Innovation climate and innovation performance in manufacturing small and medium enterprises in the Greater Kampala Metropolitan Area, Uganda: A developing country perspective

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ABSTRACT

In today's dynamic business environment, improving innovation performance is fundamental to the competitiveness and sustainability of Small and Medium-Sized Enterprises (SMEs) in manufacturing. Existing research supports the association between innovation climate and innovation performance; however, there is a limited understanding of this relationship in developing countries, such as Uganda. This study examined the influence of innovation climate on the innovation performance of manufacturing SMEs in the Greater Kampala Metropolitan Area (GKMA), Uganda, using the Componential Theory of Innovation and Creativity. This study employed a positivist paradigm and a quantitative explanatory research design to collect data from 326 SMEs in a population of 958. The data were collected through a structured self-administered questionnaire. SMEs were selected through proportionate stratified sampling, and respondents were selected purposively. Hierarchical regression was used for data analysis. Results indicate a positive, significant relationship between the innovation climate and innovation performance. This study contributes to the literature on innovation performance, specifically on internal organizational context antecedents. In practice, the findings may support owner-managers of SMEs and the Ministry of Trade, Industry, and Cooperatives in improving the implementation of existing policies and practices in innovation management in manufacturing firms. This study therefore recommends that SME owners and managers empower employees and grant them autonomy to think innovatively for the firm without fear of failure to improve innovation performance.

Keywords: Innovation Climate, Innovation Performance, Manufacturing, Small and Medium Enterprises

I. INTRODUCTION

Small and medium enterprises (SMEs) operate in a dynamic business environment. It is characterized by globalization and technological advancements, requiring SMEs to pursue innovation (Usman *et al.*, 2024). Innovation is essential for the organisation's success and sustainability (Lazaretti *et al.*, 2020). Innovation enables organizations to transform by providing enhanced procedures, new markets, and new investment prospects (Kaur & Ferreira-Sutherland, 2024). To achieve greater success in innovation, SMEs require a supportive climate for innovative initiatives (Waheed *et al.*, 2019). There has been increased interest in understanding the influence of internal organisational contextual factors on innovativeness (Visser & Sheepers, 2022; Zacher & Rosing, 2015). By targeting organisational-level contextual factors, manufacturing SME owners and managers can build systems and structures that enable innovation within their enterprises, thereby enhancing the commercial success of innovation in manufacturing SMEs.

Manufacturing is a leading sector in developed and emerging countries worldwide (World Manufacturing Foundation [WMF], 2022). The World Trade Organisation Report by Ganne *et al.* (2022) indicates that the manufacturing sector comprises predominantly small and medium-sized enterprises. Globally, SMEs are recognised as drivers of economic growth through job creation and employment, which alleviates poverty (Abisuga-Oyekunle *et al.*, 2020; Nor, 2024; Surya *et al.*, 2021). SMEs contribute 43.5% to the USA's GDP (National Business Association [NBA], 2024), and in the UAE, they contribute 63.5% to the non-oil GDP (Almehairbi *et al.*, 2024). In China, SMEs account for more than 60% of GDP (Jia *et al.*, 2020), and in the UK, they account for nearly 20% of the UK's GDP (Dey *et al.*, 2022). In Africa, SMEs contribute to both the GDP and employment creation. For example, in Nigeria, SMEs offer 70% of industrial employment and 50% of manufacturing output (Ogunmuyiwa & Okunleye, 2019). In Kenya, they account for more than 35% of GDP (Kiiru *et al.*, 2023) and employ 14.9 million people (KNBS Economic Survey, 2022). In Uganda, a developing economy, SMEs are pivotal to its economic development. They constitute

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approximately 90% of all Ugandan businesses, employ around 2.5 million people, and produce 80% of manufactured output, contributing 20% to Uganda's GDP Uganda Bureau of Statistics [UBOS] (2021). According to the MSME Policy 2015, small businesses are defined as those with 10 to 49 permanent employees (Ministry of Trade, Industry and Cooperatives [MTIC], 2015). Medium-sized enterprises have 50 to 100 permanent employees (MTIC, 2015). SMEs comprise of 93.5% establishments in the manufacturing sector (Calabrese *et al*., 2019; UMA, 2024).

The government of Uganda has implemented several strategies to support SME growth to improve SME innovation performance (National Planning Authority [NPA], 2020). For example, MTIC introduced policies and established regulatory frameworks to support SMEs by creating an enabling business environment, including the MSME Policy 2015, the Buy Uganda, Build Uganda Policy 2015 (MTIC, 2015), and the National Innovation Fund 2019, under the Ministry of Science, Technology, and Innovation. Despite these efforts, the innovation performance of Ugandan manufacturing SMEs remains poor (Birungi *et al*., 2024), and their potential remains unrealized (Guloba *et al*., 2024). Sector growth was reported at 5,740 billion UGX in the first quarter of 2025 and 5,713 billion UGX in the fourth quarter of 2024, accounting for 16.5% of GDP and 30% of tax revenue (Atukunda, 2025). Additionally, the manufacturing sector operates at only 53% capacity (Sserunjogi *et al*., 2022), with sales declining due to low demand for locally produced goods. Moreover, 90% of SMEs fail within their first year, and 40% do not endure beyond five years (Kakooza *et al*., 2023). Similarly, the loan performance of manufacturing firms is weak, as evidenced by difficulties repaying loans, reflecting low financial performance (Endris & Kassegn, 2022; Turyatemba *et al*., 2022). SMEs in Uganda are also held back by limited funding (Eton *et al*., 2021) and intense competition from large firms. Correspondingly, SMEs have a very low adoption of business technologies at only 35% (MTIC, 2024). This hampers their innovative efforts (Mugisha & Ijjo, 2022), including technological advancement, increased research and development, and securing the resources needed for innovation. Therefore, manufacturing SMEs need to leverage aspects of their controllable environment to improve their innovation performance if they are to thrive.

