THE MEDIATING ROLE OF PATRONAGE FACTORS IN THE NEXUS BETWEEN WASTE RECYCLING MANAGEMENT AND THE DEVELOPMENT OF SMALL AND MEDIUM ENTERPRISES (SMEs) IN KANO STATE NIGERIA.

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Abstract

This research is set to empirically examine the Nexus between Waste Recycling Management and the Development of Small and Medium Enterprises (SMEs) in Kano State Nigeria, using patronage factors such as community support and customer loyalty as mediating variables. The research work is aimed at finding out how sewage recycling if managed well can bring about more employment in the SMEs sector in Kano State on one hand, and boost local production of goods and services on the other thereby reducing the forex differentials between Naira and foreign currency in the country and as well facilitate means of achieving Naira value appreciation. The study would adopt correlational research design to reach out to the target respondents. The population of the study is 455 scavengers in Kano state. A sample size of 81 scavengers was determined using Taro Yamane (1976) formulae. Primary data is used and the data was collected through questionnaire administration. Snowballing sampling technique is used to get to the target sampling frame.The analysis revealed that regulatory factors, such as government policies and tax incentives, have a significant positive impact on SME development. R^2 of .233 implies that predicting variables (Regulatory Framework, Institutional Capacity and Cultural Factors) under the study were able to account or explain 23% variance in the dependent variable (SMEs Development), while the remaining 77% was not captured by this study.The results also shows R^{-2} of .205 which implies that the predicting variables were able to explain 21% variation in the SMEs Development. The significant F. test of (8.223, $p<0.000$) signifies the overall significant prediction of independent variables to the dependent variable, which further implies p value of 0.000 in the model fitness in regressing the relationship between factors of waste management and SMEs Development.However, this relationship is greatly enhanced when strong customer patronage is present. SMEs that effectively communicate their compliance with regulatory standards tend to attract more local customers, thereby boosting their growth. Conversely, SMEs that fail to engage with their customer base often struggle, even in favorable regulatory environments. The study recommends that SMEs should invest in marketing strategies that highlight their compliance with regulatory standards to build trust and loyalty among customers, among others.

Keywords: Regulatory factors, Institutional Capacity, Cultural factors, SMEs Development, Community Support, Customer Loyalty, Waste Recycling.

1.0 Introduction.

The vast population of Kano State informs the reason for their high level of waste generation whose effective management via application of recycling technology would not only sanitize these cities but also provide more jobs for the teaming unemployed youths thereby developing the Small and Medium Enterprises in the states. A significant challenge confronting engineers and scientists in developing countries is the search for appropriate solutions to the collection, treatment, and disposal orreuse of domestic waste. Technologies of waste collection and treatment that havebeen taught to civil engineering students and practiced by professional engineersfor decades are, respectively, the water-borne sewerage and conventional wastetreatment systems such as activated sludge and trickling filter processes (Kurniawan, T. A., Meidiana, C., Othman, M. H. D., Goh, H. H., & Chew, K. W.,2023).However,the above systems do not appear to be applicable or effective in solving thesanitation and water pollution problems in developing countries.

Small and medium businesses gained an increasing attention worldwide following the rolethese enterprises played in the reconstruction of the economies of countries defeated in World War II, Japan in particular (Kowo, S. A., Adenuga, O. A. O., &Sabitu, O. O.,2019). This attention was evident more clearly in the last quarter of thetwentieth century when large companies started losing many job opportunities. As a result ofthe inventions and innovations of small businesses, and the solution they provide to differenteconomic problems, particularly in term of employment, there was a sort of consensus on theimportance and key role these enterprises play in the different economies (Gumel, B. I., &Bardai, B. B.,2023).While the governments in developing countries such as Nigeria are saddled with the burden of making policies in trade andinvestment areas, it is enterprises that are directly involved in trade and investment. Therefore, the waygovernment,development partners and the private sector address barriers to trade and investment, has direct implications on theeconomic growth of these developing countries and the private sector development, which has the corecompetence for wealth creation and take advantage of global trade and investment opportunity, isconsidered to be vital to poverty alleviation (Kowo, S. A., et al, 2019). Effective recycling of waste in the identified states will help boost their local production capacities and as well promote their SMEs by ensuring adequate supply of both raw materials and finished goods at affordable prices (Yang, J., Jiang, P., Zheng, M., Zhou, J., & Liu, X.,2022).

