

Succession Planning and Sustainability of Small and Medium Enterprises: The Moderating and Mediating Role of Transformational Leadership and Career Development

Linda Adadevoh¹, Mensah Marfo², Adadevoh Carlo³, Eleazer Fianko Ofei⁴, Carl- Reindolph Asante⁵, Evenly Biriwa Ofei⁶ and Abiel Ashitey ARMAH⁷

Abstract

This study explores how succession planning (SP) impacts the sustainability of manufacturing small and medium-sized enterprises (SMEs) in Ghana, with a focus on the moderating role of transformational leadership (TL) and the mediating role of career development (CD). A survey of 500 employees from 200 registered manufacturing SMEs was conducted using a cross-sectional design and quantitative approach to gather data. Structural equation modeling analyzed the data and tested the hypotheses. Findings show that SP significantly predicts CD and SME sustainability. TL directly enhances SME sustainability and moderates the SP- SME sustainability relationship. CD directly enhances SME sustainability and mediates the SP- SME sustainability relationship. These results contribute to the existing literature by demonstrating how SP, TL, and CD interact within manufacturing SMEs. The study extends existing frameworks by providing valuable insights into SME sustenance. Future research can further investigate these interactions in different contexts to validate and extend the findings.

Keywords: Succession Planning, Sustainability, Career Development, Transformational Leadership, Ghanaian SMEs.

INTRODUCTION

Small and medium-sized enterprises (SMEs) are vital to Ghana's economy, significantly contributing to employment and GDP. Despite their importance, SMEs face sustainability challenges, mainly due to a need for effective succession planning (SP), leadership, and career development (CD) strategies. Succession planning ensures the continuity of business operations by preparing future leaders. Transformational leadership (TL) can inspire and motivate employees, while career development programs enhance skills and satisfaction.

Succession planning involves transferring managerial responsibilities and ownership across generations, critical for business continuity (Bano et al., 2022). Mihaylov and Zurbruegg (2021) emphasize the importance of succession planning, comparing it to the accounting concept of a going concern and covering psychological, financial, legal, and strategic aspects.

Transformational leadership shapes organizational culture and direction, driving SMEs toward sustainable growth (Bose & Haque, 2021). Leaders who provide visionary guidance, motivational inspiration, intellectual engagement, and personalized attention can ignite innovation and creativity, fostering transformative change within SMEs.

¹ Nobel International Business School (NIBS) Department of Business, Ghana. E-mail: Lindaadadevoh87@gmail.com ORCID: 0009-0007-0192-3973

² Accra Institute of Technology (AIT), Department of Business, Ghana. E-mail: marfo@ait.edu.gh, ORCID: 0000-0002-6324-9108 (Corresponding Author)

³ Accra Institute of Technology (AIT), Department of Information Technology, Ghana. E-mail: carloadadevoh@yahoo.com ORCID: 0009-0006-7509-4373

⁴ Accra Institute of Technology (AIT), Department of Accounting, Ghana. E-mail: Eleazerfianko.ofei@gmail.com, ORCID: 0000-0002-6524-0545. Accra, Ghana

⁵ Accra Institute of Technology (AIT), Department of Accounting, Ghana. E-mail: carlasante@ymail.com, ORCID: 0009-0000-0461-4374.

⁶ Entrance Pharmaceuticals Limited, Production Department. E-mail: Madameve020@gmail.com, ORCID: <https://orcid.org/0009-0007-0192-3973>.

⁷ Accra Institute of Technology (AIT), Department of Business, Ghana. E-mail: armabyel@yahoo.com ORCID: 0009-0005-0232-3035.

Supported by TL and related initiatives, career development is crucial for achieving organizational objectives. Promoting diverse career pathways and mobility empowers employees and enhances job satisfaction and performance through skill enhancement, mentorship, and progression opportunities (Choi, 2020).

While prior research highlights the impact of SP on SME sustainability (Bibi et al., 2023; Nwuke & Adeola, 2022; Monyei et al., 2021; Ukairo et al., 2021), there is a gap in understanding the roles of TL and CD in this relationship. This study aims to fill this gap by examining how SP influences the sustainability of manufacturing SMEs in Ghana, with TL and CD as moderating and mediating factors, respectively.

By integrating social exchange, human capital, and transformational leadership theories, this research seeks to advance theoretical frameworks, provide empirical evidence, offer practical insights, and inform policy recommendations relevant to SME sustainability. Through rigorous data analysis, the study aims to validate theoretical propositions and offer actionable insights into organizational management practices in SMEs.

Research Questions

To what extent does succession planning influence sustainability in manufacturing SMEs?

How does succession planning influence career development?

How does transformational leadership moderate the relationship between succession planning and sustainability in manufacturing SMEs?

To what extent does career development mediate the relationship between succession planning and sustainability in manufacturing SMEs?

Contributions

This study aims to refine existing frameworks and propose new models to enhance understanding of SP, TL, and CD in SME sustainability.

It aims to provide evidence supporting the hypothesized relationships between these variables and SME sustainability, thereby validating theoretical propositions.

The study offers insights for SME owners, leaders, and HR practitioners to guide strategic decision-making and facilitate effective SP and talent management strategies.

The findings may inform policymakers about the importance of supporting SMEs in implementing sustainable leadership practices and investing in employee development initiatives to foster growth and competitiveness in the SME sector.

This study examines the relationships between SP, TL, and CD and provides valuable insights into fostering resilience and longevity within SMEs.

In subsequent sections, we will review relevant literature, outline our methodology, present our findings, discuss implications, and conclude with limitations and recommendations for future research.

LITERATURE REVIEW AND HYPOTHESIS

Social Exchange Theory (SET)

Social Exchange Theory (SET) explores collaborative exchanges between individuals and posits that positive attitudes are fostered when individuals feel valued and appreciated for their contributions (Cropanzano & Mitchell, 2005). As Chen et al. (2014) highlighted, this theory is a foundational framework for understanding organizational behavior and its impact on employee outcomes.

According to SET, when firms invest in their workers, it leads to increased commitment, which enhances the performance of both the individual and the organization. Organizations cultivate employee growth and development by providing succession planning opportunities and fostering improved performance outcomes. This study suggests that succession planning, as a social exchange process, directly or indirectly influences individual performance, with career development as a mediating factor.

In essence, SET implies that when employees perceive organizational investments in their career development and succession planning, they are more likely to reciprocate with higher commitment and performance. This reciprocal relationship underscores the importance of strategic HR practices in promoting sustainable organizational growth.

This study contributes to the literature on succession management by elucidating the mechanisms through which succession planning, supported by CD, impacts individual and organizational performance. By framing SP within the context of SET, the study offers a nuanced understanding of how organizational investments in human capital translate into enhanced employee outcomes and overall organizational success. By integrating SET into the analytical framework through this lens, the study contributes to succession management and performance sustainability.

Transformational Leadership Theory

As Han et al. (2020) explained, TL theory underscores leaders' pivotal role in motivating employees, fostering innovation, and enhancing organizational performance. This theory is based on four main components: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bashir et al., 2020).