Small and medium-sized enterprises are regarded as engines of innovation because their flat organizational structures make them flexible. However, SMEs face resource limitations when implementing necessary innovations (De Massis *et al*., 2018; Jjagwe *et al*., 2024; Sendawula *et al*., 2023). Consequently, SMEs are encouraged to leverage factors within their control to advance their innovation efforts (Hanifah *et al*., 2019; Tastan & Davoudi, 2017). Khalili (2016) proposes that an innovative organisational climate supports the introduction and adoption of innovation by providing support and supplying innovation resources. Innovation climate refers to 'the shared perceptions within a team regarding the extent to which organisational processes foster and enable innovation' (Anderson & West, 1998). Alblooshi *et al*. (2021) state that an innovation climate requires an environment that encourages and empowers employees' specialization, ensures resource availability, and communicates the importance of creative thinking. Innovation performance is 'the combination of the overall achievements of the organisation as a result of renewal and improvement efforts in business innovations like processes, products, organisational, and marketing' (Jia *et al*., 2018). It can be achieved through the introduction of new products, process changes, improvements in market structure, and enhancements in organizational systems, leading to commercial innovation success (Abdulai, 2019; Kwon & Cho, 2016).

Numerous studies have examined organisational climate and its impact on organisational innovativeness (Baer & Frese, 2003; Hanifah *et al*., 2019), although research on innovation climate is still in its infancy (Newman *et al*., 2020). Only a few studies have examined innovation climate as a domain-specific phenomenon and its relation to innovation performance (Hunter *et al*., 2007; Popa *et al*., 2017). An innovation climate reflects a supportive environment for innovation, characterized by top management support, the provision of resources to enable employee innovation, and a positive sense of challenge that enhances innovation performance (Bridges, 2024; Newman *et al*., 2020). What is clear is that most studies on innovation climate and innovation performance have been conducted in developed countries, which have different business landscapes from Uganda's. Additionally, most empirical research on innovation climate targets SMEs in general, with only a few focusing specifically on the manufacturing sector. This has motivated the researcher to explore how an innovation climate influences the innovation performance of manufacturing SMEs in Uganda, an emerging economy.

1.1 Research Objective

To examine the effect of innovation climate on innovation performance of manufacturing SMEs in GKMA, Uganda.

II. LITERATURE REVIEW

2.1 Theoretical Review

This study is grounded in Amabile's (1988) Componential theory of creativity and innovation. The theory identifies three within-individual components that affect an individual's creativity and innovation: domain-relevant skills, creativity-relevant processes, and task motivation. The fourth component is the environment surrounding the individual (Amabile, 2011). In this regard, CTCI argues that the organisational environment can either enhance or inhibit

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innovation (Amabile, 1988). Innovation arises from multiple components that organisations can shape and develop (Kahn, 2018; West & Richter, 2024). According to Bridges (2024), a work climate that promotes intrinsic motivation, encourages innovative thinking, offers development opportunities, and supports innovative work is more likely to yield innovative outputs, as employees are more encouraged to innovate. Amabile and Pratt (2016) argue that organisations must motivate employees to innovate through creating an innovation vision. Anderson *et al*. (2014) add that organisations should communicate this innovation vision to all management levels for successful implementation. Amabile (2011) and Amabile *et al*. (2002) further discuss the resources required in the task domain, including sufficient time, financial resources, expert knowledge, information, systems, and processes necessary for work. In addition, management practices such as autonomy and freedom, challenging work, managerial encouragement, and workgroup support will enhance innovation in the organisation.

A supportive innovation climate must be integrated into SMEs as a system to enhance innovation performance. CTCI suggests that for SMEs to develop new products, enhance processes, and create value for customers, there must be support for innovation that allows for failure and encourages employees to think creatively and outside the box (Afsar & Umrani, 2020). Furthermore, SMEs must provide the necessary resources for idea implementation, promote collaboration within the SME, encourage experimentation, and empower employees to explore new ideas (Anshari & Almunawar, 2022). This will lead to the development of competitive products that appeal to the market, thereby increasing productivity, profitability, customer value, and market expansion (Farida & Setiawan, 2022). This study distinguishes innovation climate as a focused climate that SME owners and managers should implement in their firms to encourage innovative thinking and improve their innovation performance.

2.2 Empirical Review

2.2.1 Innovation Performance

Several authors have examined innovation performance as bidimensional, whereas others have viewed it as unidimensional or related to a specific type of innovation. The majority of studies have focused on product innovation performance, followed by process innovation performance (Bamel *et al*., 2024; OECD, 2005). However, some researchers have argued that innovation performance is multidimensional (Yang *et al*., 2018). Based on these arguments, this study considered a comprehensive definition of innovation performance. Reference is made to Le & Lei (2019), who defined innovation performance as “the product of several management techniques employed in organisations' business operations to produce or improve products, processes, marketing, and management”. Thus, innovation performance is considered an outcome of the organisation’s innovation efforts. Based on this, this research examined the performance of product, process, marketing, and management innovation.

2.2.2 Innovation Climate and Innovation Performance

Organisational climate has been an area of scholarship and application in many studies. Employees’ perceptions of a company's policies and procedures are reflected in its climate (Patterson *et al*., 2004). Employee descriptions of organisational functioning and strategic attention are reflected in the company's organizational environment (Parker *et al*., 2003). Schneider *et al*. (2013, p. 362) described organisational climate as “the shared perceptions of and the meaning attached to the policies, practices, and procedures employees experience and the behaviours they observe getting rewarded and that are supported and expected.” Innovation climate is a type of organisational climate that focuses on fostering innovation as a specific objective. The concept of "innovation climate" describes a vital environment that encompasses a company's social and environmental factors, including employee care, supervisor support, and employees' openness to sharing ideas and knowledge during the creative process (Ghosh, 2015). Afsar and Umrani (2020) contend that an innovation climate creates a psychologically safe environment in which employees are encouraged to take risks and inspired to implement new ideas.

Individuals' attitudes, beliefs, motivations, values, and innovative behaviours will be affected by this perception, ultimately influencing the organisation's overall innovation performance and capabilities (Bharadwaj & Menon, 2000). With an innovation climate, the environment is supportive with readily available resources that foster innovation (Newman *et al*., 2020). Consequently, employees will be motivated to reach their full creative potential when working in such an environment (Vuong *et al*., 2023). Workers are more likely to share knowledge and engage in active communication with others, which improves idea generation (Song & Shan, 2019). According to Pamela and Steven (2002), organisations with leaders who provide sturdy support and encouragement to their followers can inspire them to produce innovative results.