1.1 Problem Statement

Many SMEs in Nigeria die within their first few years of existence. Another smaller percentage goesinto extinction between the sixth and tenth years thus only about five to ten percent of youngcompanies survive, thrive and grow to maturity (Onuwa, G. C., Mailumo, S. S., &Okeke-Agulu, K. I.,2023). Many factors have been identified as to thepossible causes or contributing factors to the premature death. Key among this includeinsufficient capital, lack of focus, inadequate market research, over-concentration on one ortwo markets for finished products, lack of succession plan, inexperience, lack of proper bookkeeping, lack of proper records or lack of any records at all, inability to separate business andfamily or personal finances, lack of business strategy, inability to distinguish betweenrevenue and profit, inability to procure the right plant and machinery, inability to engage oremploy the right staff, lack of sufficient patronageof locally produced goods and services, dumping of foreign goods and over-concentration ofdecision making on one (key) person, usually the owner (Ekon, B., &Isayas, B.,2022). The waste recycling technology (in a nation that generates over 32 metric tonnes of solid waste annually) offers a more promising opportunity and solutions to all of the factors above for the selected states in particular and Nigeria in general. The large tons of waste produced in these states due to their relative higher population if handled well could be a blessing rather the nuisance it was made to be (Liu, K., Tan, Q., Yu, J., & Wang, M.,2023).

Most human activities generate waste. Despite that, the production of wastesremain a major source of concern as it has always been since pre historic period (Tiwari, R., Azad, N., Dutta, D., Yadav, B. R., & Kumar, S.,2023). Inrecent times, the rate and quantity of waste generation in third world nations including Nigeria have been on the increase. As the volume of wastesincreases, so also does the variety of the waste increases (Cano, N. S. D. S. L., Iacovidou, E., &Rutkowski, E. W.,2022). Unlike the pre-historic period where wastes were merely a source of nuisance that needed to be disposed of, propermanagement by using waste recycling technology in the most densely populated states of Nigeria, such as Lagos, Katsina, Kaduna and Kano will be a reliable means of economic diversification. A substantial increase in volume of wastes generation began in the sixteenth century when people began to move from rural areas to cities as a result of industrial revolution (Chen, W., Yin, W., Yi, B., Xu, S., Zhang, H., & Li, X.,2023) This migration of people to cities ledto population explosion that in turn led to a surge in the volume and variety in composition of wastes generatedin cities (Amasuomo&Baird, 2016). It was then that materials such as metals and glass began to appear in large quantities in municipal waste stream.

The large population of people in cities and communities gave rise toindiscriminate littering and open dumps as is the case of the selected states for this research (Wei, Y., Zhang, L., & Sang, P., 2023). Recycling of these waste will bring a number of advantages for the states in particular and Nigeria in general. Major advantages of the recycling of waste in these states will ensure regular

study will therefore examine the role waste recycling management in SMEs development in the four most densely populated states in Nigeria.

1.2 Objectives of the Study.

The main objective of the study is to examine the mediating role of patronage factors in the nexus between waste recycling management and the development of the SMEs in Kano State. Other specific objectives are

1. To assess the extent to which patronage factors mediate the relationship between regulatory factors and SMEs development in Kano state.
2. To determine the extent to which patronage factors mediate the relationship between institutional capacity and SMEs development in Kano state.
3. To ascertain the role of patronage factors as mediator in the relationship between cultural factors and SMEs development in Kano state.

1.3 Research Questions

1. Does patronage factors mediate the relationship between regulatory factors and SMEs development in Kano state?
4. Does patronage factors mediate the relationship between institutional capacity and SMEs development in Kano state?
2. Does patronage factors serve as mediators in the relationship between cultural factors and SMEs development in Kano state?

