



ISSN-O 2957-4218

ISSN-P 2957-4226



JOURNAL OF ECONOMICS, MANAGEMENT & BUSINESS ADMINISTRATION

**(JEMBA)**

**Volume 2, Issue 1, 2023**



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Journal of Economics, Management & Business Administration (JEMBA)

Publisher: Ali Institute of Research and Skill Development (AIRSD)

Office No1, Moiz Clinic Building, Khan Village Road, New Gulgust Multan, Pakistan.

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## Mediating effect of Entrepreneurial Orientation on the influence of Mentoring, Training, and Successor Competence on Family Businesses' Survival in Southwest, Nigeria

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### ARTICLE INFO

#### Article History:

Received:	January	1, 2023
Revised:	January	20, 2023
Accepted:	February	5, 2023
Available Online:	March	10, 2023

#### Keywords:

FBs, Mentorship, Entrepreneurial orientation, Training, Successor competence

### ABSTRACT

The study investigates the mediating effect of the influence of mentoring, training, and successor competence on FBs' survival in Southwest Nigeria. The sampling method used was purposive, while closed-ended questionnaires were sent to 360 respondents to collect information. A total of 300 completed questionnaires were completed and returned to researchers. The results of SEM reveal that training and EO are positively and significantly associated with FB survival. Results further reveal that mentoring and successor competence have not significantly influenced FBs' survival. There is evidence that EO mediates fully between mentoring and FB survival, but not between training and FB survival, and partially mediates successor competence and FB survival. This means EO is a platform to influence the mentoring and successor competence that drive the sustainability and growth of FB. This development is sending a positive signal to family businesses that after the founder's death, the successors will be able to make FBs more productive. Therefore, for the smooth operation of FB, successors should be mentored and foster family partnerships.



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## INTRODUCTION

The contribution of family businesses (FB) to sustainable development in terms of job creation, wealth creation, and poverty reduction has been recognized by economists, entrepreneurs, researchers, and policymakers around the world (Sajuyigbe et al., 2016; Alves & Gama, 2020; Katare et al., 2021; Oyeladun, 2020; Ghamloush, 2021). Kerstin et al (2014). Kerstin et al (2014) show that FBs play an important role in relation to the dynamism and strength, long-term stability, and sustainability of European economies. Similarly, Bernard (2013) also notes that

FBs contribute over 82% of India's employment and accounts for 60% of GDP. Alves and Gama (2020) also confirm that FBs create about 85% of jobs in Portugal and account for about 65% of the GDP. According to Sajuyigbe (2016), FBs create about 90% of jobs in Nigeria and contribute about 85% of the GDP.

Recently, FBs have been hit by a deluge of poor succession strategies associated with the COVID-19 surge (Aremu & Lawal, 2023). According to Bernard (2013), many FBs are collapsing due to poor succession strategies, and other FBs may be on the brink of failure due to the devastation caused by COVID-19 (Saan et al., 2013). Aremu and Lawal (2023) note that several FBs across the globe appear to suffer from "founders' syndrome," with few having a transition strategy. When a family member assumes responsibility based primarily on inheritance and heritage rather than skills and competence, it can lead to several managerial issues. Orole (2020) laments that FBs find it difficult and very challenging to have a successful succession when the business is transferred to the next generation. Many times the succession is not successful and results in a failed business having a decline in its profitability or efficiency. Thus, the business suffers because of an unsuccessful succession (Ghamloush, 2021). The surveys in the U.S. evident that about 30% of FBs are passed on to the next generation, and only 13% of these enterprises remain in family ownership through three generations (Alves & Gama, 2020). In the same direction, Sajuyigbe et al. (2016) showcase that about 11% of FBs survive to be third-generation enterprises, and 6% of these are fourth-generation businesses in Australia. Okeke (2021) also laments that about 10% of FBs survive to be second-generation enterprises, and 2% of these are third-generation businesses in Nigeria.

This unpalatable scenario has forced founders of FBs to devise strategies for the FBs to survive amid global competition. Entrepreneurial orientation is the successful strategy that makes FBSs pass from one generation to another generation after the demise of founders. Entrepreneurial orientation is the process of doing something new and taking advantage of opportunities not available to any organization. Previous studies attest that entrepreneurial orientation is one of the germane survival strategies (Zehir et al., 2018; Rashad, 2018; Olubiyi ET AL., 2019). FBS with a high degree of entrepreneurial orientation is more likely to be industry pioneers and more likely to actively experiment with new forms of knowledge resources to explore new growth paths (Okangi, 2019; Sahban, & Syahchari, 2019). As a result, FBs are open to change and ready to respond proactively to external market changes (Linton, 2019). In addition to entrepreneurship, successor education level, successor competence, and mentoring are recognized succession strategies associated with FBs worldwide. Sajuyigbe et al. (2016) noted that successor education level, successor competence, and mentoring were predictors of FBs' survival. A study by Aremu and Lawal (2023) confirms that mentoring is a powerful succession planning that has a significant impact on FB survival. Orole (2020) also confirms that succession education level and succession ability are predictors of FBs' survival.

Existing research has explored the impact of succession planning on FBs' survival and the factors that contribute to the failure of succession planning in both developed and emerging Nations (Sajuyigbe et al., 2016; Aremu & Lawal, 2023; Alves & Gama, 2020; Katare et al., 2021; Oyeladun, 2020; Ghamloush, 2021). No studies have examined the mediating effects of entrepreneurial orientation on the relationship between the level of education of the successor, successor capability, and FBs' survival. This current study fills the gaps identified in the entrepreneurship literature by examining the intermediary effects of entrepreneurial orientation

on the relationship between the level of education of the successor, successor capability, and FBs' survival.

### **Theoretical Framework**

Family systems theory can be traced back to Kerr and Bowen (1988) with the goal of influencing the behavior of successors towards the continuation of FBs. This theory focused on key factors such as family member beliefs, family member roles, family member dominance, family member limitations, and boundaries between family members and FBs. In this theory, FB only exists if only one or more members of the family or families have material ownership and material obligations to the general welfare of the FBs (Oyeladun, 2020). According to Karaevli and Yurtoglu (2021), family system theory assumes that the family unit seeks to maintain emotional balance and a consistent way of working. Both rational and emotional responses to development occur within the family system. The theory analyses how the influence family members have on each other affects the entire organization (Alves & Gama, 2020). According to Sajuyigbe et al. (2016), family systems theory explains why founders should pay attention to succession planning, including entrepreneurial orientation, mentoring, training, and the ability of successors to advance the company's vision after the founder's death. Sindambiwe (2020) found that entrepreneurial orientation, successor education level, and succession ability are succession strategies that influence the family's interest in continuing FBs. In the same light, Orole (2020) argues that mentoring, training and entrepreneurial guidance are sacred to FBs' survival. Similarly, Ofobruku and Nwakoby (2015) prove that succession planning is the only tool to influence succession behavior for the survival of FBs. This theory, therefore, suggests that succession planning should be the platform for FBs to gain global relevance and remain competitive in the face of fierce competition.

## **REVIEW OF RELATED LITERATURE AND HYPOTHESES DEVELOPMENT**

### **Training**

High levels of education significantly impact succession because successors can raise the productivity of the enterprise (Ahrens *et al.*, 2015; Jones *et al.*, 2018). It may involve leadership training, entrepreneurship education, and technical expertise (Wahjono *et al.*, 2014). The successor's knowledge and abilities are the foundational competencies for implementing innovative initiatives which can drive a firm's profitability (Alshanty & Emeagwali, 2019). A good succession plan is dependent on the processes of information internalization and social interaction. The successor's active participation in running the business is a crucial factor. This improves the successor's comprehension of the business and societal norms (Duh, 2014). The training of a successor before assuming leadership in a family-run enterprise is more or less emphasized in every research study conducted worldwide. Ghee et al., (2015) show that training improves decision-making and problem-solving skills, and helps workers to cope with stress, tension, and frustration. Previous studies have found a significant positive relationship between training and FBs' survival. For example, a study on succession training and the impact on FBs' survival in Kenya conducted by Neubauer (2003) showed that succession training was an important determinant of FBs' survival. In another study, Saan, Boating, and Kamwine (2013) show that education is a follow-up strategy for FBs' survival in Ghana. Maryam, Sahar, and Meisa (2014) also confirm that level of education of successor is a prerequisite for FBs' survival

in Iran. In the same realization, Dingliana (2013) proposes that training has the greatest impact on FBs' survival. Hence, the following hypothesis emerged:

**H<sub>1</sub>:** Training has no significant association with FBs' survival

## **Mentoring**

Mentoring is the conscious sharing of information from an expert with some expertise in a field to an inexperienced individual, called a mentee, who is interested in learning more about that field (Arogundade, 2011). Noe et al., (2002) define a mentor as someone who is respected because of age, experience, expertise, or higher status. A mentor is someone who supports the development of others, both on a personal and professional level, by imparting wisdom and knowledge gained over time (Arogundade, 2011). The process of providing the knowledge and expertise needed to improve others and be successful in some field is called mentoring. According to Okurame (2008), mentoring includes practices often planned and approved by leaders to help employees develop to improve their company's competitiveness. In a family business, an employee could be a close friend, a child of the owner or manager, or someone outside who takes over the running of the business. In FBs, the mentor-successor relationship is critical to the continued success and survival of FBs (Neubauer, 2003). Sajuyigbe et al. (2016) affirm that a mentor-successor relationship should be implemented and maintained to foster FBs continuity and growth. A study conducted in India by Muriithi, et al. (2016) shows that mentoring is a key factor in promoting FBs' survival and growth. Another study conducted in Nairobi by Mugo, Minja, and Njanja (2015) shows that mentoring is the driving force behind FBs' survival and prosperity. Similarly, Karanja (2012) confirms that mentoring is an indicator of FBs' success in Kenya. Similarly, Moha, Zarinah, and Hashim (2011) show a significant association between mentoring and FBs' survival in Malaysia. A study conducted in Indonesia by Sentot et al., (2014) is consistent with previous studies that mentoring has a significant impact on FBs' survival and growth. Therefore, the following hypothesis is formulated:

**H<sub>2</sub>:** Mentoring is significant associated with FBs' survival

## **Successor Competence**

Successor competencies have become a key factor in the sustainability of FB around the world. Successor competencies such as entrepreneurial skills, knowledge, talents, behavior patterns, and codified principles and interests are crucial for FBs' survival (Sajuyigbe et al., 2016; Wang & Shibayama, 2022). Rosa (2019) describes successor competence as the willingness to take risks, the passion for high performance, and the ability to scan the environment for FB to succeed. According to Oyeladun (2020), the development of a set of successor competencies by EO is important to FBs leadership. Existing research shows that developing a set of capabilities for succession is just a panacea for the complexities of the business environment (Alshanty & Emeagwali, 2019; Mugo et al., 2015; Noe et al., 2002). Succession capabilities allow FB to remain competitive and grow stronger. This is due to the successor's stress resilience, emotional intelligence, and ability to understand the surrounding environment (Karaevli & Yurtoglu, 2021). Resource-based view theory proposes that FBs gain a competitive advantage by differentiating themselves from competitors through succession capabilities that are difficult to imitate (Alshanty & Emeagwali, 2019). In the same direction, empirical studies confirmed that successor competencies such as stress resilience, emotional intelligence, and ability to understand the surrounding environment have a significant effect on FBs' survival and growth

(Muriithi et al., 2016; Mugo et al., 2015; Noe et al., 2002). Hence, the following hypothesis emerged:

**H<sub>3</sub>:** Successor competence is significantly related to the FBs' survival

### **Entrepreneurial Orientation (EO) As a Mediator**

EO can be treated as a dynamic intangible asset that contributes to sustainable competitive advantage for higher returns. Piirala (2012) confirms that EO has become one of the most popular research areas in Entrepreneurship. The effects of EO on FB survival have been discussed in various studies. Therefore, FBs can benefit from adopting an EO (Cserhádi & Szabó, 2014). According to Wang (2008), EO increases the performance and survival of FBs by finding and seizing opportunities with optimal utilization of available resources. Similarly, Lee and Lim (2009) demonstrate that EO has become a hallmark of FBs' survival and high performance. Wales (2016) also states that EO represents management's focus on finding new opportunities for growth in FBs. Sajuyigbe et al (2016) note that EO is pertinent for the sustainability of FBs as it prepares the replacement candidate for taking over as soon as the founder is gone. Furthermore, many studies have found that EO is significantly associated with FB survival and performance (Covin & Miller, 2014; Jiang et al., 2018; Wales, 2016). Razzaq (2017) shows that EO helps FBs achieve sustainability. Existing research finds that EO is a platform where mentorship, educational level, and successor competence drive FB survival and growth (Oyeladun, 2020; Onyekwena & Kekeruche, 2020; Orole, 2020). Existing research finds that EO is a platform where mentorship, educational level, and successor competence drive FB survival and growth (Oyeladun, 2020; Onyekwena & Kekeruche, 2020; Orole, 2020). According to Al et al . (2015), EO allows room for leadership-successor relationships, training, and succession competence to drive FBs' survival and growth. Similarly, Sajuyigbe et al. (2016) state that EO is the wheel that drives leadership-succession relationships, training, succession competence, and FBs' sustainability. Hence, the following hypotheses are proposed:

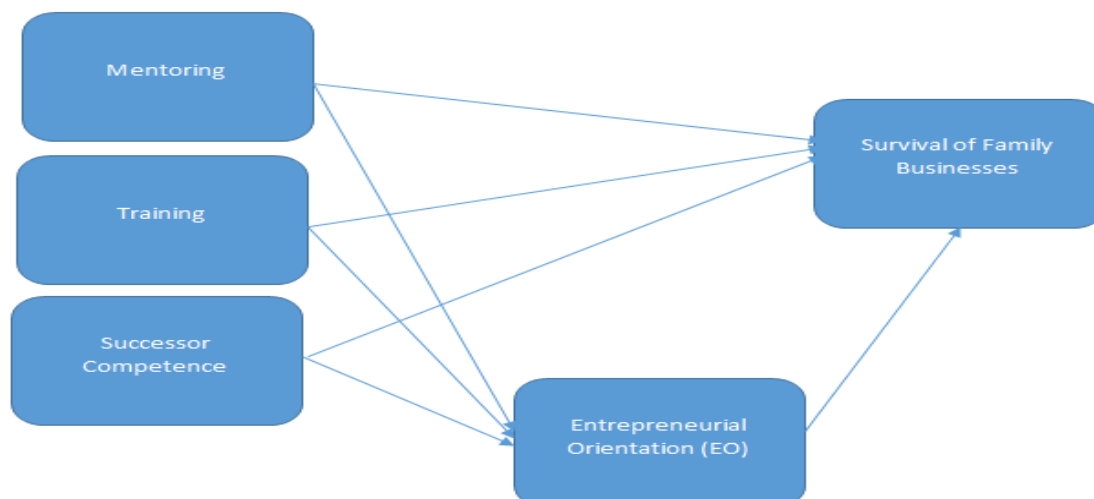
**H<sub>4</sub>:** EO is significantly associated with FBs' survival.

