; Chen et al., 2020). Similarly, Chernet (2020) and Minja et al. (2012) report that joint ventures facilitate contractor upgrading and improved project portfolios, while more recent evidence (Jepkorir & Kwasira, 2025) confirms gains in organizational scale and market reach.

These findings align with firm growth literature, which emphasizes organizational size as a key determinant of capacity and competitiveness (Dalgıç & Fazlıoğlu, 2021; Bonaccorsi & Giannangeli, 2008; Reichstein et al., 2009). Overall, the results indicate that DJVs contribute to structural firm growth, enhancing the capacity and long-term competitiveness of local contractors.

5 DISCUSSIONS OF THE FINDINGS

The findings of this study reveal that domestic joint ventures (DJVs) play a significant role in shaping the growth trajectory of local construction firms in Tanzania. The analysis integrates both the motivations for forming joint ventures and the growth dimensions identified through Exploratory Factor Analysis (EFA), providing a comprehensive understanding of how collaboration translates into organizational development. The results indicate that the primary

motivations for forming DJVs include resource pooling, access to larger projects beyond class limits, and risk sharing. These motives are strongly aligned with the three extracted growth dimensions: managerial and technical capability, financial capability, and organizational size. This alignment suggests that the drivers of collaboration are directly linked to measurable growth outcomes.

The first growth dimension, managerial and technical capability, reflects substantial improvements in firms' operational and technical performance. Indicators such as effective resource utilization, the ability to undertake complex projects, acquisition and application of new technologies, improved project management practices, enhanced firm reputation, and timely project delivery demonstrate that DJVs serve as critical learning platforms. These outcomes are closely associated with the dominant motive of resource pooling, which enables firms to combine complementary expertise and technical knowledge. Through collaborative engagement, firms benefit from knowledge transfer, learning-by-doing, and exposure to advanced technologies, thereby strengthening their internal capabilities. This finding supports existing literature that emphasizes the role of joint ventures in facilitating technological learning and managerial development in construction projects (Minja et al., 2012; Cherinet, 2020; Huijeong, 2024). From a theoretical perspective, this dimension aligns with the resource-based view and organizational learning theory, which posit that firms achieve sustained competitive advantage through capability development and knowledge accumulation (Penrose, 1959; Reichert & Zawislak, 2014). However, the extent to which these capabilities are sustained depends on firms' ability to internalize and institutionalize the knowledge gained through collaboration.

The second growth dimension, financial capability, captures improvements in financial stability, access to capital, increased turnover, enhanced credibility, and market penetration. These outcomes are directly linked to the motivations of resource pooling and risk sharing. By combining financial resources and distributing project risks, firms are better positioned to meet liquidity requirements, access external financing, and undertake larger contracts. The finding that firms become more "bankable" highlights the role of DJVs in enhancing financial credibility, which is critical in an industry often constrained by limited access to capital. This supports prior studies that identify financial capacity as a key determinant of contractor performance and growth (Akali & Sakaja, 2018; Dalgıç & Fazlıoğlu, 2021; Jepkorir & Kwasira, 2025). However, while financial growth is evident, the relatively lower emphasis on market expansion motives suggests that firms may not be fully leveraging DJVs for strategic market positioning, but rather for addressing immediate financial constraints.

The third growth dimension, organizational size and expansion, is reflected in the addition of technical staff, upgrading to higher contractor classifications, and an increase in the number and scale of projects undertaken. This dimension is strongly associated with the motivation to secure projects beyond individual class limits. DJVs enable firms to overcome regulatory and capacity constraints, allowing them to participate in high-value projects that would otherwise be inaccessible. As firms engage in larger and more complex projects, they expand their workforce, enhance their organizational structure, and improve their market standing. These findings are consistent with studies linking firm growth to workforce expansion and organizational scaling (Bonaccorsi & Giannangeli, 2008; Dalgıç & Fazlıoğlu, 2021). However, the reliance on DJVs to access larger projects also indicates that collaboration is often compliance-driven, shaped by procurement and classification requirements rather than long-term strategic intent.

Despite these positive outcomes, the findings also reveal a critical gap between motivations and strategic outcomes. While DJVs demonstrably contribute to multidimensional growth, the relatively lower ranking of market expansion motives indicates that firms tend to view joint ventures as short-term, necessity-driven arrangements rather than long-term strategic partnerships. This is further influenced by the prevailing business culture in Tanzania, where many construction firms are owner-managed and operate with informal governance structures, potentially limiting knowledge sharing, transparency, and strategic planning. Similar challenges have been observed in other developing contexts, where weak institutional frameworks and misaligned partner expectations limit the effectiveness of joint ventures (Seiso et al., 2023). Consequently, while DJVs generate measurable growth outcomes, their long-term impact may be undermined by governance and structural inefficiencies.