Leaders who exhibit idealized influence act as role models for their followers. In SMEs, these leaders consistently demonstrate integrity and ethical behavior, inspiring employees to emulate these values. This helps build a culture of trust and respect, reinforcing the leader's vision and improving overall organizational performance.

Leaders use inspirational motivation to convey high expectations and demonstrate enthusiasm. They inspire employees to transcend self-interests for the organization's benefit. Regarding succession planning, transformational leaders can motivate employees by emphasizing the significance of grooming future leaders for the organization's long-term sustainability.

Transformational leaders foster creativity and innovation by challenging assumptions and encouraging new ideas. They promote critical thinking and problem-solving. In succession planning, these leaders may cultivate an innovative culture, urging employees to think creatively about leadership development and succession strategies.

Transformational leaders recognize and address each employee's unique needs. They provide personalized support and growth opportunities. In the context of succession planning, such leaders identify high-potential employees and offer tailored development to prepare them for future leadership roles.

Leveraging these leadership qualities, SMEs can enhance succession planning and ensure long-term sustainability. For instance, transformational leaders may actively engage employees in succession discussions, fostering ownership and commitment. They can also provide personalized support, guiding employees through career development and leadership readiness.

TL significantly enhances SP efforts within SMEs, driving organizational success and sustainability. Through idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration, transformational leaders empower employees to assume leadership roles and contribute to the organization's growth.

Human Capital Theory (HCT)

HCT, pioneered by Becker and Schultz in the 1960s, posits that investments in human capital, such as education, training, and development, are crucial for enhancing economic productivity and organizational performance. Effective SP aligns with HCT principles in SMEs by prioritizing employee development and knowledge transfer.

Investments in mentoring, coaching, and career development initiatives reflect a commitment to nurturing human capital within SMEs. By fostering employee growth and skill development, SMEs can enhance

sustainability and competitiveness, contributing to long-term organizational success. HCT emphasizes the strategic importance of investing in employees' skills and knowledge to drive organizational success.

Integrating HCT into SP processes enhances SME sustainability by fostering a culture of continuous learning, skill development, and leadership readiness. By investing in their employees' growth and development, SMEs can build a strong foundation for long-term success and resilience.

Succession Planning (SP) and The Sustainability Of Smes

SP is a critical component of organizational strategy, particularly for SMEs, as it ensures continuity in leadership and facilitates seamless transitions. While several studies have explored the relationship between SP and SME sustainability, the existing literature primarily focuses on specific regions, potentially limiting the generalizability of findings to other contexts.

For instance, Bibi et al. (2023) and Nwuke and Adeola (2022) have highlighted the positive impact of SP on SME sustainability, underscoring its importance in fostering long-term viability and resilience. Similarly, Monyei et al. (2021) and Ukairo et al. (2021) have examined the association between succession management practices and SME sustainability, revealing significant correlations between effective Sp and organizational success.

However, the geographical scope of these studies may constrain their applicability to diverse contexts, such as Ghana. Therefore, there is a need to investigate the relationship between SP and SME sustainability within the Ghanaian context. Based on this rationale, we hypothesize that:

H1: Succession planning positively and significantly impacts the sustainability of manufacturing SMEs in Ghana.

This hypothesis posits that effective SP practices play a crucial role in enhancing the sustainability of Ghanaian SMEs operating in the manufacturing sector. This study aims to provide valuable insights to inform strategic decision-making and organizational practices in Ghanaian SMEs by examining this relationship within a specific context.

Succession Planning (SP) and Career Development (CD)

SP shapes CD pathways within organizations, contributing to individual growth and organizational effectiveness. Ahmad et al. (2017) demonstrated that effective SP practices are positively associated with individual Cd, fostering a sense of assurance in organizational management and improving overall performance. Similarly, Ali and Mehreen (2019) emphasized the role of SP in creating clear career paths that enhance individual performance and reduce turnover intentions.

Moreover, Tetteh and Asumeng (2020) studied the association between SP and employee retention, highlighting the moderating role of CD programs in Ghana. Their findings revealed that SP positively predicted employee retention, and the presence of CD programs further strengthened this relationship. Additionally, Mzava et al. (2023) investigated talent development practices in commercial banks in Tanzania. They found a positive correlation between SP, Cd, and employee retention, indicating that CD initiatives complement SP efforts in enhancing employee retention.

However, despite these empirical findings, the literature still needs to be provided concerning the specific mechanisms through which CD programs interact with SP strategies to promote employee retention, particularly within the context of SMEs. Given the insights gleaned from prior research, it is hypothesized that:

H2: Succession planning positively and significantly impacts career development.

This hypothesis suggests that effective SP practices are conducive to CD opportunities, fostering individual growth and enhancing organizational performance. By studying this relationship within small and medium-sized enterprises, this research aims to clarify how succession planning strategies impact career development paths, ultimately contributing to organizational success.

Career Development (CD) and SME Sustainability

Previous research has investigated the nexus between CD and SME sustainability across diverse contexts, shedding light on the pivotal role of skill enhancement in fostering long-term organizational success. Popescu et al. (2020) examined the significance of managerial skills in promoting SME sustainability in Romania, highlighting the importance of high emotional intelligence and interpersonal skills among entrepreneurs. These skills were found to support sustainable development initiatives, contributing to organizational resilience and growth.

Similarly, Eikelenboom and de Jong (2019) investigated the impact of dynamic capabilities on SME performance in the Netherlands. The findings showed that these capabilities positively influence various sustainability dimensions, including social, environmental, and economic performance.

Furthermore, Ngaochay and Walsh (2017) explored sustainable strategies for skill enhancement in Thai SMEs, emphasizing the crucial role of practical skills development in fostering long-term growth and competitiveness. Their research highlighted the importance of continuous learning and skill-upgrading initiatives in ensuring SME sustainability amidst evolving market dynamics.

Drawing from the insights gathered from these studies, it is hypothesized that:

H3: Career development positively and significantly influences the sustainability of manufacturing SMEs.

This hypothesis posits that investments in CD initiatives to enhance employees' skills and competencies are conducive to SME sustainability. By nurturing a skilled workforce capable of adapting to changing market demands and driving innovation, SMEs can enhance their resilience and long-term viability.

Transformational Leadership (TL) and SME Sustainability

Numerous studies have investigated the impact of TL styles on the sustainability of SMEs, revealing compelling insights into their role in driving organizational performance and resilience. For instance, Iqbal et al. (2020) found that TL styles conferred distinct advantages for SME performance outcomes compared to autocratic and democratic styles. By inspiring and motivating employees, transformational leaders fostered a culture of innovation and collaboration, enhancing organizational effectiveness and sustainability.

Similarly, research conducted by Hassan et al. (2021), Malik et al. (2020), and Nemashakwe et al. (2022) underscored the positive influence of TL on SME sustainability across diverse contexts. These studies highlighted the TL impact of idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration on organizational culture and performance. By nurturing employee potential and fostering a supportive work environment, transformational leaders empowered SMEs to navigate challenges and seize opportunities, driving long-term sustainability and success.