**H<sub>5</sub>:** EO mediates between mentoring and FBs' survival

**H<sub>6</sub>:** EO mediates between training and FBs' survival

**H<sub>7</sub>:** EO mediates between capability and FBs' survival

### **Conceptual Framework for the study**



**Figure 1: Conceptual Model**

## **METHODOLOGY**

The study conducted quantitative research, focusing on the family businesses that have been operation for at least 10 years and managed by at least one the family members in Southwest of Nigeria. The sampling method used was purposive, while closed ended questionnaires were sent to 360 respondents to collect information. A total of 300 completed questionnaires were completed and returned to researchers. EO, mentoring, training, successor competence scales and FBs' survival scale were anchored on a 5-point Likert scale (1=strongly disagree to 5=strongly agree) for all study instruments. The Mentoring Scale (MTS) consists of 5 items such as 'the involvement of successors is of paramount importance to our business operations, we promote family partnerships, for the smooth running of the company, we always appoint a family member as one of our directors, our organization takes into consideration the career development of our successors, and family ties and networks are essential to our organization'. The Training Scale (TRS) consists of 5 items such as "our organization provides quality education for family members, the family training approach is very good in our organization, our organization regularly sends family members to business seminars and workshops, our organization has a high level of family induction into business education, and family members are constantly developing their technical/managerial skills within our organization. The Successor Competence scale (SCS) consists of 5 items such as 'willingness to take risks for succession and passion for the best performance is great, the successor who drives the company at the top level has a very high mental strength, the emotional ability to work with workers to achieve sustainability is great, the flexible ability of the successor to understand the business environment is very large, and successor logistics performance reliability for customer acquisition and retention is very high. The Entrepreneurial Orientation Scale (EOS) consists of 6 items such as 'we constantly contrast calculated risks with new opportunities, our organization is constantly investing in new and thriving markets, our organization goes into business without sufficient resources, our organization turns down businesses that may fail, our organization uses management techniques to identify and explore new opportunities and our organization is innovation-oriented by seizing opportunities to introduce new products and services'. The FB's Survival Scale (FBS) consists of 5 items such as 'all family members are aligned with the organization's vision for the future, the organization enables individual families to participate in decisions that move the company forward, the family is grateful for the existence of the organization, the family cares about the company and its future existence, and younger families are passionate about FB.

### **Validity of the Research Instruments**

The scales used were validated by a group of experts from the School of Entrepreneurship Studies, Landmark University, Omu-Aran. Their constructive criticism, advice, and suggestions are incorporated.

### **Reliability of the Research Instrument**

Eigenvalues of principal components, Kaiser-Meier-Olkin (KMO), percentage of variance, and Cronbach's alpha were used for internal consistency confidence tests (see Table 2). Structural Equation Model (SEM) was used for the data analysis with the aid of STATA 15 software.

**Table 2: Reliability Test of the Instruments**

variable		Cronbach's alpha	KMO	Eigenvalue of the principal Component	% of the variance
<b>MT Scale-Cronbach Alpha ( MTS = 0.8129)</b>			<b>0.8074</b>	<b>2.9878</b>	<b>81.22%</b>
MTS Q 1	The involvement of successors is of paramount importance to our business operations	<b>0.7994</b>			
MTS Q 2	We promote family partnerships, for the smooth running of the company	<b>0.9879</b>			
MTS Q3	We always appoint a family member as one of our directors	<b>0.7799</b>			
MTS Q 4	Our organization takes into consideration the career development of our successors	<b>0.8061</b>			
MTS Q 5	family ties and networks are essential to our organization	<b>0.8032</b>			
<b>TR Scale - Cronbach Alpha – (TRS= 0.8241)</b>			<b>0.8190</b>	<b>2.9768</b>	<b>79.85%</b>
TRSQ1	Our organization provides quality education for family members. , , ,	<b>0.787</b>			
TRSQ2	The family training approach is very good in our organization	<b>0.8127</b>			
TRSQ3	Our organization regularly sends family members to business seminars and workshops	<b>0.8089</b>			
TRSQ 4	Our organization has a high level of family induction into business education	<b>0.81382</b>			
TRSQ 5	Family members are constantly developing their technical/managerial skills within our organization.	<b>0.7985</b>			
<b>SCS Scale- Cronbach Alpha – (SCS = 0.8347)</b>			<b>0.825</b>	<b>2.790</b>	<b>80.21%</b>
SCS Q 1	Willingness to take risks for succession and passion for the best performance is great.	<b>0.8213</b>			
SCSQ2	The successor who drives the	<b>0.7872</b>			



	company at the top level has a very high mental strength				
<b>SCSQ3</b>	The emotional ability to work with workers to achieve sustainability is great	<b>0.8183</b>			
<b>SCSQ 4</b>	The flexible ability of the successor to understand the business environment is very large	<b>0.7919</b>			
<b>SCSQ 5</b>	Successor logistics performance reliability for customer acquisition and retention is very high.	<b>0.8198</b>			
<b>EOS Scale - Cronbach Alpha – (EOS = 0.8358)</b>			<b>0.8272</b>	<b>3.1098</b>	<b>83.32%</b>
<b>EOSQ1</b>	We constantly contrast calculated risks with new opportunities.	<b>0.8244</b>			
<b>EOSQ2</b>	Our organization is constantly investing in new and thriving markets.	<b>0.8237</b>			
<b>EOSQ3</b>	Our organization goes into business without sufficient resources	<b>0.7998</b>			
<b>EOSQ4</b>	Our organization turns down businesses that may fail.	<b>0.8127</b>			
<b>EOSQ5</b>	Our organization uses management techniques to identify and explore new opportunities.	<b>0.8197</b>			
<b>EOSQ6</b>	Our organization is innovation-oriented by seizing opportunities to introduce new products and services.	<b>0.8451</b>			
<b>FBS Scale- Cronbach Alpha – (FBS = 0.8325)</b>			<b>0.8210</b>	<b>3.213</b>	<b>82.27%</b>
<b>FBSQ1</b>	All family members are aligned with the organization's vision for the future.	<b>0.8154</b>			
<b>FBSQ 2</b>	The organization enables individual families to participate in decisions that move the company forward	<b>0.8179</b>			
<b>FBSQ 3</b>	The family is grateful for the existence of the organization	<b>0.8203</b>			
<b>FBSQ 4</b>	The family cares about the company and its future existence	<b>0.8261</b>			
<b>FBSQ 5</b>	Younger families are passionate about FB.	<b>0.8301</b>			

Table 2 above shows that each factor loading is greater than 0.5. Therefore, model measurements are reliable for analysis.

## RESULTS AND DISCUSSION

*Table 3: Analysis of Structural Equation Modelling*

<b>Direct Model</b>	beta-value	t-value	p-value	95% Conf. Interval	
FBS <- MTS	-.0176797	-0.21	0.837	-.1856089	.1502495
FBS <- TRS	.2915165	3.62	0.000	.1338803	.4491527
FBS <- SCS	.0847409	1.02	0.309	-.0785061	.2479879
FBS <-OEC	.4551792	5.68	0.000	.2982426	.6121157
Constant	1.48709	2.50	0.012	.3225146	2.651665
<b>Indirect Model</b>	beta-value	t-value	p-value	95% Conf. Interval	
FBS <-EOC <- MTS	.2055795	3.95	0.000	.1036527	.3075064
FBS <-EOC <-TRS	.0690357	1.75	0.081	-.008394	.1464653
FBS <-EOC<- SCS	.1170366	2.97	0.003	.0398635	.1942097

Table 3 shows the relationship between mentoring, training, succession skills, entrepreneurial orientation, and family firm survival in the direct model. A beta value of -.0176797 and a t-value of -0.21 indicate that mentoring is inversely related to FBs' survival. The p-value of 0.837 further explains that the relationship is not significant. This means that in Nigerian family businesses, the relationship between leader and successor is still in its infancy. This may be the reason for Sajuyigbe et al. (2016) complained that most FBs in Nigeria die shortly after the death of their founders due to the lack of mentoring. This study contradicts studies conducted in Nairobi (Mugo et al., 2015), Indonesia (Sentot et al., 2014), Kenya (Karanja, 2012) and Malaysia (Moha et al., 2011)., that mentor -successor relationship is a very powerful tool for family's continued strength and influences FB growth. Therefore, **H<sub>1</sub>** is not confirmed.

The results also show that training (TRS) is positively associated with FB survival, with a t-value of 3.62. A p-value of 0.000 indicates that training is significantly associated with FB survival at the 5% significance level. This means that after the founder's death, the successor will be able to make FB more productive. This development is sending a positive signal to family businesses in Nigeria. The study concurs with the studies conducted in Ghana (Saan et al., 2013) and Iran (Maryam et al., 2014) that training has the greatest impact on FBs' survival. Hence, **H<sub>2</sub>** is supported.

Evidence showcases that successor competence has a positive association with FBs' survival with a beta-value of .0847409. A p-value of 0.0309 and t-value of 1.02 further explain that the association is not significant. This implies that successor competencies such as entrepreneurial skills, knowledge, talents, behavior patterns, and codified principles had not significantly influenced FB survival in Nigeria. Therefore, **H<sub>3</sub>** is not confirmed

Furthermore, it was revealed that EO is significantly associated with FBs' survival with a t-value of 5.68 and p-value of 0.000. This indicates that EO has become a hallmark of FBs' survival and high performance in Nigeria. The study aligns with Ali et al. (2015) that implementation of EO increases the performance and survival of FBs by finding and seizing opportunities with optimal utilization of available resources. In another study, Wales (2016) states that EO represents

management's focus on finding new opportunities for growth in FBs. Sajuyigbe et al (2016) also attest that EO is pertinent for the sustainability of FBs as it prepares the replacement candidate for taking over as soon as the founder is gone. Therefore, **H<sub>4</sub>** is confirmed.

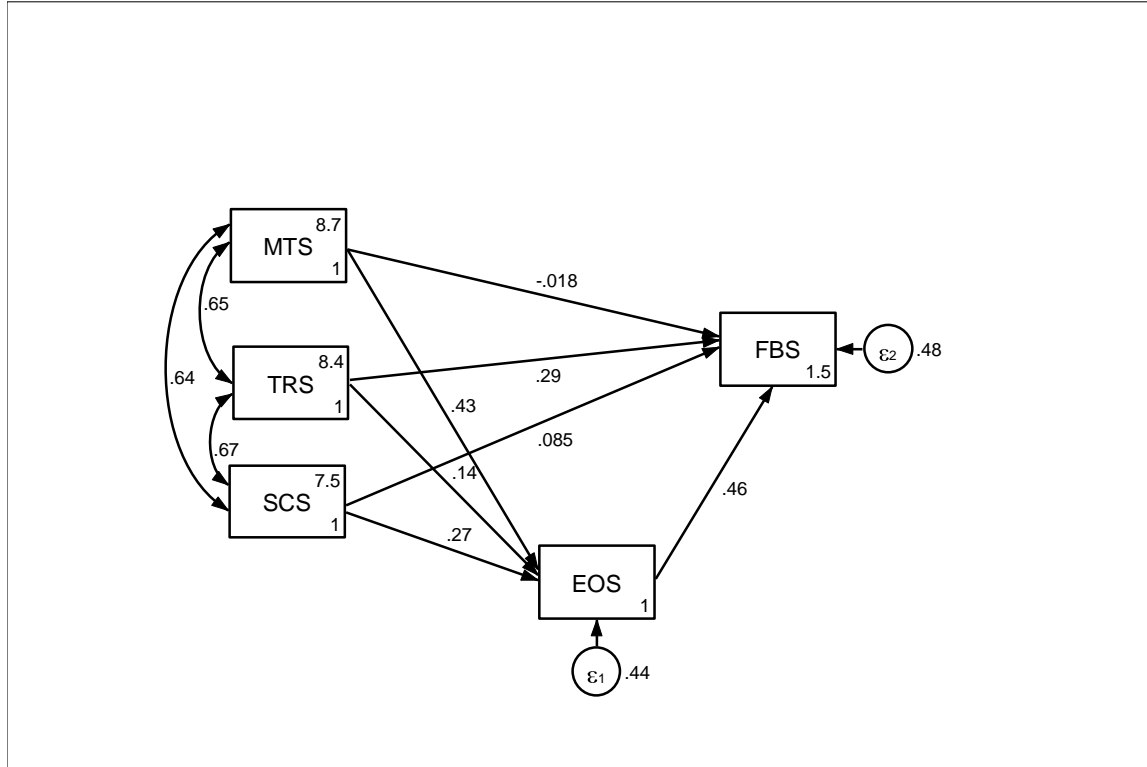


Figure 1: Structural Equation Modelling

Table 3 shows the mediating effects of EO on the relationship between education, succession competence, and FB survival. Using standardized coefficients, a t-value of -0.21 and a p-value of 0.837 indicate that mentoring is not a predictor of FB survival, although the t-value changed from 0.837 to 3.95 shortly after the introduction of EO. , with a b value of -0.21 to 0.000. This suggests that EO perfectly mediates between mentoring and FB survival. This means that EO is a platform to influence mentoring that drives the sustainability and growth of FB (Oyeladun, 2020; Onyekwena & Kekeruche, 2020; Orole, 2020). Therefore, **H<sub>5</sub>** is supported.

A t-value of 3.62 and a p-value of 0.00 indicated that training was a predictor of FB survival, but when EO was introduced, the t-value decreased from 3.62 to 1.75 and the p-value increased from 0.000 to 0.0801. This connotes that EO is not a predictor. The implication of this result is that EO does not mediate between FB training and FB survival. Therefore, **H<sub>6</sub>** is not supported.

Moreover, when EO was introduced, the t-value changed from 5.68 to 2.97 and the p-value from 0.000 to 0.003, suggesting that succession competence ability and EO are predictors of FB survival (see Table 4). This indicates that EO partially mediates succession competence and FB survival. Hence, **H<sub>7</sub>** is partially supported.

These results are consistent with the guideline of Baron and Kenny (2003) that partial mediation occurs when the independent variable is a predictor and the mediator is also a predictor. Perfect

mediation occurs when the independent variable is not a predictor and the mediator is a predictor. Mediation does not occur if the independent variable is not a predictor and the mediator is not a predictor.

## **CONCLUSION**

The study investigates the mediating effect of the influence of mentoring, training, and successor competence on FBs' survival in Southwest Nigeria. The sampling method used was purposive, while closed-ended questionnaires were sent to 360 respondents to collect information. A total of 300 completed questionnaires were completed and returned to researchers. The results of SEM reveal that training and EO are positively and significantly associated with FB survival. This indicates that training and EO have become hallmarks of FBs' survival and high performance in Nigeria. The implication of these findings is that the implementation of entrepreneurial training and entrepreneurial orientation increases the performance and survival of FBs by finding and seizing opportunities with optimal utilization of available resources. The study aligns with Wales (2016) that entrepreneurial training and EO represent management's focus on finding new opportunities for growth in FBs. This development is sending a positive signal to family businesses that after the founder's death, the successors will be able to make FBs more productive.

Results further reveal that mentoring and successor competence have not significantly influenced FBs' survival. This implies that the successor-mentor relationship is still in its infancy in Nigeria compare with the data from Nairobi (Mugo et al., 2015), Indonesia (Sentot et al., 2014), Kenya (Karanja, 2012) and Maylasia (Moha et al., 2011) where mentor -successor relationship is a very powerful tool for family businesses sustainability. There is evidence that EO mediates fully between mentoring and FB survival, but not between training and FB survival, and partially mediates successor competence and FB survival. This means EO is a platform to influence the mentoring and successor competence that drive the sustainability and growth of FB.

## **RECOMMENDATIONS**

The following recommendations are derived from the results of this study.