Overall, the study shows that DJVs in Tanzania are largely necessity-driven mechanisms that successfully translate into multidimensional growth outcomes. However, DJVs remain underutilized as strategic tools for innovation, market expansion, and long-term competitiveness. Addressing this gap requires a shift toward more structured, strategic, and capability-driven partnerships that fully exploit the developmental potential of joint ventures

6 CONCLUSION AND RECOMMENDATIONS

This study examined the growth dimensions of Tanzanian construction firms participating in domestic joint ventures (DJVs) by integrating motivation analysis with Exploratory Factor Analysis (EFA). The findings reveal that DJVs contribute to firm growth across three interrelated dimensions: managerial and technical capability, financial capacity, and organizational expansion. These results provide strong empirical evidence that collaborative arrangements enhance the capacity, performance, and competitiveness of local contractors. The study demonstrates that DJVs function as effective mechanisms for resource mobilization, knowledge transfer, and risk sharing, enabling firms to overcome structural constraints such as limited access to capital, inadequate technical expertise, and restrictive regulatory frameworks. Through participation in DJVs, contractors improve their project management capabilities, adopt new technologies, strengthen financial stability, and expand their workforce and project portfolios.

However, the findings also reveal that DJVs in Tanzania are largely necessity-driven and compliance-oriented, shaped by procurement requirements and resource constraints rather than long-term strategic objectives. While these partnerships generate tangible growth outcomes, they are not fully utilized as strategic tools for innovation, market expansion, and sustained competitive advantage. This suggests a gap between the potential value of DJVs and their actual implementation in practice, particularly when compared to international joint venture models that emphasize strategic alignment and long-term capability development.

The findings of this study have important implications for the implementation of Tanzania's National Construction Industry Policy (2003). Section 8.1.1, Capacity and Performance Improvement of Local Construction Enterprises, identifies domestic joint ventures (DJVs) as a strategic mechanism for enhancing the capacity and performance of indigenous contractors through collaborative participation in major public construction projects. The findings provide empirical support for this policy objective by demonstrating that DJVs significantly enhance contractors' managerial and technical capability, financial capacity, and organizational growth.

However, while the Policy advocates collaborative partnerships, it provides limited guidance on the institutional and contractual mechanisms required to ensure that such collaborations deliver measurable and sustainable capacity-building outcomes. To maximize the developmental benefits of DJVs, the implementation of the Public Procurement Act, 2023, the Public Procurement Regulations, 2024, and the associated Standard Tender Documents should be strengthened by requiring joint venture agreements to include explicit provisions for technology and knowledge transfer, structured mentoring and skills development, equitable allocation of roles and responsibilities, and monitoring of post-project capacity-building outcomes. Integrating these requirements into the procurement framework would transform DJVs from procurement compliance arrangements into strategic instruments for sustainable contractor development, enhanced competitiveness, and increased participation of local firms in large-scale infrastructure projects.

From a practical perspective, contractors should reposition DJVs from short-term, project-based arrangements to strategic partnerships aimed at long-term growth. This requires careful partner selection based on complementary capabilities, as well as the establishment of formal governance structures to enhance coordination, trust, and knowledge sharing. Firms should invest in internal systems and processes that enable them to absorb and institutionalize knowledge gained through joint ventures, thereby ensuring that benefits extend beyond individual projects. Additionally, contractors should adopt more professional management practices, moving away from informal, owner-centered decision-making structures that may hinder effective collaboration and organizational learning.

In conclusion, DJVs represent a viable and effective pathway for strengthening local contractor development in emerging economies such as Tanzania. However, their long-term success depends on the alignment between firm-level strategies, supportive policy frameworks, and the broader institutional environment. A shift toward more structured, strategic, and capability-driven joint ventures is essential to fully realize their potential as engines of sustainable growth and competitiveness in the construction industry.

7 Limitation of the study and further research

Despite these contributions, the study has several limitations. First, it was geographically confined to Dar es Salaam, which may limit the generalizability of the findings to other regions with different economic and institutional conditions. Second, the cross-sectional design captures firm growth at a single point in time and may not reflect long-term performance dynamics. Third, the use of convenience sampling, while practical, may introduce bias and further limit generalizability.

Future research should adopt a multi-regional approach to capture contextual variations across Tanzania and employ longitudinal designs to assess the sustained impact of DJVs on firm growth. Additionally, mixed-method approaches are recommended to provide deeper insights into governance structures, trust dynamics, and power relations within joint ventures. Further studies should also examine the influence of institutional frameworks, ownership structures, and cultural factors on the effectiveness of DJVs in developing economies.

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