Drawing on the findings of these studies, it is hypothesized that:

H4: Transformational leadership positively and significantly influences the sustainability of manufacturing SMEs.

This hypothesis posits that TL, characterized by idealized influence, inspirational motivation, etc., is pivotal in enhancing SME sustainability by fostering employee engagement, innovation, and organizational resilience. Through effective leadership practices, SMEs can cultivate a culture of excellence and adaptability, positioning themselves for sustained growth and competitiveness in dynamic market environments.

Succession planning, Career development and Sustainability of manufacturing SMEs

The literature extensively documents the influence of succession planning (SP) on career development (CD) and the subsequent impact of CD on the sustainability of SMEs. Research by Tetteh and Asumeng (2020), Mzava et al. (2023), Ahmad et al. (2017), and Egbuta (2019) has established a clear link between SP and CD, showing that effective succession planning enhances career development opportunities within organizations.

Similarly, studies by Popescu et al. (2020), Eikelenboom and de Jong (2019), and Ngaochay and Walsh (2017) indicate that career development is critical for promoting the long-term sustainability of SMEs.

Despite these individual findings, the literature is significantly lacking regarding the mediating role of career development in the SP-sustainability relationship. This gap underscores the need for empirical research examining these relationships concurrently to provide a comprehensive understanding of their interplay.

Given the existing evidence and theoretical rationale, we hypothesize that:

H5: Career development mediates the relationship between succession planning and the sustainability of manufacturing SMEs.

Addressing this hypothesis will offer valuable insights into how organizations can strategically use succession planning and career development to achieve sustainable growth. Future research is crucial to validate and extend these findings, guiding SMEs in implementing effective SP and CD practices.

Succession Planning, Transformational Leadership, And Sustainability of Manufacturing SMEs.

Research highlights the positive impact of transformational leadership (TL) on SME sustainability (Iqbal et al., 2020; Hassan et al., 2021; Nemashakwe et al., 2022). Kunene and Mapulanga (2022) further explore TL's influence on succession planning (SP) in South Africa, emphasizing its role in achieving successful succession outcomes. Given TL's influential role, we propose that TL moderate the relationship between SP and sustainability in manufacturing SMEs.

While TL's direct contribution to SME sustainability is well-documented, its potential moderating effect on SP and SME sustainability still needs to be explored, especially within the Ghanaian context. Therefore, to advance theoretical understanding in leadership and management, we hypothesize:

H6: Transformational leadership moderates the relationship between succession planning and the sustainability of manufacturing SMEs.

This hypothesis suggests that the effectiveness of SP initiatives in enhancing SME sustainability hinges on the presence of effective TL. Exploring this hypothesis will contribute valuable insights into how TL can optimize SP outcomes, thereby guiding SMEs towards sustainable growth. Future research can empirically test and validate these propositions to deepen our understanding of leadership dynamics in SME settings.

Conceptual Framework

The conceptual framework visually represents the interactions among critical variables in the study. SP is the independent variable, with TL as a moderating influence. CP is depicted as a mediator within this framework, directly impacting the sustainability outcomes of manufacturing SMEs, the dependent variable. Additionally, control variables such as age, gender, and education level are integrated to provide a comprehensive view of the study's scope. Figure 1 illustrates this framework, outlining the proposed relationships and interactions among the variables.

Operationalized Measurement of Variables

The variables in the study were operationalized as follows:

Succession Planning (SP): Adapted from Rothwell (2010), measured using a 5-point Likert scale with four items assessing aspects such as the existence of a succession planning system.

Career Development (CD): Adapted from Langley et al. (1992), assessed using a 5-point Likert scale with four items focusing on skills enhancement and mentorship.

Transformational Leadership (TL): Adapted from Avolio and Bass (2004), measured on a 5-point Likert scale with items covering individualized consideration, idealized influence, etc.

Financial Sustainability of SME (Susti): Adapted from Gleibner et al. (2022), assessed using a four-item, 5-point Likert scale focusing on funds and resource availability.

Operational Sustainability of SME (Susti): Adapted from Margon et al. (2018) and Sulimany et al. (2018), assessed using a four-item, 5-point Likert scale focusing on operational efficiency.

Control Variables (CV): Included age, gender, and education, categorized based on operational criteria established in prior research (Nyanzu et al., 2019).

This framework and operationalization provide a solid foundation for the study, facilitating a clear understanding and robust analysis of the relationships between variables.

Table 1 provides detailed information on measuring operationalized variables, including the specific items used in the conceptual framework diagram.

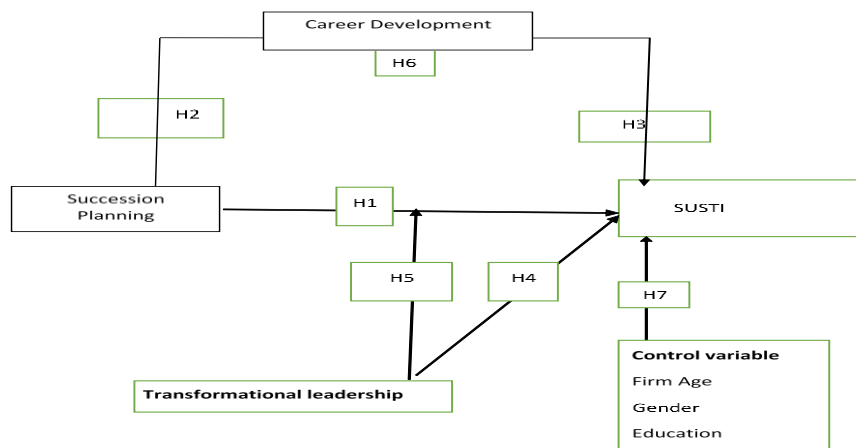


Figure 1: conceptual framework diagram

Sources: (Authors Own Construct, 2024).

RESEARCH METHODOLOGY

Research Design and Approach

The study employed a cross-sectional design, collecting data at a single point in time across multiple cases to identify patterns and relationships between variables. Besides, the explanatory design was used to gather data from multiple subjects simultaneously, aiming to comprehensively explore the relationships between variables. We used a quantitative approach. This enables the precise measurement and statistical analysis of the relationships between succession planning, transformational leadership, career development, and sustainability of SMEs

Population of the Study, Sampling Methods, and Sample Size

Population

The study focused on leaders in managerial positions within Ghanaian 200SMEs operating in the manufacturing sector, specifically targeting CEOs, managing directors, and managers.

Sampling Methods

A purposive sampling method was used to select 200 manufacturing SMEs in Accra, Ghana, ensuring representation across various sizes, industry segments, and geographic locations. Respondents were purposively selected for their technical knowledge relevant to the study's objectives and their direct involvement in management. Within each SME, three managers or executives were randomly chosen, resulting in a total sample size of 600 participants to minimize the sampling bias and provide diverse perspectives within the manufacturing SMEs.