Innovation climate, when treated as an independent variable, has been shown by researchers to impact employee behaviours (Shanker *et al*., 2017a) and organisational outcomes (Newman *et al*., 2020). In this study, we concentrated on understanding the effects of innovation climate, with particular attention to innovation performance. Existing studies show that an innovative environment facilitates organization-level innovation (Newman *et al*, 2020; Olsson *et al*., 2019). Firms with a supportive innovation climate encourage risk-taking and creative thinking (Oke *et al*., 2013; West & Richter, 2024). Innovative firms foster a conducive environment for innovation, distinguishing them from complacent

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organizations, as evidenced by their patent acquisitions, technological advancements, commercial strategies, and success in launching new goods and services (Yue *et al*., 2024).

Hoang *et al*. (2019) showed that workers in an innovative environment feel encouraged to think for themselves and contribute to the company's innovation. According to Wang *et al*. (2013), when the climate for innovation strength was high, innovation was enhanced. Earlier research by Ubius *et al*. (2013), conducted in Asian and European countries, urged further research on the innovation climate, focusing on organisational-level factors in developing countries. Jaiswal and Dhar (2015) contend that employees working in a workplace climate that tolerates failure and values experimentation exhibit higher levels of creative behaviours leading to innovative outcomes. Relatedly, Song *et al*. (2020) found that a creative climate positively affects green product innovation performance by fostering an atmosphere that encourages novel and valuable ideas, thereby improving innovation.

According to earlier research, SMEs' innovation potential increases when an environment that supports innovation is established (Popa *et al*., 2017). To understand how an innovation-friendly environment affects innovation performance, further research is needed (Newman *et al*., 2020). The current study demonstrates that an innovative climate fosters innovation in SMEs by integrating theoretical insights and empirical evidence. Additionally, research on the innovation climate and innovation performance remains limited, with a primary focus on developed economies (Popa *et al*., 2017). Similarly, most studies have viewed the innovation climate solely as support for innovation, neglecting the supply of resources (Newman *et al*., 2020; Alblooshi *et al*., 2021). Furthermore, there is a growing call to examine specific climates within organisational climate to better align with desired organizational outcomes (Hussainy, 2022; Schneider *et al*., 2017). Therefore, this study aims to fill this gap by exploring the relationship between innovation climate—considered both as support for innovation and as a resource supply—and innovation performance among manufacturing SMEs in Uganda, a developing country.

Based on the literature review, we propose that the innovation climate is positively associated with innovation performance:

$H_0 1$: Innovative climate does not significantly relate to innovation performance in SMEs.

This hypothesis is mathematically represented as:

$Y = \beta_0+\beta_1 X_1+\varepsilon$

The estimate indicates that changes in R^2 are explained by innovation climate, with other factors held constant. Where;

Y = Criterion variable: innovation performance

X_1 = Predictor variable: Innovation climate

β_0 = Y intercept: value of Y when all independent and control variables are zero

β_1 = Coefficient of the independent variable

ε = Error term, variation in Y not explained by the model

III. METHODOLOGY

This study adopted a positivist philosophy with a deductive approach. A quantitative explanatory design was used to gather cross-sectional data. The target population consisted of 958 manufacturing SMEs in the Greater Kampala Metropolitan Area, Uganda. The respondents were owner-managers of these SMEs. A total of 326 small and medium enterprises for this research using Taro Yamane's formula. Simple random sampling using random numbers in Excel was used to select the actual SMEs that were used for this study. Purposive sampling was then used to gather data from the owners/ managers of SMEs as they were regarded as knowledgeable. Data was collected through a structured, closed-ended questionnaire, and regression analysis was employed to analyse the data.

Innovation performance, the criterion variable, was assessed using 22 items adapted from previous research (Abdulai, 2019; Kankisingi & Dhliwayo, 2022; OECD, 2005; Soto-Acosta *et al*., 2017). Owner-managers were asked to rate the extent to which their SMEs had recently benefited from their innovations on a seven-point Likert scale, ranging from 1 (Very strongly disagree) to 7 (Very strongly agree). An example item is "In the last three years, new products have resulted in increased sales."

The innovation climate, the predictor variable, was measured using the Climate for Innovation scale by Scott and Bruce (1994). Owners or managers were asked to evaluate the extent to which their SMEs supported innovation on a seven-point Likert scale, ranging from 1 (Very strongly disagree) to 7 (Very strongly agree). An example item is "In this enterprise, employees are allowed to try to solve the same problems in different ways."

To account for potential confounding effects, this study included control variables such as firm size and firm age, as earlier research has shown that these factors can influence innovation performance (Kireyeva *et al*., 2021; Le & Lei, 2019). We measured firm size by taking the logarithm of the number of employees. Firm age was measured as the number of years the firm has existed, using an ordinal scale. The final equation used to run the regression to estimate the variances of innovation climate and control variables on the criterion variable was modified as follows;

$Y = \beta_0+ \beta_1 X_1+ \beta_2 X_2+\beta_3 X_3+\varepsilon$

Y = Criterion variable: innovation performance

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X_1 = Predictor variable: Innovation climate
β_0 = Constant: value of Y when the independent variable and covariates are zero
β_1- β_3 = The estimated regression coefficients
X_2 and X_3 = Covariates (firm age and firm size)
ε = Error term

IV. FINDINGS & DISCUSSION

4.1 Response Rate

In this study, 326 questionnaires were distributed, and 308 were returned, which yielded a 94% response rate. Based on Holtom *et al*. (2022)'s guidelines, this response rate was considered sufficient for analysis, as it exceeded the recommended threshold of 50% or higher. In addition, upon scrutiny of the data, three questionnaires had multivariate outliers and were discarded from the analysis. Therefore, the usable questionnaires for further analysis totalled 305.

4.2 Preliminary Analyses

To assess internal consistency in this study, we used Cronbach's alpha (Nunally, 1978). Podsakoff *et al*. (2024) state that a Cronbach's alpha coefficient of 0.7 or higher is considered satisfactory. The Cronbach's alpha for innovation climate was 0.837, and for innovation performance was 0.848, as shown in Table 1. Both values exceed the 0.7 threshold, indicating internal consistency. Therefore, the items reliably measured innovation climate and innovation performance. The instrument's validity was assessed through expert review, content analysis of relevant literature, and construct validity.