1. For the smooth operation of FB, successors should be mentored and foster family partnerships.
2. Career development of successors should be considered. This allows the continuity of the family business after the founder's death.
3. Successors must undergo training to further develop their technical/management skills within FB.
4. Entrepreneurial orientation should be considered so that FB can use management techniques to identify and explore new opportunities.
5. Successors must be mentally, emotionally, and flexibly aware of the business environment and work with workers to achieve sustainability

## **ACKNOWLEDGEMENTS**

A big thank you to TETFUND for funding this research. We would also like to thank the management of Polytechnic Ibadan for their support.

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## Mediating Effects of Entrepreneurship Education on Personality Dimensions and Venture Creation of Nigerian Graduates: An Empirical Approach

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### ARTICLE INFO

#### Article History:

Received:	January	15, 2023
Revised:	February	10, 2023
Accepted:	February	28, 2023
Available Online:	March	13, 2023

#### Keywords:

NFA, Self-efficacy, Risk-taking, Venture creation, Entrepreneurship education

### ABSTRACT

The study examines the mediating effects of entrepreneurial education on the need for achievement, risk-taking, self-efficacy, and venture creation among Nigerian graduates. A targeted sampling technique was used for the selection of the corps members deployed to the Oyo State. Structural equation modelling was used to analyze the data with the aid of STATA version 15. The results reveal that entrepreneurship education has a positive association with the need for achievement, and self-efficacy. Further reveals that entrepreneurship education has a positive relationship with risk-taking but insignificant. It was also revealed that need for achievement has inverse relationship with venture creation, while self-efficacy has a positive but insignificant relationship with venture creation. There is evidence that taking risks is positively and significantly related to starting a business. This suggests that entrepreneurship education serves as a platform to encourage personality traits like the desire for success, risk-taking, self-efficacy, and entrepreneurial intentions to venture into business. The study, therefore, recommends that policymakers should make entrepreneurship education mandatory for students at all levels, that teachers should involve students in practical work, and that the government should create an environment that is conducive to the growth of entrepreneurship in the nation. This will significantly contribute to the 2030 Sustainable Development Goals.



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## INTRODUCTION

With a GDP of over \$505 billion and a purchasing power parity of about \$1.3 billion, Nigeria is considered an African giant in terms of human, mineral, and natural resources, the second largest on the African continent. The country was recently ranked as the 26th largest economy on the



continent and ranked third in the total private wealth of around \$228 billion. Paradoxically, with over 133 million Nigerians living below the poverty line, the country has been tagged the world's poverty headquarters. The recent devastation caused by COVID-19 has exacerbated the situation, with the unemployment rate surpassing 33.5% in the second quarter of 2022 (NBS, 2023). This awkward scenario has led Nigerian youth to rely on ritual killing, kidnapping, and Yahoo-plus syndrome to make ends meet. The country has become a lion's den for citizens and foreigners alike. This suggests that Nigerian graduates should be encouraged to become entrepreneurs rather than seeking clerical jobs that are no longer available in the country. Existing research suggests that entrepreneurship education is the antidote to poverty, unemployment, and social devices (). The study also confirms that entrepreneurship education is an alternative paradigm for job creation, wealth creation, and poverty reduction (Sajuyigbe et al., 2021). This connotes that Sustainable economic development is an indicator of entrepreneurial education through the development of young graduates.

Previous studies have linked personality dimensions (need for achievement, risk taking and self-efficacy) to venture creation. According to Agbai (2018), need for achievement (NFA), risk taking (RT) and self-efficacy (SE) are entrepreneurial tools that influence venture creation. The NFA, RT and SE drive the entrepreneurial spirit of venture creators (Sajuyigbe et al., 2021), the choice to be self-employed (Olokundun, 2017), the choice to be a successful entrepreneur (Ndofirepi, 2020), and the employer of workers (Anwar et al., 2021). Indarti and Krinstiansen (2018) view the NFA as the motivating behavior for setting achievable goals. Sajuyigbe et al. (2021) also see the NFA at an individual level that sets standards for achieving superior results. According to Sunaryo and Tukiran (2021), RT is the willingness and propensity of entrepreneurs to take risks and is a predictor of career choice, while Demir (2020) describes SE as the ability of an entrepreneur to have the confidence and entrepreneurial skills to start a business.

Numerous studies have established links between the personality dimensions (NFA, RT and SE), and entrepreneurial intention (Sajuyigbe et al., 2021; Demir, 2020; Sunaryo & Tukiran, 2021; Al-Mamary et al., 2020; Anra et al., 2020; Voda & Florea, 2019; Mor et al., 2020; Agbai, 2018; Olokundun, 2017; Indarti & Krinstiansen, 2018; ). However, no studies have identified the extent to which the personality dimensions (NFA, RT and SE) influence venture creation when entrepreneurship education is introduced. This current study, therefore, builds on the existing literature on entrepreneurship by developing a model that explains the mediating effects of entrepreneurial education on the NFA, RT, SE and venture creation among Nigerian graduates.

### **Theoretical Framework**

The theory underlying this research is that of planned behaviour. This theory was developed and validated by Ajzen (1985) and is well-documented in the literature as an important predictor of entrepreneurial behavior among business-challenging young people (Olokundun, 2017). According to Dimova and Pela (2018), this theory drives various entrepreneurial behaviors and intentions to start business ventures such as starting new companies. Existing research has linked planning-behavior theory to personality factors (NFA, RT and SE), entrepreneurship education, and entrepreneurial intentions (kautonen, Geldren & Tornikoski, 2013; Jepchirchir, Korir & Lagat, 2019; Aligba & Fusch, 2017). A study by Torniskoski and Maalaoui (2019) confirms that entrepreneurship education reshapes student behavior and shifts

towards entrepreneurial intent to start a business. Personality factors (NFA, RT and SE), on the other hand, are strong predictors of an entrepreneur's willingness to start a venture.

Theory therefore suggests that entrepreneurial education and personality factors are the driving forces that drive entrepreneurial intentions to initiate entrepreneurial ventures among young people. Jepchirchir et al. (2019) validate the theoretical claim that the entrepreneurial spirit of business-challenging students is an indicator of entrepreneurial education and personality factors. This finding confirmed that the theory of planned behavior can explain the mediating effects of entrepreneurial education on the NFA, RT, SE, and entrepreneurial intentions to start a business. Therefore, the planned behaviour theory is relevant to this study, and it is predicted to provide a strong entrepreneurial behavioral intentions among Nigerian graduates to venture into business.

## **Personality Dimensions and Hypotheses Development**

### **Need for Achievement**

The NFA as the motivating behavior for setting achievable goals (Indarti & Krinstiansen, 2018). According to Sajuyigbe et al. (2021), the NFA is an individual trait that focus on achievement of superior results. The NFA that drives a desire and ambition to be successful has a strong influence on venture creation (Olokundun, 2017). Samydevan et al., (2015) also aver that the NFA is a framework of entrepreneurial ambition and venture creation. According to Hsu et al. (2019), the NFA has a positive and direct link with entrepreneurial intention toward venture creation. A study by Anwar et al. (2021) establishes the link between the NFA and entrepreneurial intentions to start a business. Similarly, Sajuyigbe et al. (2021) argue that people with a high need for achievement are more likely to have the entrepreneurial spirit to start a business. Along the same lines, Munir et al. (2019) argue that there is a positive relationship between the NFA and entrepreneurial intention toward venture creation. Ismail et al. (2012) also attest that an entrepreneur's intention to start a business indicates a NFA. Popescu et al., (2016) also assert that the NFA is a powerful motivating factor that influences entrepreneurial intentions. Yukongdi and Lopa (2017) reaffirm that NFA is positively associated with entrepreneurs' intention to start a business. Thus, the following hypothesis emerged:

**H<sub>1</sub>:** The NFA is significantly associated with venture creation

### **Risk-taking (RT)**

The RT is considered a conscious or unconscious act of benefit or cost to one's own or the psychosocial well-being of others (Ismail et al., 2012). According to Sunaryo and Tukiran (2021), RT indicates a willingness to think about entrepreneurship and start a business. Previous research has identified a relationship between RT and entrepreneurial intention to venture into business. Al Mamari et al. (2020) found that RT is a strong predictor of entrepreneurial intentions to go into business. Mor, Madan & Chhikara (2020) also confirm that RT has a positive and significant impact on an entrepreneur's willingness to do business. Along the same lines, Caliendo et al. (2014) argue that RT is an important trait for entrepreneurs to enter and succeed in business. Ndofirepi (2020) shows that RT is positively correlated with the desire to start your own business. Similarly, Espiritu-Olmos & Sastre-Castillo (2015) argue that RT is a key factor influencing entrepreneurs' willingness to go into business. Olokundun (2017) also acknowledges that RT is an alternative paradigm to entrepreneurial intentions to venture into business. A study by Aligba and Fusch (2017) found that the ability to take risks is a prerequisite for an

entrepreneur's intention to enter a business. A study conducted in Nigeria by Agbai (2018) found that RT is the intent of forward-thinking entrepreneurs going into business. Thus, the following hypothesis is formulated:

**H<sub>2</sub>:** There is a significant association between RT and venture creation

### **Self-Efficacy (SE)**

The SE is a belief in an individual's ability and confidence to take on business challenges and succeed (Auna, 2019). Fazlurrahman (2020) sees SE as a strength for entrepreneurs to start and succeed in business. Existing research has linked SE and business formation. For example, Karabulut (2016) found that one of the important personality aspects, SE, was positively correlated with business creation. A study by Karimi et al., (2017) also confirms that SE is strongly associated with an entrepreneur's intention to enter a business. Auna (2019) also agrees with previous research that venture creation is an indicator of SE. In the same vein, Mold (2013) links SE to entrepreneurial will and behavior. Owoseni (2014) also affirms that venture creation is an indicator of SE. A study conducted by Javan (2014) found a strong relationship between SE and entrepreneurial intentions to venture into business according to the study's findings. Mould (2013) also discovered that SE is significantly associated with entrepreneurial intentions to venture into business. Similarly, Munir et al., (2019) attest the strong and positive linearity between SE and entrepreneurial intentions to venture into business. Another study conducted by Ismail et al., (2012) found that SE is one of personality dimensions that has substantial influence on entrepreneurial intentions to venture into business. The finding of Naktiyok et al., (2010) concurs with previous studies that SE is positively influence entrepreneurial intentions to venture into business. Based on the empirical findings, the following hypothesis is proposed:

**H<sub>3</sub>:** SE is significantly associated with venture creation

### **Entrepreneurship Education (EE) as a Mediator**

EE is recognized by researchers and policy makers as an alternative to positive and innovative responses to the environment in terms of entrepreneurship, skills, attitudes and ability to pursue business creation (Ojeifo, 2013; Garba, 2010). EE can be defined as the acquisition of entrepreneurial skills, attitudes and behaviors for business creation (Olubiyi et al., 2019). Existing study has attested that EE is a driver of entrepreneurial attitudes, skills, behavior and venture creation (Sunaryo & Tukiran, 2021; Mor et al., 2020; Ndofirepi, 2020). According to Mor et al. (2020), EE is an entrepreneurship tool that helps an entrepreneur to acquire an array of entrepreneurial skills to create business ventures by encouraging entrepreneurs to set achievable goals, gain confidence, accept business challenges, and inspire actions to Succeed. Omolayo (2006) argues that EE is the act of starting a business, obtaining a business idea, building trust and taking risks in order to maximize profits and maintain a competitive edge. Oguntimehin and Olaniran (2017) propose that EE is a platform for entrepreneurs to acquire a set of entrepreneurial skills, behaviors and attitudes to start a business. Qiao (2017) also argues that EE exposes entrepreneurs to risk-taking, capacity-building, self-confidence, and business creation.

A study by Mahendra et al. (2017) show that EE is directly related to aspects of personality (NFA, RT and SE) and venture creation. Similarly, Olokundun (2017) confirms that EE is highly associated with the personality dimensions, and business creation. Similarly, Israr and Mazhar

(2018) argue that EE is directly related to the NFA, RT and SE. In a similar study, Valerij and Laura (2014) confirm that EE is a roadmap for entrepreneurial motivation. Hence, the following hypotheses emerged:

H<sub>4</sub>: EE is significantly related with need for achievement

H<sub>5</sub>: EE is significantly related with risk-taking

H<sub>6</sub>: EE is significantly related with self-efficacy

H<sub>7</sub>: EE is significantly related with venture creation

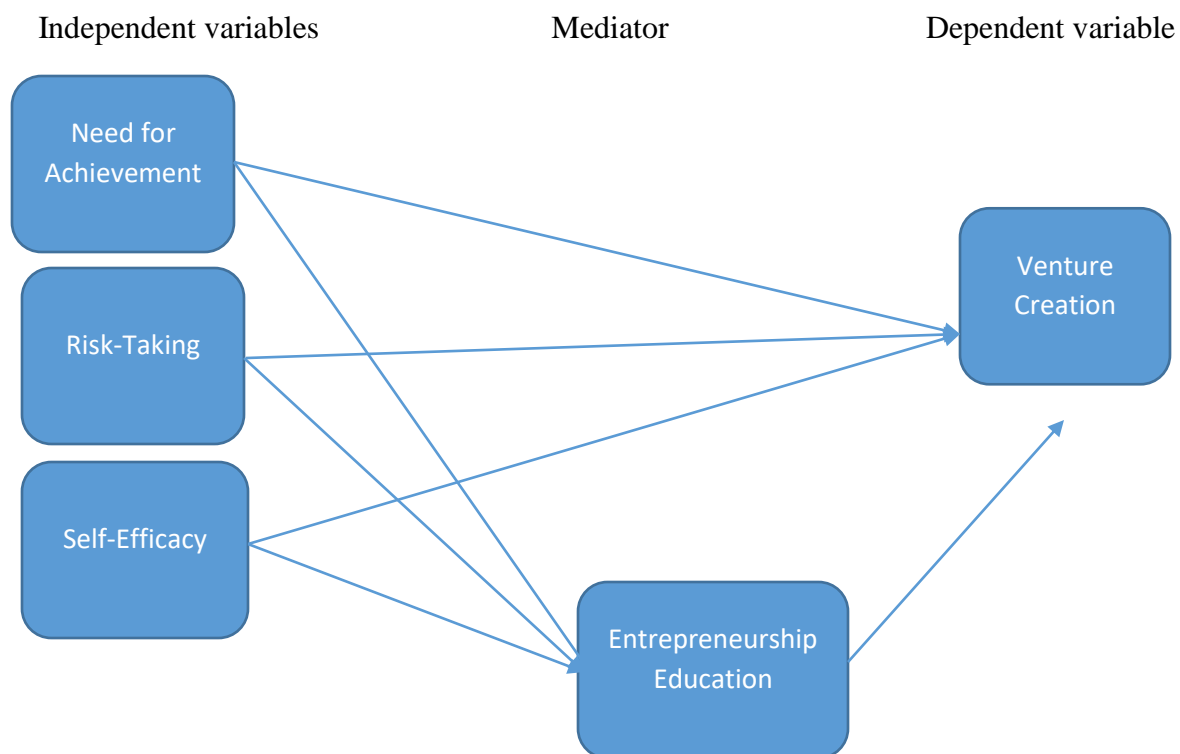
H<sub>8</sub>: EE mediates between the need for achievement and venture creation

H<sub>9</sub>: EE mediates between risk-taking and venture creation

H<sub>10</sub>: EE mediates between self-efficacy and venture creation

### **Conceptual Model**

The following conceptual model is proposed to illustrate the mediating effect of entrepreneurship education on the NFA, RT, SE and venture creation (see figure 1).