Sample Size

After data screening, the final sample size used for data analysis was 500 respondents. The initial number of responses was reduced to ensure the integrity of the dataset by excluding those with data quality issues. In structural equation modeling (SEM) analysis using SmartPLS, a minimum sample size of at least 200 participants is recommended to ensure robust results (Hair et al., 2017). This recommendation is based on the guideline that the sample size should be at least ten times the number of indicators for each latent variable. Therefore, with our sample size of 500, we exceed this minimum requirement, ensuring the adequacy and reliability of our SEM analysis.

Research Instrumentation

To collect data, we administered six hundred questionnaires to the selected participants (CEOs, directors, and managers) involved in the decision-making processes of manufacturing SMEs. We utilized a Likert scale ranging from "strongly disagree (1)" to "strongly agree (5)" to capture the respondents' opinions. The questionnaire underwent validity testing to ensure its relevance and appropriateness, with measures implemented to mitigate common method biases.

Control for Common Methods Bias (CMB)

The study implemented several measures to mitigate CMB and avoid false internal consistency. Firstly, multiple scales were employed for the perceptual, independent, moderator, and mediator constructs to ensure a diverse measurement approach. Secondly, the anonymity of respondents was guaranteed to encourage honest and unbiased responses. Respondents were explicitly informed that there were no right or wrong answers as long as their responses were truthful. This approach aimed to reduce respondents' anxiety about their answers, thereby minimizing the likelihood of them modifying their responses to what they perceived as more acceptable or desirable.

Following Podsakoff et al. (2003; 2012), Herman's single factor test was conducted using SPSS version 26 to detect the presence or absence of standard methods bias. All study variables were subjected to factor analysis, and the unrotated component matrix was examined. Following Herman et al. (2010), the criterion was that no single component should account for more than 50% of the total variance. This condition was satisfied as all study variables collectively accounted for 21.369%, less than 50% of the variance, confirming the absence of significant standard methods bias in the responses.

Informed Consent

Ethical approval was obtained from the Noble International Business Ethical Committee (Ghana), and informed consent was obtained from participating SMEs. We spoke to the authorities of the chosen SMEs to get informed permission, ensuring that they were aware of the study's goals and their rights to participate. The

authorities received guarantees about the privacy and anonymity of the information gathered. Surveys were distributed in person between January 2024 and March 2024, with confidentiality and anonymity assured to participants. Obtaining informed consent was prioritized to ensure participants understood the study's objectives, procedures, and rights. Detailed information about the study was provided, including potential risks and benefits.

Measurement of Operationalized Variables

Table 1 presents adapted measurement variables from prior studies tailored to fit the context of this research.

Table I: Measurement of Operationalized Variables

Succession planning (SP)	Code	Source
The organization has a structured succession planning system	SP 1	(Rothwell, 2010).
The organization has a target group identified for succession effort	SP 2	
An organization has a method or strategy employed to carry out succession planning.	SP 3	
The organization assesses how to evaluate or measure the success of its succession planning.	SP4	
Career Development (CD)		Langley, Du Toit, and Herbst (1992)
The organization assesses the opportunities for skills development and enhancement.	CD 1	
The organization has pathways or opportunities for upward growth.	CD 2	
The organization evaluates the availability and effectiveness of training programs aimed at career growth.	CD 3	
The organization assesses the presence and impact of mentorship or coaching programs on career development.	CD 4	
Transformational Leadership	TL	(Avolio and Bass, 2004).
Leaders arouse individual and team spirit (Inspirational motivation)	TF 1	
Leaders consider followers' needs over his or her own needs"), (Idealized Influence)	TF 2	
Leaders pay attention to individual needs for achievement and growth (Individualized Consideration)	TF 3	
Leaders approach old situations in new ways (Intellectual Stimulation)	TF 4	
Control Variables	CV	
What is your age?	Age	
What is your gender?	Gender	
What is your level of education?	Edu	Nyanzu et al., 2019)

Sustainability of SMEs	SUSTI	
Financial Sustainability	FS	(Gleißner et al., 2022
Our capital base is ample to withstand its operations	FS 1	
We can comfortably cater for the cost of funds	FS 2	
Our current assets are sufficient to cover our current liabilities	FS 3	
We recover disbursed loans within the planned period	FS 4	
Operational sustainability	OPS	(Magon et al., (2018; Sulimany et al., (2018)
SME is committed to achieving operational efficiency.	OPS 1	
SMEs have sufficient technical and managerial capacity to continue with their services.	OPS 2	
SME enhances employee retention.	OPS 3	
SME enhances employee productivity.		

The internal control system of SMEs is reliable and can prevent significant crises and correct errors. OPS 4

Source: Literature review (2024).

Data Collection Procedure

Primary data was utilized for this study to obtain firsthand and specific insights directly from the respondents, ensuring the accuracy and relevance of the data to the research objectives. Using primary data allowed for the collection of detailed information tailored to the unique context of SP, TL, CD, and sustainability of SMEs in Ghana, providing a deeper understanding of the phenomena under investigation. Additionally, it facilitated gathering up-to-date and context-specific information that secondary data sources could not offer.

Validity and Reliability Tests

The survey underwent rigorous validation processes, including expert review. Expert review assured content validity, where specialists in SME management, leadership, and organizational behavior evaluated the questionnaire for relevance, clarity, and comprehensiveness. Validity tests covering convergent and discriminant validity were assessed, and the values were above the recommended threshold, as shown in Table 3. Factor loadings (FL), average variance extracted (AVE), composite reliability (CR), and Cronbach alpha(CA) coefficients were all evaluated. This ensured that the survey items adequately measured their respective constructs.

Data Analysis Procedure

Structural Equation Modeling (SEM) using Smart PLS 3.0 was employed to analyze the data, allowing for the examination of associations between latent constructs and the validation of measurement instruments. After data collection, the dataset underwent thorough screening to ensure integrity and reliability. Initially, responses were reviewed for completeness and accuracy, with incomplete or improperly filled questionnaires excluded—data cleaning procedures identified and corrected inconsistencies, errors, and outliers. Duplicate entries and missing values were addressed, and responses showing random or systematic error patterns were flagged for further investigation or exclusion.

RESULTS

This section presents the outcomes of our data analysis using SEM. This statistical approach was chosen to analyze our data and test hypotheses. The PLS-SEM technique is appropriate for this study because it is robust to multivariate errors and effective for testing the relationship between constructs (Hair et al., 2016). Statistical analyses of the measurement and structural models were conducted using the Structural Equation Model (SEM) with SmartPLS 3.0 to evaluate the hypotheses.

Measurement Model Assessment

The measurement model examines the reliability and validity of the observed constructs. In assessing our measurement model, we ensured reliability and validity through various statistical measures: FL, CA, CR, and AVE. We observed FL exceeding 0.6, CA surpassing 0.6, CR exceeding 0.7, and AVE values above 0.5, as (Sarstedt et al. (2017) and (Hair et al. (2016) recommended. These values affirmed the validity of our measurement model, indicating reliable representation and internal consistency among scale items.

Factor Loadings

Factor loadings indicate the magnitude and direction of associations between observable variables and underlying latent factors. Items with factor loadings below 0.6, such as age, gender, and education, were excluded from the model (Hair et al., (2016). Table 2 shows values of FL.