Table 1
Means, Standard Deviations, Cronbach, Convergent, and Divergent Validity

Variable	Mean	S. D.	Cronbach's Alpha (α)	Convergent Validity (AVE)	Divergent Validity (√AVE)
Firm age	3.170	0.944			
Firm size	1.420	0.495			
Innovation climate	4.594	0.904	0.837	0.600	0.775
Innovation performance	4.633	0.814	0.848	0.637	0.798

An Exploratory Factor Analysis was conducted using principal component analysis with varimax rotation to examine the underlying structure of the constructs. The results of the EFA showed that the factor loadings for all items ranged from 0.579 to 0.935 for innovation climate and from 0.727 to 0.908 for innovation performance, both of which exceeded the conservative cut-off of 0.5 (Hair *et al*., 2010) as indicated in Table 2.

To summarise the data, means and standard deviations were used. Firm age (Mean=3.170, SD=0.944), firm size (Mean=1.420, SD=0.495), innovation climate (Mean=4.594, SD=0.904) and innovation performance (Mean= 4.633, SD=0.814). The results indicate a low variation relative to the mean. This implies that most responses are close to the average. Therefore, the data were consistent, as the calculated means closely reflect the data used.

Both convergent validity and discriminant validity were used to assess the content validity of the measures. We employed average variance extracted (AVE), as recommended by Fornell and Larcker (1981), to evaluate convergent validity. According to their guidelines, the AVE should exceed 0.5. The AVE values for IC and IP were 0.600 and 0.637, respectively, as shown in Table 1, indicating acceptable convergent validity for all constructs. The square root of the constructs' AVE was used to assess discriminant validity. Fornell and Larcker (1981) state that the square root of the measurement's AVE must exceed the inter-construct correlation. The AVE square root values for IC and IP were 0.775 and 0.798, respectively, as shown in Table 2. These values exceeded the construct correlation, as shown in Table 4. Therefore, discriminant validity was acceptable, indicating that innovation climate and innovation performance are distinct constructs measuring different concepts.

To determine whether the data were inflated or deflated by respondent bias, a common-methods bias (CMB) analysis was performed. This can occur when data is collected from the same respondents, which can introduce bias (Podsakoff *et al*., 2024). Harman's single-factor test, as recommended by Fuller *et al*. (2016), was conducted. The results showed that the single factor explained only 16.779% of the variance, which is below the 50% threshold, indicating that CMB was absent and that our data were bias-free.

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Table 2
Factor Loadings

Item	Statement	Factor Loading
IC1	Creativity is encouraged in this enterprise.	0.859
IC2	We respect employees' ability to function creatively.	0.819
IC3	The main function of members in this enterprise is to follow orders which come down through channels.	0.814
IC4	Around here, employees are allowed to try to solve the same problems in different ways.	0.799
IC5	An employee can't do things that are too different around here without provoking anger.	0.655
IC6	The reward system here encourages innovation.	0.579
IC7	The assistance in developing new ideas is readily available.	0.935
IC8	There are adequate resources devoted to innovation in this enterprise.	0.672
IP1	New products have increased the daily cash flow of the enterprise.	0.857
IP2	New products from this enterprise are produced by other enterprises on license.	0.793
IP3	The new products have increased the profits realised by this enterprise.	0.754
IP4	At least ten per cent of ideas generated by the enterprise have been used in new products.	0.727
IP5	The enterprise uses new processes that produce products faster than competitors.	0.777
IP6	The enterprise's production processes are adaptable and can accommodate changes when necessary.	0.763
IP7	Our enterprise's product development cycle is shorter than that of our competitors.	0.757
IP8	The enterprise's new production process has reduced the cost of production.	0.757
IP9	The new products have improved the reputation of the enterprise.	0.908
IP10	The new products have attracted new customers to the enterprise.	0.870

4.3 Firm Characteristics

The classification defines small businesses as those with 5 to 49 permanent employees, and medium-sized businesses as those with 50 to 100 permanent employees. Table 3 reports that 89 (29.2%) of the included firms were small, and 216 (70.8%) were medium, consistent with the UMA business classification. Ninety-nine firms (30.2%) had existed for six or fewer years, and 213 firms (69.8%) had existed for more than 6 years.

Table 3
Firm Characteristics

Variables	Factor	Frequency	Percentage
Firm Age	1 – 3 years	11	3.6
	4 – 6 years	81	26.6
	7 – 9 years	58	19
	10 years and above	155	50.8
Firm Size	5 – 49 employees	89	29.2
	50 - 100 employees	216	70.8
Total		**305**	**100**

4.4 Correlation of the Study Variables

The correlation between the innovation climate and innovation performance was assessed using Pearson's correlation coefficient. The results presented in Table 3 show that the innovation climate is positively and significantly associated with innovation performance ($r = 0.560$, $p < 0.01$) among small and medium-sized manufacturing enterprises in GKMA, Uganda. This implies that as the innovation climate improves, innovation performance in manufacturing SMEs increases. Additionally, the results show that, among the covariates, firm age is positively correlated with innovation performance ($r = 0.324$, $p < 0.01$). This suggests that an SME's age affects its innovation performance. However, firm size was unrelated to innovation performance.

Table 4
Correlation Results

Variables	1	2	3	4
Firm age (1)	1			
Firm size (2)	.169**	1		
Innovation climate (3)	.271**	0.099	1	
Innovation performance (4)	.324**	0.099	.560**	1

**. Correlation is significant at the 0.01 level (2-tailed).

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4.5 Hierarchical Regression Analysis

The regression results in Table 4 indicate that, in Model 1, firm age and firm size were regressed on innovation performance to estimate the variance explained by these factors. The results show that only firm age is a significant predictor of innovation performance in SMEs, whereas firm size is not. The model's R-squared value of 0.107 indicates that the firm age accounts for 10.7% of the variance in innovation performance.