**Figure 1: Conceptual Model**

### **METHODOLOGY**

A targeted sampling technique was used for Oyo State selection. Oyo State's choice is based on the fact that it is one of the largest states in Southwest and it assumed to have highest number of

corps members deployed to the state. 700 Copies of a structured questionnaire were sent to corps members in all 33 local governments of Oyo State. A total of 650 questionnaires were completed and returned to researchers. Distribution of the survey took place from December 18, 2022 to February 1, 2023. Among them, males account for 61%, while females represent 39%; the mean age of the sample was 25 years old. Bachelor degree holders accounted for 42%, while Higher National Diploma holders accounted for 58%.

The scales for the study comprised of the entrepreneurship education Scale, need for achievement scale, self-efficacy scale, and venture creation scale. These scales anchored on the likert 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). The following scales are measured as follows:

**Need for Achievement Scale (NAS):** This scale was developed and validated by Al- Mamari et al. (2020) and has a total of 6 items used to measure the need for achievement. Sample items for the construct are “I want to take advantage of market opportunities to become financially successful, I want to use my special skills to show new business possibilities, and I want freedom in my work. The authors reported a reliability value of 0.83 for the need for achievement.

**Risk-Taking Scale (RTS):** This scale was developed and validated by Munir et al. (2019) and contains a total of 5 items for measuring risk-taking. Examples of items include: ` I believe in the philosophy that the higher the risk, the higher the reward, It is very dangerous not to take risks when starting a new business and how well a company can claim in the market is related to uncertainty. The authors reported a reliability value of 0.79 for the risk-taking.

**Self-Efficacy scale (SES):** This scale was developed and validated by Agbai (2018) and contains a total of 6 items for measuring self-efficacy. Examples of items include: I can plan activities to take advantage of new opportunities, I am confident that I can muster the effort necessary to start a business and I can position myself in the product market. The author reported a reliability value of 0.81 for the self-efficacy.

**Entrepreneurship Education Scale (EES):** This scale was developed and validated by Mor et al. (2020) and contains a total of 5 items for measuring entrepreneurship education. Examples of items include: Inspirational teaching methods solve problems in new ways, educator professionalism Influences my thinking about starting entrepreneurial Ventures, and my educator teaches me more about entrepreneurship. The authors reported a reliability value of 0.80 for the entrepreneurship education.

**Venture Creation Scale (VCS):** This scale was developed and validated by Sajuyigbe et al. (2021) and contains a total of 5 items for measuring venture creation. Examples of items include: I am planning to start a venture company and become my own boss, I have acquired various entrepreneurial skills to start my entrepreneurial business, and proud to be an entrepreneur after completing my service. The authors reported a reliability value of 0.83 for the venture creation.

#### **Exploratory factor analysis (EFA)**

EFA was used to test the validity and feasibility of maximum likelihood and promax rotation measurements used to determine the underlying factors/structures of various measured variables.

**Table 1: Exploratory Factor Analysis for Testing Validity of the Constructs**

Need for Achievement	1	2	3	4	5
NASQ1	.839				
NASQ2	.820				
NASQ3	.891				
NASQ4	.801				
NASQ5	.818				
NASQ6	.811				
Risk-Taking					
RTSQ1		.263			
RTSQ2		.821			
RTSQ3		.814			
RTSQ4		.824			
RTSQ5		.833			
Self-Efficacy					
SESQ1			.841		
SESQ2			.822		
SESQ3			.789		
SESQ4			.852		
SESQ5			.799		
SESQ6			.871		
Venture Creation					
VCSSQ1				.772	
VCSQ2				.797	
VCSQ3				.823	
VCSQ4				.819	
VCSQ5				.807	
Entrepreneurship Education					

EESQ1					.823
EESQ2					.811
EESQ3					.809
EESQ4					.817
EESQ5					.797
KMO = 0.844 Bartlett's Test of Sphericity ( $X^2$ ) = 1341.090, 0.000. Total Variance Explained = 85.5%					

Table 1 depicts that the community value for each variable is more than 0.50, the KMO test is 0.844, and the Bartlett test for Sphericity has a significance level of 5%. These indicators reveal that the survey is factorable.

## DATA ANALYSIS RESULTS AND DISCUSSION

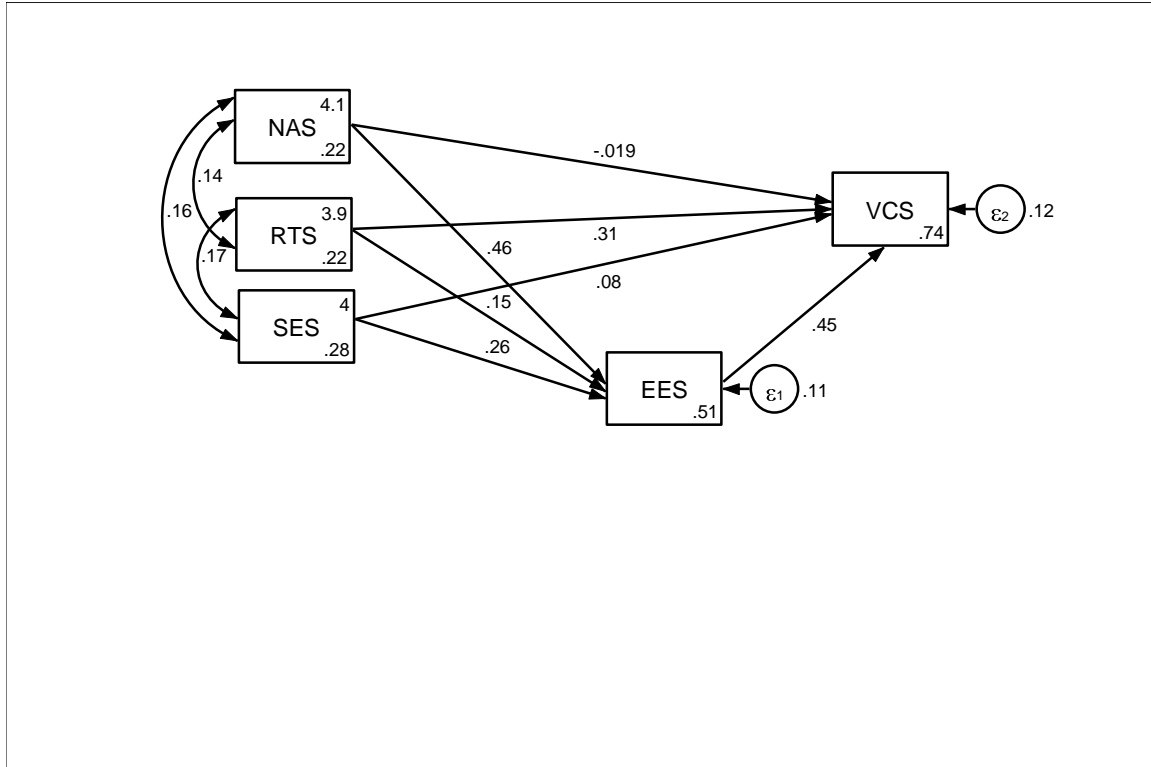
*Table 2: Structural Equation Modelling without Mediator (Direct Effect)*

Path	beta-value	T-value	P-value	[95% Conf. Interval]		Remark
VCS <- NAS	-.018	-0.21	0.837	-.1955873	.1583281	<b>H<sub>1</sub> Not confirmed</b>
VCS <- RTS	.309	3.58	0.000	.1398409	.4791606	<b>H<sub>2</sub> Confirmed</b>
VCS <- SES	.079	1.02	0.309	-.0741064	.2337923	<b>H<sub>3</sub> Not confirmed</b>
EES <- NAS	.455	5.73	0.000	.2998063	.6113421	<b>H<sub>4</sub> Confirmed</b>
EES <- RTS	.152	1.84	0.065	-.009572	.3155447	<b>H<sub>5</sub> Not confirmed</b>
EES <- SES	.259	3.54	0.000	.1159154	.402802	<b>H<sub>6</sub> Confirmed</b>
VCS <- EES	.451	4.54	0.000	.289233	.6132744	<b>H<sub>7</sub> Confirmed</b>

Table 2 depicts the relationship between personality dimensions [NFA, RT and SE], EE and venture creation. The b-value of 0.455 and t-value of 5.73 reveal that NFA has a positive association with EE. The p-value of 0.000 further reveals that the relationship between NFA and EE is significant. This showcases that EE is a platform through which special skills are acquired to show new business possibilities. The result also reveals that EE is positively but insignificantly ( $\beta = 0.152$ ;  $t = 1.84$ ;  $p > .05$ ) associated with RT. This may be as a result of unstable economy, cashless policy, and national debt and socio- devices. Furthermore, the beta-value of .259 and t-value of 3.54 indicate that EE is positively and significantly associated with SE with p-value of 0.000. This connotes that EE has built students' confident to and necessary effort to start a business. Evidence shows that EE is a strong predictor of venture creation with ( $\beta = .451$ ;  $t = 5.46$ ;  $P < .05$ ). This connotes that EE is only antidote to unemployment, poverty, kidnapping, and Yahoo+ syndrome among Nigerian youths.

From Table 2, it was revealed that NFA has inverse relationship with venture creation ( $\beta = -.018$ ;  $T = -0.21$ ;  $P > .05$ ). This implies that the economy and political saga in Nigeria have prevented entrepreneurs to showcase their entrepreneurial skills toward venture creation.

The beta-value of .309 and t-value of 3.58 show that RT is positively and significantly associated with venture creation with a p-value of 0.000. This implies that entrepreneurs have a strong belief in the philosophy that the higher the risk, the higher the reward that prompt them to venture into business. Furthermore, the result shows that SE ( $\beta = .079$ ;  $t = 1.02$ ;  $P > .05$ ) has a positive but insignificant relationship with venture creation.



**Figure 1: Structural equation modelling (SEM)**

**Table 3: Structural Equation Modelling with mediator (Indirect Effect)**

Path	beta-value	T-value	P-value	Hypothesis	
VCS <-EES <- NAS	.205	3.95	0.000	<b>H<sub>8</sub></b>	Confirmed
VCS <-EES <- RTS	.069	1.75	0.081	<b>H<sub>9</sub></b>	Not confirmed
VCS <-EES <- SES	.117	2.97	0.003	<b>H<sub>10</sub></b>	Partially Confirmed

Table 3 shows that when EE was introduced, the unstandardized beta- changed from -0.18 to 0.205 and t-value changed from -0.21 to 3.95, p-value changed from 0.837 to 0.000 (see Table 2). This indicates that EE is strong mediator. Therefore, EE mediates between NFA and venture creation. The result also reveals that when EE was introduced, the unstandardized beta- value reduced from 0.309 to 0.069 and t-value reduced from 3.58 to 1.75, while p-value increased from 0.000 to 0.081 (see Table 2). This connotes that EE is not a mediator. Hence, EE does not mediate between RT and venture creation. Evidence shows that EE is a predictor of venture creation with beta-value of 0.117, t-value of 2.97 and p-value of 0.003, while SE is also a



predictor of venture creation with a beta-value of 0.451, t- value of 4.54 and p-value of 0.000 (see Table 2). This connotes that EE partially mediates between SE and venture creation. This result is in alignment with the guidelines proposed by Baron and Kenny (1998) that when independent variable and mediator are predictors of independent variable partial mediation occurs.

The implication of these findings is that EE is a platform that drives personality traits such NFA, RT, SE and entrepreneurial intentions toward venture creation. Also, indicates that EE is palliative strategy to scarcity of job opportunities, acute poverty, Yahoo+ syndrome, kidnapping, and ritual killing among Nigerian youths. An array of entrepreneurial skills acquired via EE open doors for the NFA, RT, SE and a lot of opportunities for venture creation.

## **CONCLUSION**

The study examines the mediating effects of EE on the NFA, RT, SE, and venture creation among Nigerian graduates. A targeted sampling technique was used for the selection of the corps members deployed to the Oyo State. 700 Copies of a structured questionnaire were sent to the respondents, while a total of 650 questionnaires were completed and returned to researchers. Structural equation modelling was used to analyze the data with the aid of STATA version 15. The results reveal that entrepreneurship education has a positive association with the need for achievement, and self-efficacy. This showcases that EE is a platform through which special skills are acquired to show new business possibilities. Furthermore, EE has a positive relationship with RT but insignificant. This may be as a result of unpredictable economic policies in the country. It was also revealed that NFA has inverse relationship with venture creation, while SE has a positive but insignificant relationship with venture creation. Evidence also shows that RT is positively and significantly associated with venture creation. This implies that entrepreneurs have a strong belief in the philosophy that the higher the risk, the higher the reward that prompt them to venture into business.

Conclusively, EE is a platform that drives personality traits such NFA, RT, SE and entrepreneurial intentions toward venture creation.

## **Study Implications**

This current study is the first to examine the mediating effect of EE on the relationship between personality dimensions (NFA, RT and SE) and venture creation, even though many studies have looked at personality traits as an antecedent of entrepreneurial intentions. This current study provides a fresh perspective on how EE can foster personality dimensions and venture creation among Nigerian graduates. To better understand the topic, our study was carried out in Oyo State, Nigeria to know the extent EE drives personality traits such as the NFA, RT, SE and entrepreneurial intentions toward venture creation.

Many studies have linked a positive association between personality traits and entrepreneurial intentions across the world. Still, no studies have addressed the extent to which personality dimensions affect venture creation when EE is introduced. This current study bridges the gap in entrepreneurship literature by developing a model that supports personality dimensions and venture creation as antecedents of entrepreneurship education.

In addition, this research exposes policymakers, educators, entrepreneurs, and students that acquiring a spectrum of entrepreneurial skills through entrepreneurship education empowers

individuals to identify new business possibilities, to have the confidence to succeed in a competitive environment, and to take calculated risks in order to take advantage of new opportunities. The study therefore urges policymakers to make EE mandatory for students at all levels, while educators should involve students in practical work, and the government should create an environment that is conducive to the growth of entrepreneurship in the nation. This will significantly contribute to the 2030 Sustainable Development Goals.

## **ACKNOWLEDGEMENTS**

My sincere gratitude goes out to the TETFUND for sponsoring this worthwhile research work. I also acknowledge the support of the Polytechnic, Ibadan management in helping to bring this research to the public's attention.