Table 2 Factor loadings

Variables	CD	CV	SUSTI	SP	TL
CD1	0.83				

CD2	0.869		
CD3	0.882		
CD4	0.854		
FS1		0.837	
FS2		0.837	
OPS1		0.839	
OPS2		0.782	
OPS3		0.81	
OPS4		0.782	
SP1			0.731
SP2			0.878
SP3			0.872
SP4			0.81
TL1			0.859
TL2			0.836
TL3			0.837
TL4			0.763
Age	0.374		
Gender	0.244		
Education	0.297		

Source: Authors field data, (2024).

Construct Reliability and Validity

In this section, the reliability and validity of constructs were measured using CA, CR, and AVE, as shown in Table 3. The CA, CR, and AVE values exceed the recommended thresholds of 0.6, 0.7, and 0.5, respectively (Hair et al., (2016), indicating that the items are appropriate for evaluating reliability and validity.

Table 3 Construct reliability and validity

Variables	CA	CR	AVE)
CD	0.882	0.919	0.738
SUSTI	0.899	0.922	0.664
SP	0.843	0.895	0.681
TL	0.843	0.894	0.680

Source: Authors field data, (2024)

Discriminant Validity (DV)- Fornell And Larcker (1981)

DV measures the degree to which one construct differs from others in a study. This is achieved by comparing the square roots of the AVE with the correlations between constructs. DV is established when the square roots of AVE values exceed the inter-construct correlations. The findings from Table 5 confirm that DV built on this principle.

Table 5: Discriminant Validity (Fornell-Larcker Criterion)

Variables	CD	EP	SP	TL
CD	0.859			
SUSTI	0.484	0.815		
SP	0.626	0.681	0.825	
TL	0.452	0.788	0.624	0.824

Source: Authors field data, (2024)

Discriminant Validity-HTMT

The HTMT criterion evaluates discriminant validity by comparing the average value of cross-correlations between item indicators across constructs (Geoffrey, 2019). If the HTMT estimate surpasses a predefined threshold of 1, it suggests a deficiency in discriminant validity. Conversely, if it falls below 1, it implies that the genuine correlation between constructs is distinct, affirming discriminant validity (Geoffrey, 2019). As shown in Table 6, the values are below 1, indicating favorable DV.

Table 6: Discriminant Validity -HTMT

	CD	EP	SP	TL
CD				
SUSTI	0.543			
SP	0.719	0.777		
TL	0.524	0.894	0.733	

Source: Authors field data, (2024)

Collinearity Statistics (VIF)

Multicollinearity occurs when two or more variables are highly correlated (Shi et al., 2018), either because one variable is a linear combination of others or due to redundant inclusion of the same variable. Values of VIF exceeding five (5) indicate multicollinearity issues (Ignatow & Mihalcea, 2017). The results in Table 7 demonstrate no multicollinearity problem, as all values are below 5.

Table 7 Collinearity Statistics (VIF)

Variable	VIF
CD1	1.996
CD2	2.358
CD3	2.607
CD4	2.194
FS1	2.555
FS2	2.515
OPS1	2.486
OPS2	1.948
OPS3	2.195
OPS4	2.096
SP1	1.542
SP2	2.334
SP3	2.328
SP4	1.748
TL1	2.088
TL2	1.961
TL3	2.034
TL4	1.646



Source: Author's field data, (2024)

Model Fit

This study utilized the standardized root mean square (SRMR) technique to assess model fit. An SRMR value of 0.08 or below indicates a satisfactory model fit (Kock, 2017). Additionally, according to Dijkstra and Henseler (2015), values of d_ULS and GD above 0.05 indicate high model fit. As indicated in Table 8, the values for d_ULS and GD exceed 0.05, while the SRMR value is below 0.08, indicating a good model fit for this study.

Table 8 Model fit indices

Fit Index	Estimated model
SRMR	0.064
D_G	0.519
d-ULS	0.849

Source: Field survey, (2024)

Lower-Level Confidence Interval (LLCI) and Upper-Level Confidence

The results in Table 9 provide estimated values of the beta coefficients for each variable, along with their corresponding 95% confidence intervals. Based on the sample data, the confidence intervals indicate a range within which we can be reasonably confident (with 95% confidence) that the actual population beta coefficient lies. For instance, for the variable CD1, the estimated beta coefficient is 0.830, with a 95% confidence interval ranging from 0.794 to 0.861. This means we are 95% confident that the actual population beta coefficient for CD1 falls within this interval.

Table 9: Confidence Intervals

Variable	BETA	5.0%	95.0%
CD1 <- CD	0.830	0.794	0.861
CD2 <- CD	0.869	0.847	0.889
CD3 <- CD	0.882	0.853	0.905
CD4 <- CD	0.854	0.834	0.875
FS1 <- SUSTI	0.837	0.814	0.857
FS2 <- SUSTI	0.837	0.816	0.859
OPS1 <- SUSTI	0.839	0.815	0.862
OPS2<- SUSTI	0.782	0.748	0.814
OPS3<- SUSTI	0.810	0.779	0.839
OPS4<- SUSTI	0.782	0.750	0.809
SP1 <- SP	0.731	0.676	0.782
SP2 <- SP	0.878	0.855	0.900
SP3 <- SP	0.872	0.844	0.895
SP4 <- SP	0.810	0.780	0.840
TL1 <- TL	0.859	0.837	0.879
TL2 <- TL	0.836	0.807	0.863
TL3 <- TL	0.837	0.807	0.862
TL4 <- TL	0.763	0.721	0.801



Source: Field survey, (2024)

Structural Model

The study utilized a structural model to evaluate the proposed hypothesis links, employing the bootstrap technique with 5000 samples. The significance of path coefficients was determined at a 5% level, where a coefficient was considered significant if the p-value was below 0.05 and the T statistic value exceeded 1.96. The subsequent section introduces hypotheses to examine the relationships.

Direct Structure Hypothesis Testing Results

Hypothesis 1

(H1): SP positively and significantly influences sustainability in manufacturing SMEs'.

The result shows that succession planning positively and significantly impacts sustainability in manufacturing SMEs (H1: $\beta = 0.291$, $t = 6.325$, $p < .05$), supporting the hypothesis.

Hypothesis 2

(H2): SP positively and significantly influences CD.

The result shows that SP positively and significantly impacts CD. (H2: $\beta = 0.631$, $t = 14.447$, $p < .05$), supporting the hypothesis.

Hypothesis 3

(H3): CD positively and significantly influences sustainability in manufacturing SMEs.

The finding reveals that CD positively and significantly influences sustainability in manufacturing SMEs. (H3: $\beta = 0.034$, $t = 2.778$, $p < .05$) supporting the hypothesis.

Hypothesis 4

(H4): TL positively and significantly influences sustainability in manufacturing SMEs.

The finding reveals that TL positively and significantly influences sustainability in manufacturing SMEs. (H4: $\beta = 0.591$, $t = 15.567$, $p < .05$), supporting the hypothesis.