In Model 2, innovation climate was regressed on innovation performance, controlling for the covariates. The results revealed that firm size remained a significant predictor of innovation performance and that innovation climate had a positive and significant effect on innovation performance ($\beta = 0.509$, $t = 10.502$, $p < 0.001$). The addition of the innovation climate variable in Model 2 accounted for a 24.7% increase in the explained variance in innovation performance. This implies that, when controlling for firm age and firm size, 24.7% ($R^2\Delta = 0.247$) of the variance in innovation performance is explained by innovation climate. Subsequently, the proposed null hypothesis ($H_0 1$) was rejected.

Table 4

Regression Results

	Covariates			Innovation climate		
Variable	**B**	**t**	**p**	**β**	**t**	**p**
Constant	3.661	19.624	0.000	1.985	8.786	0.000
Firm Age	0.371	5.743	0.000	0.184	3.756	0.000
Firm Size	0.045	0.820	0.413	0.017	0.361	0.259
Innovation Climate				0.509	10.502	0.000
Model Summary Statistics						
R			0.328[a]			.589[b]
R^2			0.107			0.347
$AdjR^2$			0.101			0.340
R^2 Change			0.107			0.247
F Change			18.142			110.284
Sig F-Change			0.000			0.000

a. Dependent Variable: Innovation Performance, ***P<.001

From the above results, the variable innovation performance was derived. The regression coefficient for "firm age" is 0.184 and significant, "firm size" variable is 0.017 and insignificant, and the predictor variable "innovation climate" is 0.509 and significant. A regression equation can be derived from the value of the Constant, the coefficients of the control variables, and the independent variable in model 2. The regression equation is shown below:

$$Y= 1.985+0.509X_1+0.184X_2+0.017X_3$$

4.6 Discussion

The study proposed that innovation climate is not significantly associated with innovation performance. However, the study findings contradict the stated hypothesis, indicating that the innovation is positively and significantly associated with innovation performance. This means that SMEs with a supportive climate for innovation, where employees are allowed to take risks without fear of failure, can generate ideas that, when implemented, improve SMEs' innovation performance. In an environment with a supportive climate for innovation, employees are empowered to propose innovative suggestions for product, process, and market improvements, resulting in increased sales, profitability, and market expansion for manufacturing SMEs.

This finding aligns with prior work, including Afsar and Umrani (2020) and West and Ritcher (2024), which argue that an innovation climate encourages employees to take risks and think innovatively. In supportive innovation climates, employees have access to the resources needed to perform their work. There is a flow of ideas among peers, tolerance for failure, and management supports and values employees' experimentation. Such an environment motivates employees to contribute ideas that drive innovations in SMEs, helping them achieve their innovation goals.

Additionally, the results support the componential theory of creativity and innovation (Amabile, 1988), which highlights the importance of the social environment in fostering innovation. This study augments CTCI's social aspect. The findings further strengthen the theory by providing empirical evidence in manufacturing SMEs that an innovation climate characterized by support for innovation and adequate resources leads to improved performance of established innovations.

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V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

This study concludes that the innovation climate has significant potential to enhance the innovation performance of manufacturing SMEs in GKMA, Uganda. This suggests that the SME's internal environment is non-threatening, that failure is accepted, that resources devoted to innovation are available, and that support for idea development is available. Employees in SMEs are more likely to generate new ideas that improve products, processes, marketing, and organizational efficiency. This leads to success in areas such as market expansion, profitability, and increased sales. The study findings support the Componential Theory of Creativity and Innovation, which highlights the social environment as a key driver for innovation. The findings further imply that the innovation climate is a viable pathway to improving innovation success in the manufacturing sector of developing economies, thereby enriching the ongoing debate on leveraging the internal environment for innovation. With improved innovation performance, manufacturing SMEs can reduce poverty and unemployment, enhance economic development in support of NDP IV and the African Union Agenda 2030, and advance sustainable development by meeting SDGs 1, 8, and 9. However, additional factors and focused involvement are necessary because of the innovation climate's limited explanatory power to increase manufacturing SMEs' innovation performance.

5.2 Recommendations

This research has specific recommendations to enhance innovation performance among manufacturing SMEs in Uganda. SME owners/managers need to foster a strong climate for innovation and develop effective strategies to nurture it, ensuring that resources and support are available. Secondly, they should incorporate IC into their business strategy by implementing targeted climate policies to secure the resources needed to boost innovation performance. Policymakers, for example, MTIC, should offer economic incentives to help SMEs promote innovative climate by enabling them to increase resource investments in their innovation climates to address their financial constraints. Scholars should conduct longitudinal studies to evaluate the change and long-term impact of innovation climate on innovation performance beyond the variance explained by this study. Second, consider other contextual factors within SMEs that can influence the relationship between innovation climate and innovation performance, which could yield interesting findings. Third, gather qualitative insights to gain an in-depth understanding of the phenomenon and minimise bias in the research, thereby increasing generalizability.

Declaration of conflict of interest

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REFERENCES

Abdulai, A. F. (2019). Social capital and innovation performance in firms. In B. C. Thomas & L. J. Murphy (Eds.), *Innovation and social capital in organizational ecosystems* (pp. 81–97). IGI Global. https://doi.org/10.4018/978-1-5225-7721-8

Abisuga-Oyekunle, O. A., Patra, S. K., & Muchie, M. (2020). SMEs in sustainable development: Their role in poverty reduction and employment generation in sub-Saharan Africa. *African Journal of Science, Technology, Innovation and Development*, *12*(4), 405–419.

Afsar, B., & Umrani, W. A. (2020). Transformational leadership and innovative work behavior: The role of motivation to learn, task complexity, and innovation climate. *European Journal of Innovation Management*, *23*(3), 402–428.

Alblooshi, M., Shamsuzzaman, M., & Haridy, S. (2021). The relationship between leadership styles and organisational innovation: A systematic literature review and narrative synthesis. *European Journal of Innovation Management*, *24*(2), 338–370.

Almehairbi, K., Arunprasad, P., & El Hathat, Z. (2024). Role of open innovation and strategy on SMEs in Dubai: Review and theoretical framework. *Benchmarking: An International Journal*, *31*(7), 2469–2493.

Amabile, T. (2011). Componential theory of creativity (pp. 538–559). Boston, MA: Harvard Business School.