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## Supply Chain Information Technology (SCIT) and Organizational performance: Evidence from Nigerian Manufacturing Industry

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### ARTICLE INFO

#### Article History:

Received:	February	25, 2023
Revised:	March	20, 2023
Accepted:	April	10, 2023
Available Online:	May	30, 2023

#### Keywords:

SCIT, ERP, CRM, EDI, Advanced analytics, Manufacturing

### ABSTRACT

*This research investigates how the dimensions of Supply Chain Information Technology (SCIT) affect the performance of the manufacturing industry, specifically focusing on selected Nigerian manufacturing companies. The study employed a targeted sampling technique to select 20 respondents from the Department of Procurement and Logistics of each of the five chosen manufacturing companies, resulting in a sample size of 100 respondents. Data was collected from the respondents using a structured questionnaire, and path analysis was employed to analyze the collected data. The findings demonstrate that SCIT dimensions, namely ERP, CRM, EDI, and AAS, have a positive and significant correlation with organizational performance. This association is observed in terms of strategic decision-making, improved understanding of customer preferences, needs, and behaviors, and enhanced data accuracy and order processing efficiency. It can be concluded that implementing SCIT in the manufacturing industry will result in increased operational efficiency, better decision-making, better collaboration, and greater supply chain transparency. This enables managers to proactively address challenges, optimize resources, and drive performance improvements across the supply chain.*



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### INTRODUCTION

Manufacturing plays an important role in both developed and emerging economies. The World Trade Organization (WTO) (2020) shows that manufacturing contributes significantly to the global economy, driving economic growth, employment and innovation. According to the World Trade Organization (WTO), manufacturing accounted for about 16% of global GDP in 2019. In the same year, it accounted for about 70% of the world's merchandise trade. Manufacturing activities create value-added products, export opportunities, and technological advances that benefit economies around the world. To support this claim, the U.S. Bureau of Economic

Analysis (2021) says manufacturing contributes to economic performance, job creation and technological progress. In 2020, manufacturing accounted for about 11.6% of US GDP and employed about 12.3 million workers. Similarly, the Office for National Statistics (2021) confirms that manufacturing accounts for around 10% of UK GDP and employed around 2.7 million people in 2020. In Nigeria, the sector also accounted for about 8.9% of the country's GDP in 2019 (National Bureau of Statistics, 2020). Despite laudable efforts to sustainably support the country's economy, the sector faces significant challenges due to the adverse macroeconomic conditions and the impact of the COVID-19 pandemic. This situation has always had a negative impact on the company's productivity and ability to generate profits. The Manufacturers Association of Nigeria (MAN) recognizes that these challenges have become more complex and serious than in previous years. According to the National Bureau of Statistics (2022), it is clear that there is a cause for concern as the output value of the sector has decreased from N3.73 trillion in the second half of 2021 to N2.68 trillion in the same period of 2022.

Manufacturers are facing a challenging situation that requires them to come up with strategies to prevent the industry from disappearing abruptly. One such strategy is the implementation of supply chain information technology (SCIT). SCIT involves the use of information and communication technology (ICT) tools and systems to enhance the efficiency and effectiveness of supply chain management processes. This involves integrating various technologies like enterprise resource planning (ERP) systems, customer relationship management (CRM) software, electronic data interchange (EDI), and advanced analytics. Previous studies have shown a strong connection between SCIT and organizational performance. For example, Chofreh et al. (2019) suggest that SCIT positively impacts supply chain agility, leading to improved performance and a competitive edge. Similarly, Oke et al. (2016) demonstrate that SCIT plays a crucial role for manufacturing companies in ensuring timely delivery of materials, cost minimization, and enhanced customer satisfaction. Melnyk et al. (2014) defines SCIT as the use of information and communication technology (ICT) tools and systems to optimize supply chain management (SCM) processes. Integrating ICT into SCM has recently gained importance and interest due to its many benefits. These benefits include improved visibility, coordination, and information sharing across the supply chain, ultimately leading to improved performance and competitive advantage in manufacturing (Chofreh et al., 2019; Oke et al., 2016; Hassab-Elnaby et al., 2012).

Lately, in developed nations, there has been a growing focus on SCIT tools (such as ERP CRM, EDI, and advanced analytics) and their impact on organizational performance. However, despite the available studies, there is a lack of empirical evidence establishing a connection between SCIT tools and organizational performance in developing countries, particularly within the Nigerian manufacturing industry. This indicates the need for research that acknowledges the influence of SCIT dimensions on the performance of manufacturing industries in developing nations. Hence, the objective of this study is to investigate the impact of SCIT dimensions (ERP CRM, EDI, and advanced analytics) on the organizational performance of the manufacturing industry, aiming to address the aforementioned research gaps.

## **Theoretical Framework and Hypotheses Development**

The theory underlying this work is Transaction Cost Economics (TCE), a theoretical framework developed by Oliver E. Williamson in the 1970s to analyze the efficiency and organization of economic transactions (Tobon et al., 2018; Gunasekaran, & Ngai, 2004). . Many studies have linked this theory to supply chain information technology and organizational performance (Oke et al., 2016; Umble et al 2003; Sahay et al., 2017; Li et al., 2017). Guevara et al. (2019) state that Transaction Cost Economics (TCE) examines the expenses involved in the exchange of goods and services among economic agents, like companies, and the factors influencing the choice of organizational structure for conducting transactions. Ghadge et al., (2018) suggests that TCE emerged to address the significant impact of transaction costs, which encompass search and information costs, bargaining costs, and enforcement costs, on economic outcomes. Chae et al. (2018) demonstrate that TCE offers a framework for analyzing the costs related to different sourcing options, such as vertical integration or outsourcing. This theory enables firms to evaluate the advantages and risks of maintaining in-house capabilities versus relying on external suppliers. By comprehending transaction costs, companies can make well-informed decisions regarding supplier selection, contract negotiation, and relationship management, resulting in enhanced efficiency within the supply chain (Benson et al., 2017). According to Mukerjee, and Singh (2018), the theory assists companies in creating effective contracts and governance structures to minimize transaction costs and align the interests of different parties. By including specific performance measures, penalties, and rewards in contracts, firms can decrease information imbalances and opportunistic behavior, which ultimately improves the overall performance of the supply chain (Liu et al., 2020).

Chopra and Sodhi (2019) emphasize that this theory enables organizations to play a crucial role in cost reduction by facilitating better coordination, communication, and information sharing among supply chain partners. As a result, the manufacturing industry should be aware of transaction risks such as supplier disruptions, quality issues, and price volatility. By understanding the expenses associated with these risks, companies can develop risk management strategies and enhance the resilience of their supply chains. This may involve practices like dual sourcing, maintaining inventory buffers, and exploring alternative sourcing options to minimize transaction costs arising from uncertainty (Ivanov et al., 2020).

### **Enterprise Resource Planning (ERP) and Organizational Performance**

Enterprise Resource Planning (ERP) systems are integrated software applications that are designed to manage and streamline various business processes within an organization. They are particularly relevant in the manufacturing industry, where complex operations require efficient coordination and control. The relationship between ERP systems and organizational performance in the manufacturing industry has been widely studied and recognized as having a significant impact on overall efficiency, productivity, and competitiveness (Tobon et al., 2018; Ifinedo, 2011; Gupta, & Kohli, 2006). A study conducted by Srinivasan, and Moorman (2021) reveals that ERP is significantly associated with operation performance. Another study carried out by Tobon et al. (2018) demonstrates that ERP is a major determinant of organizational success in terms of reduction in lead times, better resource allocation, and improved production scheduling. In a similar study, Khan et al. (2011) advocate that ERP systems provide real-time data and analytics that enable managers to make more informed and timely decisions. The availability of accurate and up-to-date information facilitates strategic planning, forecasting, and decision-making processes, leading to improved performance outcomes. Chen, and Paulraj (2004) also



attest that ERP systems facilitate better coordination and collaboration with suppliers, enabling more efficient supply chain management. This leads to reduced inventory holding costs, optimized procurement processes, and improved overall supply chain performance (Gunasekaran et al., 2006). Based on the above empirical findings, the following hypothesis is proposed:

H1: ERP has a significant relationship with organizational performance

### **Customer Relationship Management (CRM)**

The idea of CRM can be traced back to the 1990s when businesses started recognizing the importance of establishing strong connections with customers in order to increase sales and cultivate loyalty (Liu et al., 2020). Previous studies have shown that CRM software solutions enable the manufacturing industry to streamline their customer-related processes and improve customer service (Srinivasan & Moorman, 2021). According to Liu et al. (2020), CRM allows organizations to develop a deeper understanding of their customers' preferences, needs, and behaviors. By utilizing this information, companies can provide personalized experiences, customized products or services, and timely support, which ultimately leads to higher customer satisfaction. The authors further explained that satisfied customers are more likely to make repeat purchases, recommend the company to others, and contribute to the overall growth of the organization. Li et al. (2018) also confirm that CRM encompasses a range of processes, technologies, and strategies that aim to comprehend and fulfill customer needs and preferences. In a study conducted by Mukerjee and Singh (2018), it was demonstrated that CRM systems facilitate lead management, sales tracking, and contribute to improved sales performance and revenue growth. Another study by Liu et al. (2020) illustrates a strong correlation between CRM systems and organizational performance in terms of establishing robust customer relationships, driving sales, and fostering loyalty. Therefore, the emergence of the following hypothesis can be observed:

H2: CRM is significantly associated with organizational performance

### **Electronic Data Interchange (EDI)**

Electronic Data Interchange (EDI) is the practice of exchanging standardized electronic business documents between different organizations (Luthra et al., 2014; Senthil & Deepak, 2021). According to Shahzad et al. (2019), EDI facilitates the seamless transmission of various information, such as purchase orders, invoices, and shipping notifications, among trading partners, thereby improving organizational performance. In the same direction, Damodaran and Olhager (2008) reiterate that EDI plays a crucial role in enhancing data accuracy, order processing efficiency, and overall performance, as it eliminates the need for manual data entry, paper-based processes, and human intervention. Pal et al. (2018) also claim that EDI eliminates the need for manual data entry, paper-based processes, and human intervention, enabling organizations to streamline their operations and improve overall efficiency. A study conducted in Malaysia by Chong, and Tan (2018) demonstrated a positive and significant relationship between the adoption of EDI in the manufacturing industry and organizational performance. In another study, conducted in India by Kaur and Sood (2019) showcases that implementation of EDI by Indian manufacturing firms has a significant influence on organizational performance. Similarly, Tsai and Yang (2016) validate the positive link between EDI and logistics performance.

This means that implementing EDI in the manufacturing industry offers many benefits, including increased efficiency, reduced costs, improved supply chain collaboration, improved data accuracy and security, and streamlined order-to-cash and procure-to-pay processes. These benefits contribute to improved business performance and enable manufacturers to remain competitive in today's dynamic business environment. Hence, the following hypothesis emerged:

**H<sub>3</sub>:** EDI is significantly related with organizational performance

### **Advanced Analytics and Organizational Performance**

The emergence of advanced analytics in manufacturing can be attributed to a combination of factors. These factors include exponential data growth, advances in computing power, the development of advanced algorithms, and the growing demand for data-driven decision-making in manufacturing operations (Cervone, 2016). According to Corte-Real et al. (2017), advances in digitization have increased the automation and connectivity of manufacturing processes. As a result, a large amount of data is generated from sources such as sensors, manufacturing facilities, supply chain systems, and customer interactions. This data, often referred to as “big data,” contains valuable insights that can be used to optimize processes and improve performance (Elgendy & Elragal, 2016). A study by Kache and Seuring (2017) shows a positive association between advanced analytics and business performance. (2017) confirm that advanced analytics is a powerful predictor of business performance. Similarly, Mousannif et al. (2016) found a positive association between advanced analytics and organizational performance. Furthermore, Lam et al. (2016) confirm the important role of advanced analytics in improving quality control processes in the manufacturing industry. This means that implementing advanced analytics in manufacturing can improve performance, reduce costs, increase uptime, improve product quality, and drive continuous improvement in manufacturing. Therefore, the following hypothesis is formulated:

**H<sub>4</sub>:** There is a significant association between advanced analytics and organizational performance

### **Conceptual Model**

The following conceptual model is formulated to illustrate the mediating effect of pension contribution scheme on the relationship between job satisfaction and organizational commitment (see figure 1)

**Independent variables**

**Dependent Variable**

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*Figure 1: Conceptual Model*

## METHODOLOGY

**Research Design:** A cross-sectional survey design was employed for this study to examine respondents' views on the influence of SCIT dimensions on the performance of manufacturing industry.

**Sampling Technique and Sample Size:** A targeted sampling technique was used for selection of 20 respondents each from the Department of Procurement and Logistics of Procter and Gamble, Dangote Cement Plc, Flour Mills of Nigeria Plc, Nigerian Breweries Plc, Nigerian Bottling Company, Unilever Nigeria, Guinness Nigeria, BUA Foods Plc, Honeywell Flour Mills Plc and PZ Cussons Nigeria Plc totaling 100 respondents as a sample size for the study.

### Items measurement

The scales for the study comprised of the ERP scale, CRM scale, EDI scale and Advanced Analytics Scale, These scales anchored on the likert 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). The following scales are measured as follows:

**ERP Scale (ERPS):** This scale was developed and validated by Tobon et al. (2018) and has a total of 5 items used to measure the ERP. Sample items for the construct are “Overall, the ERP implementation in our organization has improved operational efficiency and productivity. ERP software effectively integrated various departments and functions within the organization, resulting in better coordination and collaboration. Also, the training and support for ERP implementation ensured that our employee was well prepared to use his ERP.” The authors reported a reliability value of 0.814 for the EPR.

**CRM Scale (CRMS):** This scale was developed and validated by Liu et al. (2020) and contains a total of 6 items for measuring CRM. Examples of items include: ` A company's CRM system helps improve customer satisfaction, a company's CRM system enables personalized

communication with customers, and a company's CRM system solves customer problems efficiently. The authors reported a reliability value of 0.822 for the CRM.

**EDI Scale (EDIS):** This scale was developed and validated by Luthra et al., (2020) and has a total of 6 items used to measure EDI. Sample items for the construct are “EDI has greatly improved the efficiency and accuracy of our business processes, reduced the organization's total cost of ownership, and increased the speed and timeliness of our communications and transactions with our trading partners.” The authors reported a reliability value of 0.809 for the EDI.

**Advanced analytics Scale (AAS):** This scale was developed and validated by Mousannif et al. (2016) and has a total of 6 items used to measure EDI. Sample items for the construct are “Advanced analytics play a key role in extracting actionable insights from large and complex datasets. I believe that the adoption of advanced analytics can greatly improve the decision-making process within an organization, and advanced analytical techniques such as machine learning and predictive modeling are key to innovation and competitiveness in today's business environment. It's essential to driving your advantage.” The authors reported a reliability value of 0.821 for the advanced analytics.

**Organizational Performance Scale:** This scale was developed and validated by Sajuyigbe et al. (2021) and has a total of 7 items used to measure organizational performance. Sample items for the construct are “I believe that our organization's manufacturing processes are efficient and streamlined, that the quality control measures implemented in our organization are effective in ensuring product quality, and that our organization We believe in promoting a culture of continuous improvement where employees are encouraged to bring forward innovative ideas and ideas.” The authors reported a reliability value of 0.831 for the Organizational performance.

#### **Exploratory factor analysis (EFA)**

EFA was used to test the validity and feasibility of the maximum likelihood method, and Promax rotation measurements were used to determine the underlying factors/structures of various measurement variables.

*Table 1: Exploratory Factor Analysis for Testing Validity of the Constructs*

Enterprise Resource Planning (ERP)	1	2	3	4	5
ERPSQ1	.820				
ERPSQ2	.819				
ERPSQ3	.825				
ERPSQ4	.827				
ERPSQ5	.818				

Customer Relationship Management (CRM)					
CRMSQ1		.807			
CRMSQ2		.816			
CRMSQ3		.829			
CRMSQ4		.822			
CRMSQ5		.795			
CRMSQ6		.811			
Electronic Data Interchange					
EDISQ1			.878		
EDISQ2			.819		
EDISQ3			.815		
EDISQ4			.827		
EDISQ5			.809		
EDISQ6			.814		
Advanced Analytics					
AASQ1				.825	
AASQ1				.841	
AASQ1				.799	
AASQ1				.808	
AASQ1				.815	
Organizational Performance					
OPSQ1					.792
OPSQ2					.788
OPSQ3					.824

OPSQ4					.819
KMO = 0.898 Bartlett's Test of Sphericity ( $X^2$ ) = 1508.091, 0.000. Total Variance Explained = 87.9%					

According to the information provided in Table 1, all the variables have a community value higher than 0.50. Additionally, the KMO test yields a value of 0.878, and the Bartlett test for Sphericity is significant at a 1% level. These indicators collectively indicate that the survey can be factored.