Table 10: Direct hypothesis relationship

Hypothesis	Hypothesis Structural Relationship	Beta	T /Statistics	P Values
H1	SP -> SUSTI	0.291	6.325	0.000
H2	SP -> CD	0.631	14.447	0.000
H3	CD -> SUSTI	0.034	2.778	0.030
H4	TL -> SUSTI	0.591	15.567	0.000

Source: Field survey, (2024)

Confidence intervals

The provided confidence intervals in Table 11 outline the estimated effects of CD, SP, and TL on manufacturing SMEs' sustainability.

CD: For every unit increase, the sustainability of manufacturing SMEs is estimated to increase by 0.037. The 95% confidence interval ranges from 0.018 to 0.090, indicating a positive impact with some uncertainty.

SP: Each unit increase corresponds to a 0.290 increase in the sustainability of manufacturing SMEs. The 95% confidence interval ranges from 0.215 to 0.366, indicating a significant positive impact with a relatively narrow range of potential effects.

TL: With every unit increase, the sustainability of manufacturing SMEs is estimated to increase by 0.593. The 95% confidence interval ranges from 0.531 to 0.657, indicating a substantial positive impact with a narrow range of potential effects.

Table11: Confidence Intervals

Variable	Original (O)	Sample	Sample Mean (M)	5.0%	95.0%
CD -> SUSTI	0.034	0.037	0.018	0.018	0.090
SP -> SUSTI	0.291	0.290	0.215	0.215	0.366
TL -> SUSTI	0.591	0.593	0.531	0.531	0.657

Source: Field survey, (2024)

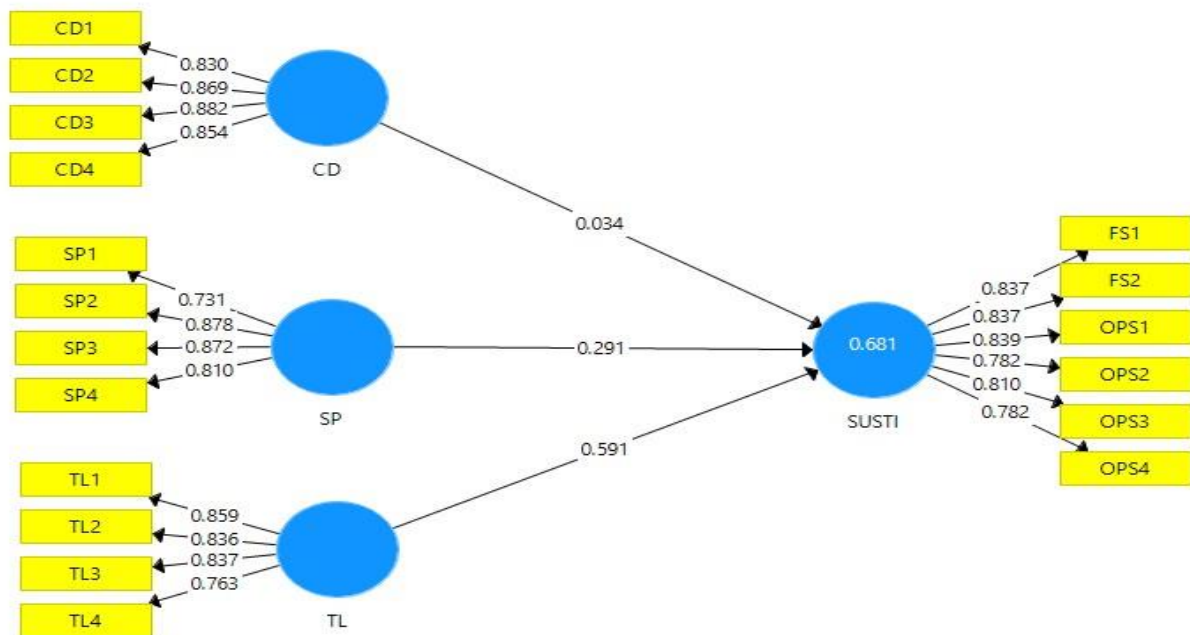


Figure 2: Measurement model -path analysis Diagram

Moderating Structural Hypothesis Testing Results (TL)

This section evaluates how TL moderates SP on sustainability in manufacturing SMEs. The results are presented in Table 12.

Hypothesis 5

H5: TL moderates SP on sustainability in manufacturing SMEs.

The findings demonstrate that TL moderated the link between SP and sustainability in manufacturing SMEs (H5: = 0.040, t=2.904, p. <0. 05), supporting the hypothesis.

Table 12: The moderating effect of transformational leadership results

Hypothesis	Structural relationship variable	Beta	T Statistics	P Values	Decision
H5	Mod_TF -> SUSTI	0.040	2.904	0.004	Supported

Source: Author's Computation using field data, (2024)

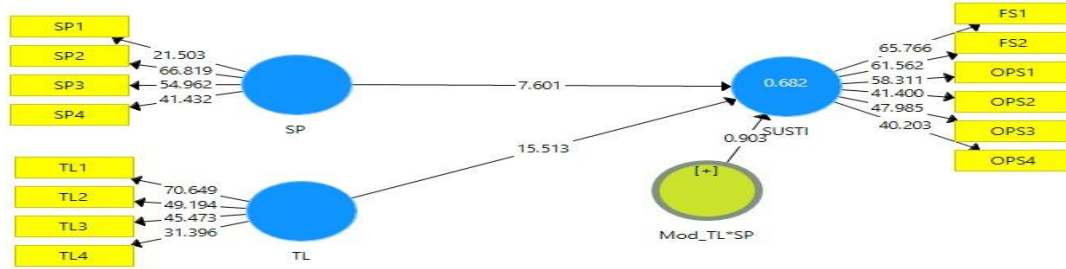


Figure 3: Structural model (Moderating path analysis diagram)

Confidence Level (Moderating)

Table 13 presents the estimated effect size of the interaction between TL and SP on sustainability (SUSTI). The result suggests that the interaction between TL and SP positively influences SUSTI. The 95% confidence interval provides a range within which we can reasonably be confident (with 95% certainty) that the actual population effect lies.

Table 13: Confidence Interval

Variable	Original Sample (O)	Sample (M)	Mean	5.0%	95.0%
Mod_TL*SP -> SUSTI	0.134	0.099	0.005	0.170	

Source: Author's Computation using field data, (2024)

Mediation Hypothesis Testing Result (CD)

This section provides insights into the mediating effect of CD in the associations between SP and sustainability in manufacturing SMEs. The results of the mediating hypothesis are shown in Table 14. The study hypothesis is that:

Hypothesis 6

(H6): CD mediates SP and sustainability in manufacturing SMEs.

The findings demonstrate that CD mediates the link between SP and sustainability in manufacturing SMEs (H6: =0.054, t=1.972, p.<05), supporting the hypothesis.