Amabile, T. M. (1988). A model of creativity and innovation in organizations. In B. M. Staw & L. L. Cummins (Eds.), *Research in Organizational Behaviour* (Vol. 10, pp. 123–167). Greenwich, CT: JAI Press.

Licensed Under Creative Commons Attribution (CC BY-NC)

Amabile, T. M., & Pratt, M. G. (2016). The dynamic componential model of creativity and innovation in organizations: Making progress, making meaning. *Research in Organizational Behavior, 36*, 157–183.

Amabile, T. M., Hadley, C. N., & Kramer, S. J. (2002). Creativity under the gun. *Harvard Business Review, 80*, 52–61.

Anderson, N. R., & West, M. A. (1998). Measuring climate for work group innovation: Development and validation of the team climate inventory. *Journal of Organizational Behavior, 19*(3), 235–258.

Anderson, N., Potočnik, K., & Zhou, J. (2014). Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. *Journal of Management, 40*(5), 1297–1333.

Anshari, M., & Almunawar, M. N. (2022). Adopting open innovation for SMEs and Industrial Revolution 4.0. *Journal of Science and Technology Policy Management*, *13*(2), 405–427.

Atukunda, R. (2025, February 27). Manufacturing sector key to economic growth and employment, says Minister Mwebesa. *Soft Power News*. https://softpower.ug

Baer, M., & Frese, M. (2003). Innovation is not enough: Climates for initiative and psychological safety, process innovations, and firm performance. *Journal of Organizational Behavior*, *24*(1), 45–68.

Bamel, N., Kumar, S., Bamel, U., Lim, W. M., & Sureka, R. (2024). The state of the art of innovation management: Insights from a retrospective review of the European Journal of Innovation Management. *European Journal of Innovation Management*, *27*(3), 825–850.

Bharadwaj, S., & Menon, A. (2000). Making innovation happen in organizations: Individual creativity mechanisms, organizational creativity mechanisms or both? *Journal of Product Innovation Management*, *17*(6), 424–434.

Birungi, H., Mbidde, C. I., Mutunzi, A. K., & Kiwaala, Y. (2024). Entrepreneurial ecosystem pillars and performance of SMEs in the manufacturing sector of Uganda. *Journal of Ethics in Entrepreneurship and Technology*, *4*(2), 145–173.

Bridges, M. (2024, September 20). Nurturing innovation through componential theory of creativity. *Medium*. https://mark-bridges.medium.com/

Calabrese, L., Golooba-Mutebi, F., & Mendez-Parra, M. (2019). Industrial development in Uganda: An assessment of the policy framework. *Supporting Economic Transformation (December Issue)*. https://doi.org/10.13140/RG.2.2.24594.89285

De Massis, A., Audretsch, D., Uhlaner, L., & Kammerlander, N. (2018). Innovation with limited resources: Management lessons from the German Mittelstand. *Journal of Product Innovation Management, 35*(1), 125–146.

Dey, P. K., Malesios, C., De, D., Budhwar, P., Chowdhury, S., & Cheffi, W. (2022). Circular economy to enhance sustainability of small and medium sized enterprises. In *Supply chain sustainability in small and medium sized enterprises* (pp. 10–45). Routledge.

Endris, E., & Kassegn, A. (2022). The role of micro, small and medium enterprises (MSMEs) to the sustainable development of sub-Saharan Africa and its challenges: A systematic review of evidence from Ethiopia. *Journal of Innovation and Entrepreneurship, 11*(1), 20.

Eton, M., Mwosi, F., Okello-Obura, C., Turyehebwa, A., & Uwonda, G. (2021). Financial inclusion and the growth of small medium enterprises in Uganda: Empirical evidence from selected districts in Lango sub-region. *Journal of Innovation and Entrepreneurship, 10*(1), 23. https://doi.org/10.1186/s13731-021-00168-2

Farida, I., & Setiawan, D. (2022). Business strategies and competitive advantage: The role of performance and innovation. *Journal of Open Innovation: Technology, Market, and Complexity, 8*(3), 163.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39–50.

Fuller, C. M., Simmering, M. J., Atinc, G., Atinc, Y., & Babin, B. J. (2016). Common methods variance detection in business research. *Journal of Business Research*, *69*(8), 3192–3198.

Ganne, E., Imessaoudene, Z., & Lundquist, K. (2022). Small and medium manufacturing enterprise trade participation in developing economies: MSME research note #2. World Trade Organisation. https://www.wto.org/english/tratop_e/msmes_e/ersd_research_note2_msmes_in_developed_economies.pdf

Ghosh, K. (2015). Developing organizational creativity and innovation: Toward a model of self-leadership, employee creativity, creativity climate and workplace innovative orientation. *Management Research Review, 38*(11), 1126–1148.

Guloba, M. M., Sewanyana, S., Kakuru, M., & Rauschendorfer, J. (2021). Employment creation potential, labour skills requirements, and skill gaps for young people: A Ugandan case study. *Economic Policy Research Centre, 37*(37).

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Pearson Prentice Hall.

Hanifah, H., Abdul Halim, H., Ahmad, N. H., & Vafaei-Zadeh, A. (2019). Emanating the key factors of innovation performance: Leveraging on the innovation culture among SMEs in Malaysia. *Journal of Asia Business Studies, 13*(4), 559–587.

Licensed Under Creative Commons Attribution (CC BY-NC)