**Method of Data analysis:** Path analysis was employed to analyze the data

### **Ethical Considerations**

The purpose of this study is to follow the ethical guidelines of behavioral science. Participant privacy was protected to ensure confidentiality.

**Table 2: Results of Path Analysis (Direct Effect)**

Path	Coef.	T-value	P> z	Hypothesis
OP <- ERP	.4608	5.87	0.000	<b>H<sub>1</sub></b> : Confirmed
OP <- CRM	.2878	3.30	0.001	<b>H<sub>2</sub></b> : Confirmed
OP <- EDI	.3833	4.05	0.000	<b>H<sub>3</sub></b> : Confirmed
OP <-AAS	.4462	5.38	0.000	<b>H<sub>4</sub></b> : Confirmed
_cons	.7775	2.88	0.004	

Table 2 depicts the results of the path analysis of the independent variables (ERP, CRM, EDI and AAS and dependent variable (OP). The results show that the coefficients of the model are 0.7775, 0.4608, 0.2878, 0.3833 and 0.4462 for constant, ERP, CRM, EDI and AAS respectively. The coefficients obtained from the path analysis model were substituted in the hypothesized model to get:

$$OP = 0.7775 + 0.4608_{ERP} + 0.2878_{CRM} + 0.3833_{EDI} + 0.4462_{AAS} \quad (i)$$

Equation 1 predicts that changing the ERP units will result in a 46% positive change in organizational performance. This suggests that ERP is a strong predictor of business performance. This makes sense, because a good ERP implementation facilitates the strategic planning, forecasting, and decision-making process, leading to improved performance. This

study is consistent with previous studies that found ERP to be an important factor in business performance (Tobon et al., 2018; Ifinedo, 2011; Gupta & Kohli, 2006). The results also show that changing the units in CRM results in a 28.78% positive change in organizational performance. This means that CRM is one aspect of SCIT that impacts business performance by better understanding customer preferences, needs and behaviors. Using this information, businesses can provide personalized experiences, customized products and services, and timely support, ultimately leading to increased customer satisfaction. Previous research has shown that CRM software solutions can help manufacturers streamline customer-facing processes and improve customer service (Srinivasan & Moorman, 2021). Hence, **H<sub>2</sub>** is confirmed.

Changing the units of EDI was shown to result in a 38.33% positive change in organizational performance. This indicates that EDI is an indicator of organizational performance in the manufacturing industry. This finding is consistent with that of Shahzad et al. (2019) argue that EDI facilitates the seamless transmission of various information such as orders, invoices, and shipping notices between trading partners, thereby improving organizational performance. Damodaran and Olhager (2008) similarly agree that EDI eliminates the need for manual data entry, paper-based processes, and human intervention, and is therefore critical to improving data accuracy, order processing efficiency, and overall performance. Therefore, **H<sub>3</sub>** is confirmed.

There is evidence that AAS unit changes produce a 44.62% positive significant change in organizational performance. This means advanced analytics will have a major impact on automating and connecting manufacturing processes and performance. This study is consistent with that of Corte-Real et al. (2017) Advances in analytics have boosted manufacturing performance. A study by Kache and Seuring (2017) shows a positive correlation between advanced analytics and business performance. Similarly, Mousannif et al. (2016) also found a positive association between advanced analytics and organizational performance. Furthermore, Lam et al. (2016) confirm the important role of advanced analytics in improving quality control processes in the manufacturing industry. This means that implementing advanced analytics in manufacturing can improve performance, reduce costs, increase uptime, improve product quality, and drive continuous improvement in manufacturing. Hence **H<sub>4</sub>** supported.

## CONCLUSION

This research investigates how the dimensions of Supply Chain Information Technology (SCIT) affect the performance of the manufacturing industry, specifically focusing on selected Nigerian manufacturing companies. The study employed a targeted sampling technique to select 20 respondents from the Department of Procurement and Logistics of each of the five chosen manufacturing companies, resulting in a sample size of 100 respondents. Data was collected from the respondents using a structured questionnaire, and path analysis was employed to analyze the collected data. The findings demonstrate that SCIT dimensions, namely ERP, CRM, EDI, and AAS, have a positive and significant correlation with organizational performance. This association is observed in terms of strategic decision-making, improved understanding of customer preferences, needs, and behaviors, and enhanced data accuracy and order processing efficiency.

It can be concluded that implementing SCIT in the manufacturing industry will result in increased operational efficiency, better decision-making, better collaboration, and greater supply

chain transparency. This enables managers to proactively address challenges, optimize resources, and drive performance improvements across the supply chain.

### **Managerial Implications**

This study provides the business impact on manufacturing industry performance when supply chain information technology (SCIT) is implemented. First, SCIT enables real-time tracking and monitoring of supply chain activity, giving managers better insight into goods movements, inventory levels, and production processes. This enhanced visibility helps you make better decisions, improve resource allocation, and quickly identify and resolve supply chain issues and bottlenecks.

Second, SCIT facilitates collaboration and communication between various parties in the supply chain, such as suppliers, manufacturers, distributors, and customers. Managers can use the SCIT to share real-time information, share data, and coordinate activities with the partners in the supply chain. This enhanced collaboration to align goals, reduce lead times, and improve performance across the supply chain. Third, SCIT helps managers identify and mitigate risks within their supply chains. This enables supervisors to monitor supplier performance, evaluate alternative suppliers, and respond quickly to supply chain disruptions and changes. SCIT can also facilitate the implementation of contingency plans such as alternate sourcing strategies to improve supply chain resilience and minimize the impact of disruptions on manufacturing operations.

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## The Assessment of Ethical Leadership in Developing Ethical Climate and Decision Making-Evidence from Pakistan

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### ARTICLE INFO

#### Article History:

Received:	February	25, 2023
Revised:	March	20, 2023
Accepted:	April	10, 2023
Available Online:	May	30, 2023

#### Keywords:

Ethical Leadership, Ethical Climate, Decision Making

### ABSTRACT

**Objective:** The purpose of this research was to ascertain how ethical leadership influenced decision making through mediating role of ethical climate.

**Methodology:** The current study was based upon the single reality that is have used the positivist approach to examine the relationship of the variables. In the quantitative method of the research study different methods are applied to test the hypothesis. This study has used the cross sectional time horizon in which the data have been collected from the respondents of the Pakistani public organizations in single/one point in time. Data were collected from the respondents with the help of the survey questionnaire among 200 respondents where the researcher got 150 responses from the respondents. Non probability sampling technique was applied in the research study. All the ethical procedures and guidelines were followed while collecting the data from the respondents.

**Results:** Shown that ethical leadership has positive influence on ethical climate and decision making, ethical climate positively moderates the influence of ethical leadership on decision making.

**Conclusion:** Controlling the ethical aspects in leadership effectively boosts decision making through the role of ethical climate.



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## INTRODUCTION

Ethical leadership have been developed as a result of organizational leaders unethical mistakes. These tools have mostly concentrated on how followers assess the ethical leadership qualities of

their leaders (Riaz et al., 2023). Leaders frequently find themselves forced to make difficult moral choices. Ethical leadership style when presented with making a choice about an ethical challenge. Understanding the benefits of an ethical leadership style help leaders make, they employ when presented with difficult decisions. Ethical leaders might be helpful in creating and enabling decision-makers in teams, organizations, and leaders (Arey et al., 2014; Arshad et al., 2022).

Given the many ethical catastrophes in almost every business, the need for an ethical leadership component appears evident. We must first describe the leadership phenomena to comprehend it, its relationships to drives, and its effects. The question has a normative response from philosophers: "What is ethical leadership?" by outlining the conduct that ethical leaders ought to exhibit. On the other hand, our social systematic method to the subject is primarily concerned with characterizing ethical leadership and identifying its causes and effects (Messick et al., 1996; Faisal & Iqbal, 2023).

Research backs up the long-held assumption of observers that character qualities like honesty would affect assessments of leadership effectiveness. For instance, survey research has linked assessments of a leader's effectiveness with assessments of their sincerity, moral character, and reliability. Additionally, good leadership philosophies have also been linked to cognitive trust (showing care in one's job, competence, and reliability) (Messick et al., 2001; Hayat et al., 2022). The purpose of this research is to explore the relationship between ethical leadership and decision making in public organization of Pakistan. While following the ethical leadership style leaders take ethical decisions in addressing any ethical dilemma.

This research help in enhancing the understanding in terms of the ethical leadership how they make decisions while facing any ethical dilemma in organizations. As now days the business ethics have been playing a major role in the running of the businesses ethically.

- To determine ethical leadership impact on ethical decision making.
- To examine mediator impact of ethical climate on ethical leadership and ethical decision making.

### **Reason behind choosing this topic**

After reading most of the article and finding the gap researcher found ethical leadership as interesting topic for research study. As there is not as much research have been done on this topic that's why researcher have chosen this topic to see the impact of the ethical leadership on ethical decision making when they face any ethical dilemma in public organizations of the Pakistan.

### **LITERATURE REVIEW**

Interest in increasing ethical conduct and developing ethical leaders has increased as a result of the unethical failings of business executives during the previous 10 years. To address these concerns, researchers developed evaluation techniques to assess the moral leadership of business executives. Financial limitations, heightened stakeholder expectations, and regulatory restrictions are all prevalent in the contemporary environment. Prior to increasingly scarce resources, it was believed that organizations and their regions would engage in a demand-response paradigm.

Numerous characteristics, such as organizational planning, resource management, communication, and cooperation, are aligned with these leadership qualities (Arar et al., 2016; Hayyat et al., 2023; Kousar & Shafiq, 2023).

The organization mission and values, in theory, guide institutional leadership and decision-making. But a lot relies on a leader's perspective on the goal, the values, and the importance of different mission components. A leader's decision-making process is significantly influenced by their mental model, which is founded on their own value system (Winston et al., 2007; Iqbal et al., 2023). A leader's leadership style is built on their fundamental values and beliefs, which help them, make decisions regarding the demands and desires of stakeholders at all levels. Garza Mitchell (2012) discovered that organizational decisions made under difficult times are far more inclined to reflect the leader's opinions at the highest levels. Additionally, there is a link between leadership philosophies and practices. Five facets of moral conduct are crucial to leadership: duty as a human being, duty as an individual and public servant, duty as an educator, duty as a manager, and responsibility as a leader (Gardiner et al., 2007; Mastoi, 2023).

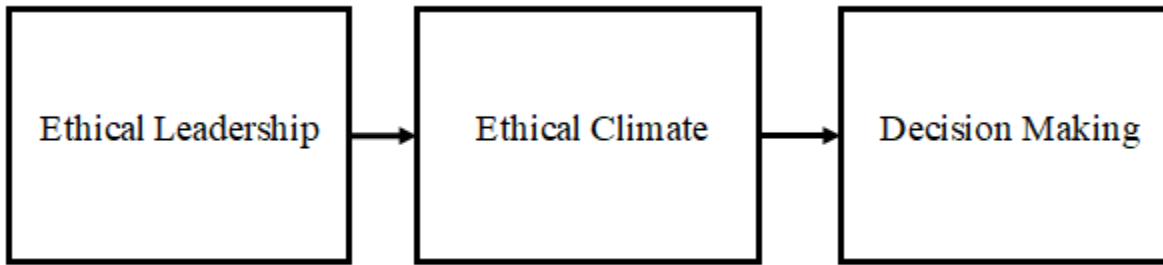
Each area has distinctive critical components that connect leadership with moral principles those priorities the common good over private gain. According to Demirtas et al., (2015) claimed that their philosophy of learning as a manner of leading fosters change towards social good and that the underlying ethic of leadership involves change to create a more humane and just society. The frequently advanced hypothesis that certain leadership philosophies and behaviors correspond to specific leadership styles was put to the test in a recent research (Lu et al., 2014; Nosheen & Danyal, 2022). The study's findings confirmed that teleological ethical principles, like act and rule utilitarianism, were heavily linked to authoritarian leadership, while deontological ethical principles, like altruism, universal human rights, and Kantian principles, were strongly linked to democratic leadership (Avey et al., 2014; Ramzan et al., 2023; Arshad et al., 2022).

The bulk of leadership focuses on teamwork and the ethical consideration of others; hence leadership research tends to be tied to deontological ethical norms. Social benefit. However, the more authoritarian and transactional ideas of conventional leadership are still regarded as being good ones (Ghasempour et al., 2021; Roshana et al., 2023; Ali & Asim, 2023; Shafiq et al., 2023). These leadership styles typically show ethical beliefs that are more concerned with the organization and the rules than they are with the people inside the organization or the outside community (Elci et al., 2021; Kumar & Khan, 2023). This is not a criticism of any form of leadership, but it is crucial for leaders to understand the ethical foundations of their individual leadership styles, especially in times of significant change, in order to explain their choices to stakeholders and to better understand why they make them.

**H1:** There is the positive impact of ethical leadership on ethical decision making.

**H2:** Do ethical climate mediates the relationship between ethical leadership and ethical decision making.

## **Research Framework**



## **RESEARCH METHODOLOGY**

This research study has used the quantitative research method strategy. As the nature of the study were based upon the single reality either that can be true or false so on the basis of the research philosophy this research investigation used the survey questionnaire approaches to collect the data from the respondents of the Pakistan public organizations. The current study based on testing the affiliation of the variables ethical leadership and decision making. The research technique was intended to be chosen on the basis of the nature of the research study topic. Hence the selection of the methods of the study were on the basis of that as the research were exploratory and cross sectional in nature that were based on the testing of the hypothesis.

The current study were based upon the single reality that is have used the positivist approach to inspect the connection of the variables. In the quantitative method of the research study different methods are applied to test the hypothesis. This study has used the cross sectional time horizon in which the data have been collected from the respondents of the Pakistani public organizations in single/one point in time.

This study distributes the survey questionnaire among 200 respondents where the researcher got 150 responses from the respondents. Non probability sampling technique was applied in the research study. So based upon that the sample size of the study consists upon 150 respondents in total.

The current study unit of the analysis was the individuals who were working in the public sector organizations of the Pakistan.

Data were collected from the respondents with the help of the survey questionnaire distribution. Most of the time was given to the respondents to fill out the survey questionnaires. All the ethical procedures and guidelines were followed while collecting the data from the respondents.

When the data were completely collected it was arranged and analyzed with the help of SPSS software. Different tests were run through the software like statistics; correlation, reliability and the Andrew F. Hayes model were utilized in order to examine the connection between the variables

## DATA ANALYSIS

### Descriptive Analysis

Table 1 represents the respondent's gender. 104 male respondents were the part of the study that make up 69.3% and 46 were female respondents that took part in research study that make up 30.7% of the total sample size of the study. It shows that most of the male all involve in the ethical leadership.