Table14: Mediating effect of career development results

Hypothesis	Structural relationship variable	Beta	T Statistics	P Values	Decision
H6	SP -> CD -> SUSTI	0.054	1.972	0.037	Supported

Source: Author's Computation using field data, (2024)

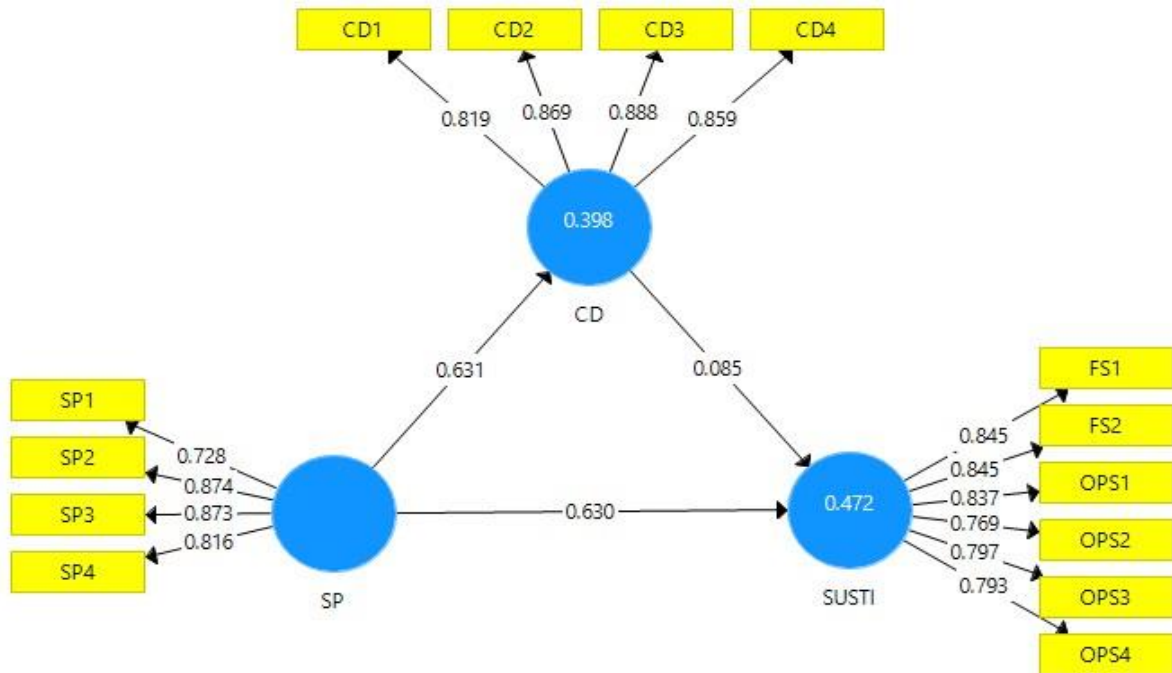


Figure 4: Measurement model diagram-path Analysis-Mediating

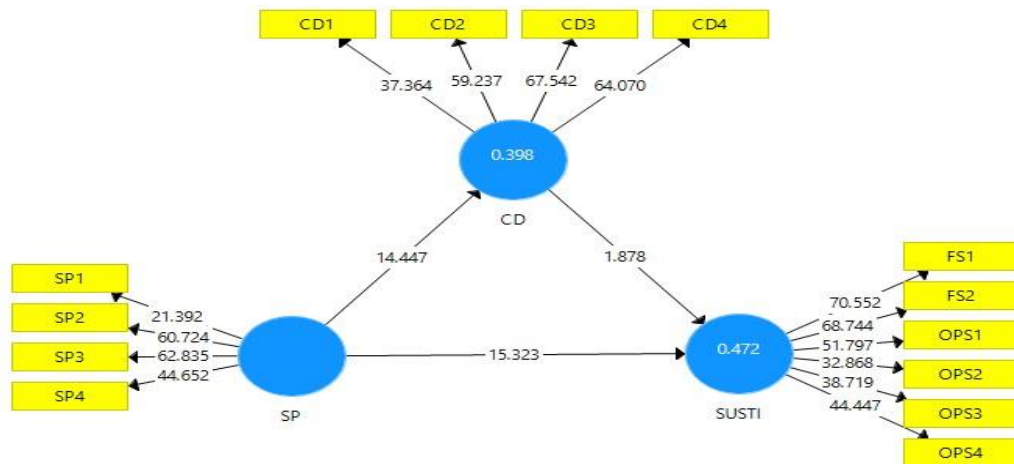


Figure 5: Structural model diagram

Confidence Interval (Mediating)

The confidence interval for the mediating effect of CD suggests a positive impact on SP, subsequently influencing SMEs' sustainability. The estimated effect size of 0.054 indicates this positive influence, with the 95% confidence interval reflecting some uncertainty but overall supporting the mediating effect of CD on both SP and SME sustainability.

Table 15: Confidence Interval

Variable	Beta	5.00%	95.00%
SP -> CD -> SUSTI	0.054	0.008	0.104

Source: Author's Computation using field data, (2024)

Control Variable Results

The analysis indicated that none of the control variables (age, education, and gender) showed a significant relationship with manufacturing SME sustainability, as they did not meet the predefined factor loading thresholds. This suggests that these variables did not impact sustainability within the specified criteria for significance.

DISCUSSIONS AND IMPLICATIONS

This study investigated the relationship between succession planning (SP) and sustainability in manufacturing SMEs, considering the mediating role of career development (CD) and the moderating influence of transformational leadership (TL). The study also explored the potential impacts of age, education, and gender as control variables. The findings provide valuable insights into these interactions and their implications for organizational sustainability in SMEs.

First, the study findings underscore the significant and positive impact of succession planning on the sustainability of Ghana's manufacturing SMEs. This result aligns with prior research by Bibi et al. (2023), Nwuke and Adeola (2022), and Ukairo et al. (2021), which have consistently demonstrated a positive association between succession planning and SME sustainability across various contexts.

The significance of these findings is underscored by their consistency across various studies and contexts, demonstrating that effective SP plays a universally beneficial role in enhancing the sustainability of manufacturing SMEs. This aligns with research conducted in other countries, such as studies by Bibi et al. (2023), Nwuke and Adeola (2022), and Ukairo et al. (2021), all of which consistently highlight a strong association between SP practices and the long-term viability of SMEs globally.

Secondly, the study results underscore a significant positive relationship between succession planning and career development. This finding aligns with previous research, such as Mzava et al. (2023), which also reported a positive association between succession planning and career development. Additionally, it supports the conclusions of Tetteh and Asumeng (2020), highlighting succession planning as a critical predictor of employee retention, particularly when combined with career development programs. These findings emphasize the importance of strategic succession planning in not only fostering career growth but also in enhancing employee retention within SMEs.

Thirdly, the study underscores the positive impact of career development initiatives such as skill enhancement, career advancement opportunities, training, mentorship, and coaching on the sustainability of manufacturing SMEs. This finding is consistent with Eikelenboom and de Jong's (2019) research, which highlighted the role of developing capabilities in enhancing SMEs' social, environmental, and economic performance.