Hoang, G., Wilson-Evered, E., & Lockstone-Binney, L. (2019). Leading innovation among tourism small and medium enterprises: Examining the mediating role of climate for innovation. *Leadership & Organization Development Journal*, *40*(5), 647–666.
Holtom, B., Baruch, Y., Aguinis, H., & Ballinger, A. G. (2022). Survey response rates: Trends and a validity assessment framework. *Human Relations*, *75*(8), 1560–1584.
Hunter, S. T., Bedell, K. E., & Mumford, M. D. (2007). Climate for creativity: A quantitative review. *Creativity Research Journal*, *19*(1), 69–90. https://doi.org/10.1080/10400410709336883
Hussainy, S. S. (2022). Organizational climate: From literature review to agenda ahead. *International Journal of Engineering Technologies and Management Research*, *9*(1), 44–62.
Jaiswal, N. K., & Dhar, R. L. (2015). Transformational leadership, innovation climate, creative self-efficacy, and employee creativity: A multilevel study. *International Journal of Hospitality Management*, *51*, 30–41.
Jia, C., Tang, X., & Kan, Z. (2020). Does the national innovation system in China support the sustainability of small and medium enterprises (SMEs) innovation? *Sustainability*, *12*(6), 2562.
Jia, X., Chen, J., Mei, L., & Wu, Q. (2018). How leadership matters in organizational innovation: A perspective of openness. *Management Decision*, *56*(1), 6–25.
Jjagwe, R., Kirabira, J. B., Mukasa, N., & Amanya, L. (2024). The drivers and barriers influencing the commercialization of innovations at research and innovation institutions in Uganda: A systemic, infrastructural, and financial approach. *Journal of Innovation and Entrepreneurship*, *13*(1), 78.
Kahn, K. B. (2018). Understanding innovation. *Business Horizons*, *61*(3), 453–460.
Kakooza, J., Tusiime, I., Namiyingo, S., Nabwami, R., & Basemera, M. (2023). Business choice, location decision and success of small and medium enterprises in Uganda. *Journal of Money and Business*, *3*(1), 108–121.
Kankisingi, G. M., & Dhliwayo, S. (2022). Rewards and innovation performance in manufacturing small and medium enterprises (SMEs). *Sustainability*, *14*(3), 1737. https://doi.org/10.3390/su14031737
Kaur, H., & Ferreira-Sutherland, V. (2024). Providing training to the employees when the change involves shift in technologies or processes. *International Journal of Applied Business and Management Sciences*, *9*(2), 32–42.
KNBS. (2022). *Economic survey 2022*. Kenya National Bureau of Statistics. https://www.knbs.or.ke/reports/2022-economic-survey/
Khalili, A. (2016). Linking transformational leadership, creativity, innovation, and innovation-supportive climate. *Management Decision*, *54*(9), 2277–2293.
Kiiru, D. K., Mukulu, E., & Ngatia, P. (2023). Innovativeness and performance: Evidence from Kenyan SMEs. *European Journal of Business and Management Research*, *8*(2), 113–119.
Kireyeva, A., Nurbatsin, A., Yessentay, A., Bagayeva, N., & Sharbanu, T. (2021). Exploring determinants of innovation potential of enterprises in Kazakhstan. *Problems and Perspectives in Management*, *19*(2), 433–443.
Kwon, K., & Cho, D. (2016). How transactive memory systems relate to organizational innovation: The mediating role of developmental leadership. *Journal of Knowledge Management*, *20*(5), 1025–1044.
Lazaretti, K., Giotto, O. T., Sehnem, S., & Bencke, F. F. (2020). Building sustainability and innovation in organizations. *Benchmarking: An International Journal*, *27*(7), 2166–2188.
Le, P. B., & Lei, H. (2019). Determinants of innovation capability: The roles of transformational leadership, knowledge sharing and perceived organizational support. *Journal of Knowledge Management*, *23*(3), 527–547.
Ministry of Trade, Industry and Cooperatives. (2015). *Uganda Micro, Small, and Medium Enterprise (MSME) Policy*. https://www.mtic.go.ug/download/msme-policy-2015/
Ministry of Trade, Industry and Cooperatives. (2024). *The state of entrepreneurship in Uganda-2024*. https://www.mtic.go.ug/wp-content/uploads/2019/09/
Mugisha, F. A., & Ijjo, A. T. (2022). Business innovations as pathways for small and medium manufacturing enterprise resilience in Kampala, Uganda. *International Journal of Management Science and Business Administration*, *1*(1), 1–19. https://www.cavendish.ac.ug/wp-content/uploads/2022/09
National Business Association. (2024). The impact of small businesses on the United States economy. https://nationalbusiness.org (accessed May 4, 2024)
National Planning Authority. (2020). *Annual performance report FY 2019/20*. https://www.npa.go.ug/wp-content/uploads/2023/09/Annual-Report-FY-2019_20_compressed.pdf
Newman, A., Round, H., Wang, S., & Mount, M. (2020). Innovation climate: A systematic review of the literature and agenda for future research. *Journal of Occupational and Organizational Psychology*, *93*(1), 73–109.
Nor, A. I. (2024). Entrepreneurship development as a tool for employment creation, income generation, and poverty reduction for the youth and women. *Journal of the Knowledge Economy*, *15*(4), 19387–19410.
Nunnally, J. C. (1978). An overview of psychological measurement. In *Clinical diagnosis of mental disorders: A handbook* (pp. 97–146).
OECD. (2005). *Oslo Manual: The measurement of scientific and technological activities: Guidelines for collecting and interpreting innovation data* (3rd ed.). OECD Publications.

Licensed Under Creative Commons Attribution (CC BY-NC)

Ogunmuyiwa, M. S., & Okunleye, B. A. (2019). Small and medium enterprises and sustainable economic development in Nigeria. *Izvestiya: Journal of Varna University of Economics, 3*.

Oke, A., Prajogo, D. I., & Jayaram, J. (2013). Strengthening the innovation chain: The role of internal innovation climate and strategic relationships with supply chain partners. *Journal of Supply Chain Management, 49*(4), 43–58.

Olsson, A., Paredes, K. M., Johansson, U., Olander Roese, M., & Ritzén, S. (2019). Organizational climate for innovation and creativity: A study in Swedish retail organizations. *The International Review of Retail, Distribution and Consumer Research, 29*(3), 243–261.

Pamela, T., & Steven, M. F. (2002). Creative self-efficacy: Its potential antecedents and relationship to creative performance. *Academy of Management Journal, 45*(6), 1137–1148.

Parker, C. P., Baltes, B. B., Young, S. A., Huff, J. W., Altmann, R. A., Lacost, H. A., & Roberts, J. E. (2003). Relationships between psychological climate perceptions and work outcomes: A meta-analytic review. *Journal of Organizational Behavior, 24*(4), 389–416.

Patterson, M., Warr, P., & West, M. (2004). Organizational climate and company productivity: The role of employee affect and employee level. *Journal of Occupational and Organizational Psychology, 77*(2), 193–216.

odsakoff, P. M., Podsakoff, N. P., Williams, L. J., Huang, C., & Yang, J. (2024). Common method bias: It's bad, it's complex, it's widespread, and it's not easy to fix. *Annual Review of Organizational Psychology and Organizational Behavior, 11*(1), 17–61.