**Table 1- Gender**

	Frequency	Percent	Valid Percent	Cumulative Percent
Male	104	69.3	69.3	69.3
Valid Female	46	30.7	30.7	100.0
Total	150	100.0	100.0	

Table 2 represents age of the participants that participated in the research study. 21-25 years respondents were 90 that make up 60%, 26-30 years respondents were 20%, 31-35 years respondents were 12%, 35-40 years respondents were 11 that make up 7.3% and more than 40 years age respondents were 0.7%. Majority of the respondents were 21-25 years age respondents and 26-30 years that are playing the major role of the ethical leadership in decision making.

**Table 2- Age**

	Frequency	Percent	Valid Percent	Cumulative Percent
21-25	90	60.0	60.0	60.0
26-30	30	20.0	20.0	80.0
31-35	18	12.0	12.0	92.0
Valid 35-40	11	7.3	7.3	99.3
More than 40	1	.7	.7	100.0
Total	150	100.0	100.0	



Table 3 represents the Education of the respondents that participated in the research study. 62 of the individuals were high school that shows 41.3% ratio of the participants, 67 were undergraduate respondents that represent 44.7% of the participants and 21 were the postgraduate participants that constitute 14% of the total sample size. Majority of the respondents were undergraduates who were playing the role of the ethical leader in making decision in organizations of Pakistan.

**Table 3- Education**

	Frequency	Percent	Valid Percent	Cumulative Percent
High School	62	41.3	41.3	41.3
Undergraduate	67	44.7	44.7	86.0
Postgraduate	21	14.0	14.0	100.0
Total	150	100.0	100.0	

Table 4 represents the occupation of the individuals that took part in the research study. 80 individuals were employed that constitute 53.3%, 34 were self-employed respondents that make up 22.7% and 36 were temporary workers that constitute 24% of the total sample size. Majority of the respondents that were the part of the research study were employed that were playing the role of ethical leader while creating the ethical climate so that employee makes ethical decisions in Pakistani organizations.

**Table 4- Occupation**

	Frequency	Percent	Valid Percent	Cumulative Percent
Employed	80	53.3	53.3	53.3
Self-employed	34	22.7	22.7	76.0
Temporary	36	24.0	24.0	100.0
Total	150	100.0	100.0	

## Reliability Analysis

Table 5 represents the reliability of the items used in the research study. Reliability is the measure of the items consistency that used in the research. Acceptable level of the Cronbach Alpha more than 0.5. Whereas some of the research consider more than 0.6 to be acceptable level. Current study consists of three items Ethical leadership, ethical climate and decision making. EL has Cronbach Alpha value 0.971, ethical climate (EC) has Cronbach Alpha value of 0.944 and decision making (DM) have Cronbach Alpha value of 0.934. All of the times used in the study have excellent reliability.

**Table 5- Reliability Analysis**

Variable	Cronbach Alpha
Ethical Leadership	0.971
Ethical Climate	0.944
Decision Making	0.934

## Correlation Test

Table 6 displays the correlation of the variables. While a negative number implies a negative correlation, an optimistic sign suggests a beneficial connection between each factor. Every value shown in the table is favorable in this case, demonstrating a significant association between each factor. The correlation among ethical leadership, ethical climate, and decision-making in Pakistan businesses is favorable at 99% level of significance level.

**Table 6- Correlations**

	Ethical Leadership	Ethical Climate	Decision Making
Pearson Correlation	1	.923**	.896**
EL Sig. (2-tailed)		.000	.000
N	147	147	147
Pearson Correlation	.923**	1	.948**
EC Sig. (2-tailed)	.000		.000
N	147	150	150

DM	Pearson Correlation	.896**	.948**	1
	Sig. (2-tailed)	.000	.000	
	N	147	150	150

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

### **Regression Test (Andrew F. Hayes Model)**

The Andrew F. Hayes process that has been applied in the study to test the relationship of the variables. Model 4 have been used where Decision making have been used as the dependent variable, EL have been used as the ethical leadership and Ethical climate have been used as the mediator in the research study. The R value of the variable, which indicates that 92% of a dependent variable is explained by independent variables, is shown in the model summary. R square displays the 85% goodness of fit of the discovered regression model. The model shows that 92.5% of ethical leadership shows 1 unit change in the decision making of the workers. There is the statistically significant relationship between ethical leadership and decision making because that significance P-value in the table is less than 0.05.

The P-value of the ethical leadership and decision making of the workers. Direct effect of the ethical leadership and decision making were found to be significant that means we accept the alternative hypothesis and reject the null hypothesis.

Through the use of non-parametric bootstrapping, the indirect effect has been investigated. The indirect impact ( $E=0.73$ ) in this instance is statistically significant 95% CI (0.59, 0.88). Now the table 8 shows the indirect effect of the mediator on the EL and EC. Accordingly, it has been discovered that ethical climate mediates the link among ethical leadership and employee decision-making based on the confidence interval. So on the basis of the research support the alternative hypothesis.

## **DISCUSSION**

As ethical dilemmas drive leaders to examine preexisting paradigms, the area called ethical leadership is always expanding. Organizational ethical transgressions have reignited interest in this field. The present research focuses on three main issues: barriers to implementing ethics in businesses, ethics within the individual leader, and the capacity of ethical leaders to receive frequent while making ethical decisions. The ethical field that must be taken into account is the continuing development of models that deal with the implementation of ethical in public organizations. Current study shows that most of the male are performing the role of the ethical leader more than the female leaders in the public organizations of the Pakistan. When they face any ethical dilemma they try to use the fair and moral considerations while making any decision. Reliability test were used in the study to test the consistency of the items used in the study.

Correlation tests were used in the study to check the association between the variables. There is a

correlation among ethical leadership, an ethical climate, and decision-making, with a 95% degree of certainty. The H1 is supported by a regression test that revealed a favorable link between moral leadership and decision-making. Additionally, H2 were also in favor of the idea that leadership and decision-making are mediated by ethical climate. More study is needed to understand all of the inexplicable grey zones that exist in ethical leadership.

## CONCLUSION

With help of SPSS software hypothesis were tested by using Andrew F. Hayes process in the study to test the relationship of the variables. Different tests were used in the study like statistics, frequency, reliability, correlation as well as regression. The table 8 shows the R value of the variable that shows that 92% of the dependent variable is explained by the independent variable. R square demonstrates the precision with which the regression model that have been found to 85%. The model shows that 92.5% of ethical leadership shows 1 unit change in the decision making of the workers. There is the statistically significant relationship between ethical leadership and decision making of the workers because that significance P-value in the table is less than 0.05. It have been found that the hypothesis H1 and H2 both hypothesis were supported. As the P-value of the direct effect of the variables relationship between ethical leadership and decision making have the positive impact the H1 was supported. With this the indirect impact of the ethical climate have the confidence interval between the intervals this relationship were tested through bootstrapping that also shows H2 supported.

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## An Analysis of Integration Management in Developing Project Performance-Evidence from Pakistan

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### ARTICLE INFO

#### Article History:

Received: March 25, 2023  
Revised: April 30, 2023  
Accepted: May 25, 2023  
Available Online: June 30, 2023

#### Keywords:

Integration, Project Performance, Management, Success Criteria

### ABSTRACT

**Objective:** The purpose of this research was to ascertain how management integration influenced project performance. Integration of management contributes to project success. Investigating the impact of the management integration dimensions on project performance and gauging the significance of the management integration elements.

**Methodology:** Data were collected by a standardized survey questionnaire by employing the convenience sample method.

**Results:** Shown that although the other criteria have a negligible association, there is a favorable relationship between the company's integration with its consumers.

**Conclusion:** Controlling the integration aspects effectively boosts project performance and success chances.



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## INTRODUCTION

The term 'integration' states to the direction/synchronization between procedures. Similarly, integration management one among the popular significant components of project management, as it addresses every facet of a project Demirkesen and Ozorhon, 2017; Riaz et al. (2013), Sanghera, (2019). Integrated project management ensures effective coordination of project activities. Another study by Masuin and Latief (2019) has highlighted that integration refers to a thoughtful procedure of establishing a supremacy arrangement that sorts managing

the needs of key stakeholders more systematic. The same study has defined integrated management as a fundamental component of the system architecture.

Project integration assures that the project tasks are properly coordinated, which has a beneficial influence on the progress of the project (Masuin et al., 2019). Consequently, it is crucial to fully comprehend how integrated management affects project outcomes so that project leaders may benefit from the advantages of effectively linked project operations (Masuin, Latief and Zagloel, 2019; Sanghera, 2019). Given the crucial roles that integration plays in project management, this study has created a thorough model that attempts to demonstrate how integration and project management success are closely related. The goal of this study is to determine the potential connection between integrated management and project management performance and quantify it using the suggested measures.

The previous research empirical suggested management integrations that are the key extent where previous research literature and scholars have defined it as the multidimensional construct that includes supply chain integration through which the companies combine with some other supply chain participants in order to succeed the efficiency and effectiveness, flow of the material with more efficiency, cheaper price Zhao et al. (2008), mostly firms are integrating their supply chain in order to achieve the speed and flexibility Zhao et al. (2008), in order to understand the supply chain integration there is resource based view and transaction cost that contribute to this study. (Porters, 1980) model of value chain is the root of supply chain concepts. (Wheelwright and Clark, 1992) pinpointed that achievement of integration (e.g. among designing and manufacturing departments) fit highly depend upon the top management support. (Pagell, 2004) argued that support from top management is required for enhancing the communication level in the organizational internal and external environment and the implementation of the activities of human resource development with the help of top management leaders in order to achieve various boundary integration, customer integration as well as the integration with suppliers.

## **LITERATURE REVIEW**

### **Supply Chain Integration**

Supply chain integration is the procedure of integrating clients and vendors continuously, as well as creating methods for clients, vendors, and project stakeholders to share expertise (Kang, and Choi, 2017; Arshad et al., 2020). As a result, supply chain integration has been thoroughly researched in prior project management investigations.

### **Project Charter Development**

Before starting a project, establish the project documents and provide the project coordinator authorization. Following the approval of the conceptualization stage, the project received official approval (Mark and Lurie, 2018; Hayat et al., 2022). The Project Charter also permits project managers to commit corporate resources to project-related activities.

### **Integration of Changes**

The process of integrating changes include evaluating and accepting each change proposal for the project, carrying out the required adjustments, changing the project's management plan and project documentation, and incorporating all changes into the project's final results. According to Caldas and Gupta (2017), Shafiq et al., (2020), change may have a significant



influence on the project budget and plan. Insufficient project plan integration, they said, might lead to unclear priorities, ambiguous requirements, and unclear limits, which could lead to modifications, remakes, and disruptions (Vieira, et al., 2019; Faisal & Iqbal, 2018). Additionally, Bergamin and Braun's (2018) research demonstrates the value of merging design and construction methodologies to improve project management.

### **Staff Integration**

Employee integration includes employee support to obtain the tools and technology integration and management-driven integration necessary for successful project execution (Bergamin, and Braun, 2018). Malleuve-Martínez, et al, (2018) noted that among the tools for integrating groups, collaborations, cross-functional workgroups, and project-level team training opportunities include management effectiveness. Also, Lazarev et al, (2017), and Roshana et al. (2010), means that integration can improve teamwork efficiency. The research further made the point that integration is preferred for effective working groups. Worker or group integration is intensively inspected in project management research.

### **Knowledge Integration**

Knowledge integration is the exchange of recent and previous information in addition to incorporation of all data into the system for the distribution of expertise currently in place between all investors and project participants. (Zhou, Deng, Hwang and Ji, 2020; Kousar & Shafiq, 2005). Facts demonstrate that a crucial component of long-term success is incorporating information and concepts into project portfolio management. Demirkesen, and Ozorhon, (2017) simplified the need for knowledge and information exchange between the interdependent subsystems involved in the integration and the information is a component factor for fruitful integration. Malleuve-Martínez, et al, (2018) also shows that construction knowledge is needed to integrate construction methods and design methods. The integration of the successful project, organization, and group process knowledge is also considered the core element of integrated project management and project management performance (Vieira, et al, 2019).

### **Process Integration**

Process integration refers to the well-organized sequence of all activities and the well-developed logical relationship between processes (Bergamin, and Braun, 2018). Research shows that the integration process can promote the creation of value in terms of staff integration and task integration. A study by OKIURA, and KUBO, (2016) found that concurrent product design and manufacturing can improve quality and reduce costs. LAZAREV, et al, (2017)'s goal of research is to integrate the development of new goods or procedures with budget, timeframe, and performance effectiveness. Waheed, et al, (2019) cites Project integration management includes system integration. Most researchers examined process integration into account and highlight the significance of process integration in project management performance.

The literature also shows that efficient change management and leadership are required closely related to the successful implementation of organizational plans. OKIURA, and KUBO, (2016) also shows that change management is the ability of the organization to manage changes based on customer needs. Therefore, we pay special attention to managing the project integration, because it is very important to effectively integrate the changes in the deliverables of the current project (Waheed, et al, 2019; Nosheen & Danya, 2017). Previous

research has also shown the importance of integrating changes in current project conditions for successful project management.

### **The Connection Between Integration Management and Project Performance**

Integration management and performance are closely related, and several research suggests that utilizing linked methodologies may increase project achievement and efficiency (Yuliadi and Nugroho, 2019; Kumar & Khan 1997). However, even though interaction should be seen as a fundamental element affecting several other project network elements, relationship integration, and software integration are still included in this research (Batselier & Vanhoucke, 2017; Ali & Asim 2013). The building sector still has subpar project performance due to the division of labor among many stakeholders and sub processes. When managing complex projects, which may be difficult, it helps to build professionals to grasp the logic behind project integrity and employ essential indicators for project assessment (Demirkesen and Ozorhon, 2017; Iqbal et al. 2017). Construction experts must understand value, describe, and simulate the components that affect building activity (Ferreira et al., 2017; Hayyat et al. 2015). As a result, a conceptual framework is required that more accurately captures the factors influencing the building industry.

The integration of communicating data with customers and suppliers may lead to deeper shared learning, which can increase operational efficiency, according to new research by Wang, Kang, Childerhouse, and Huo (2018). Organizational integration of information, processes, and strategies is stressed by Shahzad et al. (2016) because it improves project performance via skills developed in previous roles and general organizational innovation. According to Ali et al. (2018), integrating information and processes may enhance the effectiveness of projects and organizations. However, as good project visualization and planning are crucial (Ferreira et al., 2017; Mastoi, 2000), integration is a significant element in successfully organizing a project. It is feasible to conclude that integration has a clear and immediate impact on the project's success because, as previously discussed in the study above, integration is directly tied to the basics and project management sectors (Demirkesen and Ozorhon, 2017; Ramzan et al. 2014). This research resolves this disparity by developing a framework that describes the core ideas behind integration and performance. The framework aims to show how integrated management and project management positively impact performance depending on the perspectives of contracting firms.

H1: Supply Chain Integration has a positive impact on project performance

H2: Willingness to receive and transfer knowledge with customers has a positive impact on project performance.