This finding confirms that investing in CD enhances individual skills and contributes to the overall sustainability of SMEs. By nurturing a skilled and motivated workforce through these initiatives, SMEs can improve their competitiveness, innovate effectively, and enhance resilience in dynamic markets. This underscores the strategic importance of robust CD programs in achieving long-term sustainability goals within the manufacturing sector."

Fourth, the empirical findings emphasize the significant influence of TL on the sustainability of manufacturing SMEs. This aligns with studies by Hassan et al. (2021), Malik et al. (2020), and Nemashakwe et al. (2022), which demonstrated the positive effects of TL approaches on SME sustainability. Okeke (2019) also found that TL effectively ensures SME sustainability.

Fifth, the study highlights the significant moderating role of TL in influencing the relationship between SP and sustainability in manufacturing SMEs, filling a notable gap in the literature on leadership dynamics and their impact on SME sustainability in this specific context.

Furthermore, the study revealed that CD mediates the relationship between SP and sustainability in manufacturing SMEs. This finding is consistent with Ali et al. (2019), underscoring the importance of career development programs in maximizing the benefits of succession planning initiatives.

This finding is significant because it validates the pivotal role of CD in enhancing the effectiveness of SP for sustainability in manufacturing SMEs. This underscores the importance of integrating robust CD programs alongside SP initiatives to optimize their impact on long-term organizational viability and growth.

However, age, gender, and education, initially considered control variables, were excluded from the analysis due to their failure to meet the factor loading threshold. This suggests that these demographic factors did not significantly impact the sustainability of manufacturing SMEs within the specified criteria for significance.

In conclusion, this study provides valuable insights into the interplay of SP, CD, TL, and sustainability in manufacturing SMEs. The findings emphasize the critical roles of CD and TL in enhancing the effectiveness of SP for sustainable organizational performance.

Theoretical Implications

This study significantly advances the understanding of SP and SME sustainability through applying social exchange theory. It highlights how investments in employee development and learning reciprocate by enhancing individual and organizational performance. This research fills a notable gap in the literature by directly linking SP to sustainability outcomes, particularly within the context of manufacturing SMEs in Ghana.

Moreover, the study underscores the critical role of CD as a mediator in the relationship between SP and sustainability. Drawing on social exchange theory, it illustrates how mutual benefits in employer-employee relationships drive organizational success. This enhances our understanding of how structured CD initiatives can amplify the positive effects of SP on SME sustainability.

Furthermore, empirical support is provided for integrating TL with SP and SME sustainability. This framework suggests that TL significantly enhances the effectiveness of SP initiatives, fostering a supportive environment for developing future leaders. This contribution is essential for SMEs seeking to enhance their sustainability and competitive advantage.

This study enriches human capital theory by demonstrating how investments in employee development and learning through SP enhance organizational productivity and competitiveness in manufacturing SMEs. By emphasizing the importance of CD as a mediator, the research illustrates how nurturing human capital can lead to sustainable organizational outcomes.

Furthermore, the study integrates transformational leadership theory by highlighting how transformational leaders can effectively leverage SP and CD initiatives to foster an innovative and resilient organizational culture. This theoretical integration underscores the strategic role of leadership in driving SP's effectiveness and enhancing SME sustainability.

Together, these insights advance our understanding of how strategic investments in human capital development and TL can significantly contribute to manufacturing SMEs' long-term sustainability and competitive advantage.

Practical Implications

The practical implications of this study emphasize the need for SMEs to develop detailed succession plans and invest in employee development programs. By implementing structured SP and providing opportunities for CD, SMEs can ensure operational continuity and mitigate the risks of sudden employee departures.

SMEs should create supportive environments that encourage employee participation in CD. This includes training, mentorship, and coaching to prepare employees for leadership roles. By doing so, SMEs can build a robust pipeline of future leaders, ensuring long-term sustainability and growth.

Additionally, the study highlights the importance of adopting TL to enhance the effectiveness of SP. Leaders who inspire and motivate their employees can create a positive organizational culture that supports continuous improvement and innovation. This is essential for maintaining a competitive edge in the manufacturing sector.

Policy Contributions

Policymakers are crucial in supporting SMEs through technical and financial assistance for SP and leadership development. Collaborations between policymakers and SMEs can help establish best practices and design tailored programs that address the specific needs of the manufacturing sector.

Financial incentives should be provided to encourage SMEs to implement structured SP and CD programs. Policymakers should allocate resources for research into innovative SP practices and develop mechanisms to monitor the effectiveness of these policies.

Improving access to financing options for SP and leadership development is also essential. Policymakers should work to reduce financial barriers and provide SMEs with the resources needed to invest in their workforce. This will enable SMEs to build a sustainable and resilient business model, contributing to overall economic growth.

LIMITATIONS OF THE STUDY

Firstly, its focus on manufacturing SMEs in Ghana may limit the findings' application to other contexts with different cultural, economic, and institutional environments.

Secondly, the study could have explored additional leadership styles beyond transformational leadership, such as transactional, participatory, and autocratic, for a broader comparison of leadership impacts.

Lastly, relying solely on quantitative data may overlook participants' subjective experiences and perspectives, which qualitative methods could have captured more comprehensively.

SUGGESTIONS FOR FUTURE RESEARCH

Future research should consider the following:

Conduct Longitudinal Studies: Tracking changes in leadership styles, succession planning, career development, and sustainability in manufacturing SMEs over time would capture evolving dynamics and their lasting impacts.

Incorporate Qualitative Methods: Including qualitative approaches like interviews and case studies could provide deeper insights into participant experiences, offering a more nuanced understanding of the factors influencing relationships among leadership, succession planning, and SME sustainability.

Explore Other Leadership Styles: Investigating the effects of leadership styles beyond transformational, such as transactional, participatory, and autocratic, on succession planning and SME sustainability would broaden comparisons and enhance knowledge of effective leadership strategies.

CONCLUSIONS OF THE STUDY

This study underscores the profound impact of succession planning, transformational leadership, and career development on the sustainability of manufacturing SMEs. Key findings include:

Succession planning positively influences SME sustainability and enhances career development opportunities for employees.

Transformational leadership significantly enhances SME sustainability and is crucial in moderating the relationship between succession planning and sustainability, magnifying its benefits.

Career development is a vital mediator between succession planning and SME sustainability, highlighting its pivotal role in maximizing the efficacy of succession planning initiatives.

This study emphasizes the critical importance for SME owners and leaders of implementing robust succession planning strategies, embracing transformational leadership approaches, and prioritizing employee career

development. These actions are pivotal in boosting sustainability, fostering higher employee engagement, and driving organizational success within SMEs in the manufacturing sector.

The study advances theoretical understanding by elucidating the connections among succession planning, transformational leadership, career development, and SME sustainability. By highlighting career development as a mediator and transformational leadership as a moderator, this research offers valuable insights into the organizational environment within SMEs.

In light of these findings, SME owners and leaders are encouraged to focus on effective succession planning and transformational leadership to bolster sustainability. Investing in employee career development, engagement, and empowerment emerges as a crucial strategy for achieving long-term success and stability in SMEs.

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