Popa, S., Soto-Acosta, P., & Martinez-Conesa, I. (2017). Antecedents, moderators, and outcomes of innovation climate and open innovation: An empirical study in SMEs. *Technological Forecasting and Social Change, 118*, 134–142.

Schneider, B., Ehrhart, M. G., & Macey, W. H. (2013). Organizational climate and culture. *Annual Review of Psychology, 64*, 361–388.

Schneider, B., González-Romá, V., Ostroff, C., & West, M. A. (2017). Organizational climate and culture: Reflections on the history of the constructs in the Journal of Applied Psychology. *Journal of Applied Psychology, 102*(3), 468.

Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal, 37*(3), 580–607.

Sendawula, K., Kisubi, M. K., Najjinda, S., Nantale, H., & Kabbera, S. (2023). The efficacy of entrepreneurial networking and innovation in fostering the performance of small businesses in Uganda. *Journal of Innovation and Entrepreneurship, 12*(1), 88.

Shanker, R., Bhanugopan, R., Heijden, B. I. J. M., & Farrell, M. (2017). Organizational climate for innovation and organizational performance: The mediating effect of innovative work behavior. *Journal of Vocational Behavior, 100*, 67–77.

Song, D., & Shan, W. (2019). Influence of organizational atmosphere on employees' innovative behaviors: Mediating role of recessive knowledge sharing willingness. *Journal of Beihua University, 20*(6), 105–111.

Song, W., Wang, G. Z., & Ma, X. (2020). Environmental innovation practices and green product innovation performance: A perspective from organizational climate. *Sustainable Development, 28*(1), 224–234.

Soto-Acosta, P., Popa, S., & Palacios-Marqués, D. (2017). Social web knowledge sharing and innovation performance in knowledge-intensive manufacturing SMEs. *The Journal of Technology Transfer, 42*, 425–440.

Sserunjogi, B., Sunday, N., Lakuma, P., & Kahunde, R. (2022). Employment and productivity of Uganda's SMEs in the face of COVID-19: A gender perspective. In *Socioeconomic shocks and Africa's development agenda* (pp. 123–134). Routledge.

Surya, B., Menne, F., Sabhan, H., Suriani, S., Abubakar, H., & Idris, M. (2021). Economic growth, increasing productivity of SMEs, and open innovation. *Journal of Open Innovation: Technology, Market, and Complexity, 7*(1), 20.

Taştan, S. B., & Davoudi, S. M. M. (2017). The relationship between organisational climate and organisational innovativeness: Testing the moderating effect of individual values of power and achievement. *International Journal of Business Innovation and Research, 12*(4), 465–483.

Turyatemba, C., Kamugisha, N., Kobusigye, P., & Ntirandekura, M. (2022). The effect of product quality on competitiveness of small and medium-sized enterprises (SMEs) in South Western Uganda; Reflection on Kayonza Growers Tea Factory, in Kanungu District. *International Journal of Academic Multidisciplinary Research, 6*(12), 152–159.

Ubius, Ü., Alas, R., & Elenurm, T. (2013). Impact of innovation climate on individual and organisational level factors in Asia and Europe. *Journal of Business Economics and Management, 14*(1), 1–21.

Uganda Bureau of Statistics. (2021). *Statistical abstract*. https://www.ubos.org/wp-content/uploads/publications/01_20222021_Statistical_Abstract.pdf

Uganda Manufacturers' Association Directory. (2024). As of May 21, 2024. https://uma.or.ug/download/uma-business-directory-2023/

Licensed Under Creative Commons Attribution (CC BY-NC)

Usman, F. O., Kess-Momoh, A. J., Ibeh, C. V., Elufioye, A. E., Ilojianya, V. I., & Oyeyemi, O. P. (2024). Entrepreneurial innovations and trends: A global review: Examining emerging trends, challenges, and opportunities in the field of entrepreneurship, with a focus on how technology and globalization are shaping new business ventures. *International Journal of Science and Research Archive, 11*(1), 552–569.

Visser, J. D., & Scheepers, C. B. (2022). Exploratory and exploitative innovation influenced by contextual leadership, environmental dynamism and innovation climate. *European Business Review, 34*(1), 127–152.

Vuong, B. N., Tushar, H., & Hossain, S. F. A. (2023). The effect of social support on job performance through organizational commitment and innovative work behavior: Does innovative climate matter? *Asia-Pacific Journal of Business Administration, 15*(5), 832–854.

Waheed, A., Miao, X., Waheed, S., Ahmad, N., & Majeed, A. (2019). How new HRM practices, organizational innovation, and innovative climate affect the innovation performance in the IT industry: A moderated-mediation analysis. *Sustainability, 11*(3), 621.

Wang, P., Rode, J. C., Shi, K., Luo, Z., & Chen, W. (2013). A workgroup climate perspective on the relationships among transformational leadership, workgroup diversity, and employee creativity. *Group & Organization Management, 38*(3), 334–360.

West, M. A., & Richter, A. W. (2024). Climates and cultures for innovation and creativity at work. In *Handbook of Organizational Creativity* (pp. 211–236). Psychology Press.

World Manufacturing Foundation. (2022). *The 2022 world manufacturing report: Redesigning supply chains in the era of manufacturing*. https://worldmanufacturing.org/report/report-2022-redesigning-supply-chains-in-the-new-era-of-manufacturing/

Yang, Z., Nguyen, V. T., & Le, P. B. (2018). Knowledge sharing serves as a mediator between collaborative culture and innovation capability: An empirical research. *Journal of Business & Industrial Marketing, 33*(7), 958–969.

Yue, S., Norkhairul, B. H., Khatib, S. F., & Lee, Y. (2024). Financing creativity: How state-owned and foreign ownership shape innovation engagement in China. *Kybernetes*. Advance online publication. https://doi.org/10.1108/K-03-2024-0797

Zacher, H., & Rosing, K. (2015). Ambidextrous leadership and team innovation. *Leadership & Organization Development Journal, 36*(1), 54–68.

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