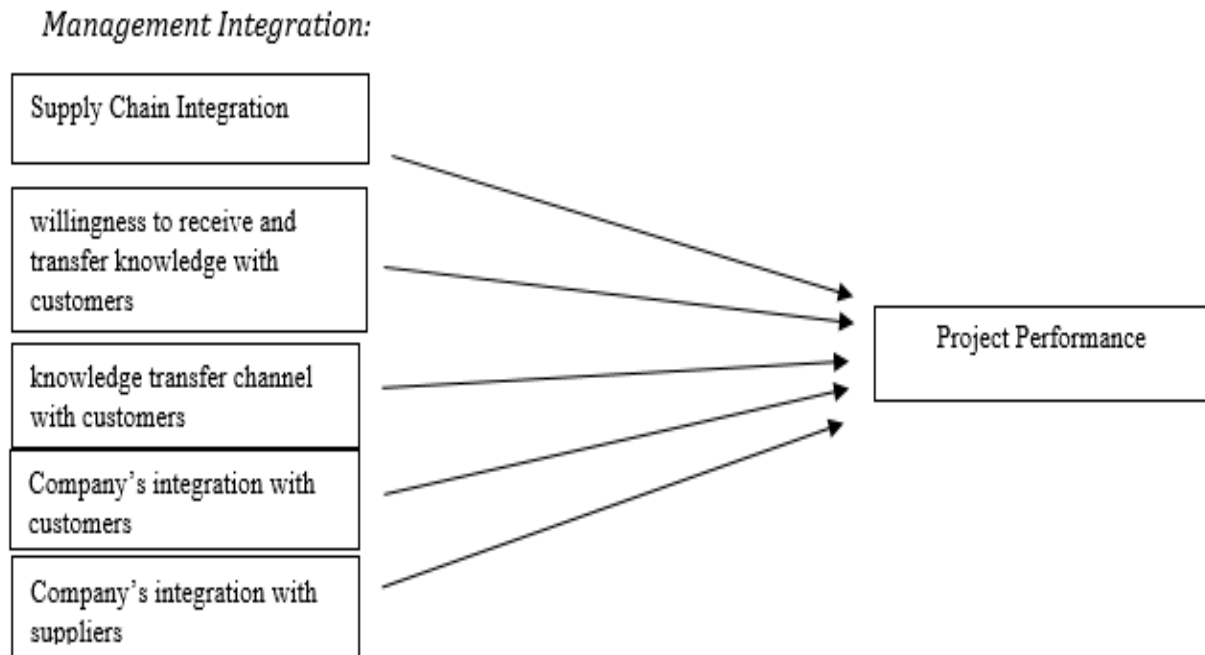
H3: knowledge transfer channel with customers has a positive impact on project performance.

H4: Company's integration with customers has a positive impact on project performance.

H5: Company's integration with suppliers has a positive impact on project performance.

H6: Management integration has positive relationship with project performance.

### **Research Framework**



This is the framework of the present study used to see the impact of Management Integration factors on project performance. There are the five dimensions of the Management Integration variable representing the conceptual framework of the variables.

## **RESEARCH METHODOLOGY**

Due to the positivist methodology that was employed to review and verify the specific hypothesis, the current study is quantitative in character. The information is collected and evaluated using a variety of mathematical and statistical methods in a quantitative way to find responses to the study hypotheses. Cross-sectional time was considered in this research. In contrast to a longitudinal time horizon, a cross-sectional time frame collects information from participants only once.

The information was gathered via a self-administered questionnaire and self-distribution, which is the most efficient method of gathering information because it aids in reducing sampling error. The participants were given enough time to complete the survey questionnaire. During the data gathering process, the investigator adhered to all moral values. This study's concentrate on the individual construction industry in Pakistan made individuals the element of investigation.

The sample size for this investigation was determined using a random non-probabilistic convenience sampling method. This research depended on the Roscoe's Rule of Thumb to choose an appropriate sample size because a description of the community was not easily accessible. This rule specifies that a sample size of between 30 and 500 participants is appropriate for conducting a quantitative study. In order to conduct this research, a study sample of 94 individuals was chosen.

After the procedure of gathering the information was finished, the SPSS 26 program was used to extract, compile, filter, and interpret data. To reach findings about the viability of the investigation questions, a variety of information processing methods and techniques were used. Reliability, data normality, ANOVA, and correlation analysis were some of these

methods.

## **RESULTS**

### **Demographics Analysis**

The findings disclose the gender of the study's contributors. The investigation included 15 female contributors, making up 100% of the population, while 79 male individuals made up 84.01% of the total sample.

The distribution of the respondents' individual ages is shown in the findings. 46 respondents, it can be seen, ranged in age from 18 to 24. They made up 44.94% of the overall study population, cumulatively. 35 respondents, or 86.17 percent of the population overall, were between the ages of 25 and 34. 13 individuals ranged in age from 35 to 44. It is clear that the majority of responses were among the ages of 18 and 24.

It is clear from the contributors' expertise that 57 responders had experience ranging from 0 to 3 years. The participants who had this experience made up 60.64% of the total sample. 24 respondents had experience ranging from four to five years. This experience level group's member made up 86.17 percent of the total given frequency. 11 individuals varied in experience from 7-9 years, while 2 people had experiences of 10 years or more.

The findings provide a summary of the respondents in the study's various qualifications. 29 individuals, or 30.85% cumulative frequency of the sample size, had less than 12 years of schooling as can be seen. 34 people, or 67.02% cumulative frequency of the whole sample, had bachelor's degrees. Out of the entire sample, 31 people had academic qualifications of 18 or higher. It can be seen that most of the participants had college degrees and had been in school for 14 to 16 years.

### **Reliability Results**

The six variables in the current study are: Project performance, Company's Integration with Customers (CIC), Company's Integration with Suppliers (CIS), Knowledge Transfer Channel with Customers (KTC), Supply Chain Integration (SIC), Willingness to Receive and Transfer Knowledge with Customers (TK), and (PP). The SIC comprises of 04 components, each of which has a Cronbach Alpha value of 0.823, as can be shown. TK has five items with a Cronbach Alpha of 0.807 in total. Cronbach Alpha values ranged from 0.602 for KTC, 0.673 for CIC, 0.764 for CIS, and 0.824 for PP. KTC had three things with a Cronbach Alpha of 0.602, CIC had three items with a Cronbach Alpha of 0.673, and CIS had five items with a Cronbach Alpha of 0.764. As it can be observed, every Alpha ( $\alpha$ ) value is higher than 0.60. Consequently, it may be inferred that all of the investigation instrument are quite trustworthy, allowing for the execution of additional assessments.

**Table 1-Reliability Test**

Variables	No. of Items	Cronbach Alpha ( $\alpha$ )
SCI	04	0.823

TK	05	0.807
KTC	03	0.602
CIC	03	0.673
CIS	05	0.764
PP	06	0.824

### Correlation Analysis

To ascertain whether there are any relationships between the parameters or not, correlation examination is utilized and with its sign of negative (-) or positive (+), it also tells us about the track of the relationship between the variables. The association between variables is positive and have significant relationship at 90 percent level of significance. None of the variable is linear function of any other variables. The association between supply chain integration (SIC) and willingness to acquire and share knowledge with customers (TK) may be seen to be extremely significant at a 99% level of confidence. The association has a modest degree of correlation and a good path.

**Table 2 Correlation Test**

	SIC	TK	KTC	CIC	CIS	PP
<b>SIC</b>	1	.777**	.659**	.654**	.733**	.810**
<b>TK</b>	.777**	1	.775**	.787**	.793**	.794**
<b>KTC</b>	.659**	.775**	1	.776**	.765**	.811**
<b>CIC</b>	.654**	.787**	.776**	1	.764**	.757**
<b>CIS</b>	.733**	.793**	.765**	.764**	1	.893**
<b>PP</b>	.810**	.794**	.811**	.757**	.893**	1

### Regression Analysis

The table below is about the model summary of Supply chain integration. The variance of supply chain integration item SIC1 is 1.302 that shows how much there is the variation of item from mean value. SIC2 variance value is 0.887, SIC3 variance value is 0.813 whereas for SIC4 variance values is 0.858. Additionally, tables show the average values and sum of the items.

**Table 3. Summary SIC**

SUMMARY				
Groups	Count	Sum	Average	Variance
SIC1	94	344	3.659	1.302
SIC2	94	358	3.808	0.887
SIC3	94	348	3.702	0.813
SIC4	94	352	3.744	0.858

H1: Supply Chain Integration has a favorable impact on project performance

The Above table is an ANOVA table that is used to find out the goodness of fit test in regression analysis. Here the p-value is greater than 5 percent that is P value is 0.758 that demonstrate that there is no meaningful relationship between the supply chain integration and project performance. So based upon the results we reject null hypothesis H1.

**Table 4 SIC ANOVA Test**

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.138298	3	0.379433	0.392963	0.75814	2.628903
Within Groups	359.1915	372	0.965569			
Total	360.3298	375				

The table below is about the model summary of Willingness to receive and transfer knowledge with customers. The variance of Willingness to receive and transfer knowledge with customer's item TK1 is 0.93 that shows how much there is the variation of item from mean value. TK2 variance value is 1.05, TK3 variance value is 1.13, TK4 variance value is 0.78 whereas for TK5 variance values is 0.89. Additionally, tables show the average values and sum of the items.

**Table 5 Summary TK**

SUMMARY				
Groups	Count	Sum	Average	Variance
TK1	94	357	3.79	0.93
TK2	94	351	3.73	1.05
TK3	94	333	3.54	1.13
TK4	94	361	3.84	0.78
TK5	94	348	3.70	0.89

H2: Willingness to receive and transfer knowledge with customers has an advantageous effect on project performance.

The table below is an ANOVA table that is used to find out the goodness of fit test in regression analysis. Here the p-value is greater than 5 percent that is P value is 0.27 that show that there is no any significant relationship between the Willingness to receive and transfer knowledge with customers and project performance. So based upon the results we reject null hypothesis H2.

**Table 6 ANOVA TEST TK**

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	4.93	4	1.23	1.28	0.27	2.39
Within Groups	447.1	465	0.96			
Total	452.0426	469				

The table given below is about the model summary of. The variance of knowledge transfer channel with customer's item KTC is 0.94 that shows how much there is the variation of item from mean value. KTC variance value is 1.18, whereas for KTC3 variance values is 0.71. Additionally, tables show the average values and sum of the items.

**Table 7 Model Summary KTC**

SUMMARY				
Groups	Count	Sum	Average	Variance
KTC1	94	365	3.88	0.94

KTC2	94	338	3.59	1.18
KTC3	94	338	3.59	0.71

H3: knowledge transfer channel with customers has a favorable effect on project performance.

The table given below is an ANOVA table that is used to find out the goodness of fit test in regression analysis. Here the p-value is greater than 5 percent that is P value is 0.067 that show that there is no any significant relationship between the knowledge transfer channel with customers and project performance. So based upon the results we reject null hypothesis H3.

**Table 8 ANOVA Test KTC**

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	5.17	2	2.58	2.72	0.067	3.028
Within Groups	264.98	279	0.949			
Total	270.15	281				

The table below is about the model summary of Company's integration with customers. The variance of Company's integration with customer's item CIC1 is 0.59 that shows how much there is the variation of item from mean value. CIC2 variance value is 1.05, whereas for CIC3 variance values is 0.89. Additionally, tables show the average values and sum of the items.

**Table 9 Model Summary CIC**

SUMMARY				
Groups	Count	Sum	Average	Variance
CIC1	94	360	3.829787234	0.59
CIC2	94	348	3.70212766	1.05
CIC3	94	343	3.64893617	0.89

H4: Company's integration with customers has favorable effect on project Performance.

The Above table is an ANOVA table that is used to find out the goodness of fit test in



regression analysis. Here the p-value is greater than 5 percent that is P value is 0.38 that show that there is no any significant relationship between the Company's integration with customers and project performance. So based upon the results we reject hypothesis H4.

**Table 10 ANOVA TEST CIC**

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.62	2	0.8128	0.95	0.38	3.028
Within Groups	236.35	279	0.84			
Total	237.97	281				

The table below is about the model summary of Company's integration with suppliers. The variance of Company's integration with supplier's item CIS1 is 0.60 that shows how much there is the variation of item from mean value. CIS2 variance value is 0.93, CIS3 variance value is 1.01, CIS4 variance value is 0.77, whereas for CIS5 variance values is 1.15. Additionally, tables show the average values and sum of the items.

**Table 11 Model Summary CIS**

SUMMARY				
Groups	Count	Sum	Average	Variance
CIS1	94	362	3.85	0.60
CIS2	94	337	3.58	0.93
CIS3	94	319	3.39	1.01
CIS4	94	362	3.85	0.77
CIS5	94	331	3.52	1.15

H5: Company's integration with suppliers has a favorable effect on project performance.

The Above table is an ANOVA table that is used to find out the goodness of fit test in regression analysis. Here the p-value is less than 5 percent that is P value is 0.001 that show that there is significant relationship between the Company's integration with suppliers and project performance. So based upon the results we accept hypothesis H5.

**Table 12 ANOVA Test CIS**

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	15.68	4	3.92	4.37	0.001	2.391
Within Groups	416.54	465	0.89			
Total	432.23	469				

The table Below is about the model summary of project performance. The variance of project performance item PP1 is 0.90 that shows how much there is the variation of item from mean value. PP2 variance value is 01.19, PP3 variance value is 0.79, PP4 variance value is 0.85, PP5 variance value is 0.69 whereas for PP6 variance values is 0.69. Additionally, tables show the average values and sum of the items.

**Table 13 Model Summary PP**

SUMMARY				
Groups	Count	Sum	Average	Variance
PP1	94	365	3.88	0.90
PP2	94	325	3.457447	1.19
PP3	94	347	3.691489	0.79
PP4	94	360	3.829787	0.85
PP5	94	355	3.776596	0.69
PP 6	94	358	3.808511	0.69

H6: Management integration has positive relationship with project performance.

The Above table is an ANOVA table that is used to find out the goodness of fit test in regression analysis. Here the p-value is less than 5 percent that is P value is 0.02 that demonstrate a strong connection exists between management integration elements and project performance. So based upon the results we accept the H6.

**Table 14 ANOVA Test PP**

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	10.97	5	2.19	2.56	0.026178	2.23
Within Groups	477.23	558	0.85			
Total	488.20	563				

Hence based upon the results Hypothesis test there is the positive relation of the company integration with the suppliers and it impact upon the project performance. The management integration impact the organizations practices and functions of the project management.

## **DISCUSSIONS AND CONCLUSIONS**

Our study shows that customer integration with suppliers was statistically significantly correlated with the project performance. Managers desire to improve the project performance should encourage the management integration and consider to encourage more integrity while sharing of information. Management integration is the degree in which a company integrates with its collaborators in order to improve the dissemination of knowledge, money, and product choices, low cost high speed and high value in project performance. Businesses are working at the management integration nowadays in order to achieve speed and flexibility in project performance. As a reaction to rapidly changing environment this study will help firms in using the management integration factors that highly increase the project performance through implementation of effective and efficient management integration factors. The associated process of the management integration helps in changing the necessitate adaption of the control system and organization structure. This study shows that the Company's integration with suppliers has the positive impact on the project performance. The businesses integration with suppliers help the firms in building the strong supply chain for avoiding material delays and help in achieving the customer's demands on time.

## **RECOMMENDATIONS**

The breadth of this investigation was confined by the small sample size of 94 people, hence the following set of suggestions has been made for doing future research: Future work should increase the sample size to enlarge the investigation's range. Outcomes will be produced as a result that are more trustworthy. Due to the non-probability convenience sampling method applied in this research, not every person in the galaxy had an equal likelihood of being selected. Additional study should use sophisticated sampling methods to improve the general validity of the study and qualitative methods like interviews and observations to produce better detailed and trustworthy information. In addition, sophisticated methods like SEM and PLS can be used to produce outcomes that are more reliable. Future research should look closely at the cultural setting of Pakistan to see how other organizational integration characteristics relate to project performance.

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