1.4 Theoretical Framework.

The nexus between waste recycling management and SMEs development can be studied from the theory of Large Economy of Scale which was formulated by economists around the world to minimize production cost and promote competitiveness. The outbreak of World War II and emergence of the SovietUnion as a super industrial and economic power stresses the validity of the theory of Large Economy of Scale and added in some parts detailed theories on state role not only in terms ofdirecting development and economy to increase national production capacity, but also forenhancing direct investments in large enterprises established by the state to absorb theincreasing numbers of work seekers (Gajere, M. C., 2023). Small and medium businesses was a tradition confined to economic development studies thatfocus on the role of these enterprises in countering poverty as well as in unemployment inpoor countries. Economic writings and literature that focus on the positive role of smallbusinesses, such as Schumacher "Small is Beautiful" (1973), have been viewed as mere type of curiosity, because they were in contrast to the prevailing philosophy stressing that economicgrowth and development entail maintaining economies of scale.It is worth mentioning that the conception of big companies as the cornerstone of moderneconomy dates back on the onset of the industrial revolution and the

concept of large-scaleeconomies introduced by Adam Smith. Thisconcept reached its apex in late 19th century with the dominance of trust in steel, oil and automobiles industries(Onuwa, G. C. et al.,2023).

Small - businesses were never viewed in terms of their ability to play a key role in theeconomy, but rather a source of raw materials and manpower for big companies (Ufua, D. E.,et al.,2022). Nevertheless, this role is expected todisappear in the future, as it was the case in the industry sector, whereby giant large firmsdominated the economies of the west during most of the 20th century.

2.0 Literature review and Hypothesis Development

The development of viable SMEs in Nigeria has over the years been challenged by a number of harsh economicconditions which characterize the Nigerian business environment (Okafor, S. O., Ejelonu, H. O., &Onyekwere, C. G.,2022).Ejelonu, H., &Okafor, S. (2022) observe that these harsh economic condition came as a result of lack of sources of capital, lack of institutional support and lack of requisite entrepreneurial skills.Aderemi, T. A., Aransiola, I. J., Ojo, L. B., Ojo, J. O., &Okoh, J. I. (2022) believe that the raw materials export to foreign advanced nations has had tremendous negative effect on African economic development for a long time, thereby rendering our SMEs to be only raw materials producers for the developed countries.

These developed nations have long overcome health and environmental hazards constituted by waste using a number of waste recycling technologies unlike African nations where the waste is seen as a nuisance rather than a wealth resource.For SMEs to thrive, favourable institutional frameworks are required. Unfortunately, in Nigeria they are overlooked by policy-makers and legislators, whose target is usually larger corporations.

2.1SMEs contribution to economic development

There have been series of debates about the role of small-scale enterprises in economic development. Many studies found that SMEs play better role than large firmsin some industrial sectors, while other studies found that they are less efficient compared to the larger firms. These mixed evidences about how efficient SMEs are relative to larger firms arediscussed in Little, Gajere, M. C., (2023).Additionally, previous researchers found that most of SMEs were less efficient on averagethan their larger counterparts in five countries (Malaysia, Indonesia, Mexico, Colombia,Taiwan), but a significant number of highly efficient SMEs were found, and they wererelatively more productive than some large firms, Ojo, A. O., &Shittu, S. A., (2023). Thesame research also stated that efficient firms had better access to new technology throughknowledge, licensing agreements, joint ventures with foreign partners, and export contact with foreign buyers and suppliers. They had a more educated work force, and were morelikely to

Onwuchekwa, F., (2023).Nigeria remains a country with very high potential but an equally high inertia to develop. Thecountry is blessedwith abundant supply of enormous human, agricultural, petroleum, gas,and large untapped solid mineral resources (Ufua, D. E., Olujobi, O. J., Tahir, H., Al-Faryan, M. A. S., Matthew, O. A., &Osabuohien, E.,2022). Since her independence fromBritish rule in 1960, the country has gone through decades of political instability and this hasbrought with it a climate of social tension and an unpredictable market for business. Thesuccessive forceful takeover of government by the use of military coup and the indigenizationpolicy of the late 70's has put off investors who hitherto saw the country as a large and growing market (Lateef, M., &Keikhosrokiani, P.,2022). Due to the nature of these governments, there is perceived corruption, policyinstability, poor infrastructural development and lack of accountability of public funds. This isalso true for most Sub-Saharan African countries as industrial production has declined orstagnated over the past decades (Oyekan, M.,2022). Diversification to areas such as recycling of waste is therefore very imperative. According to Anoke, A. F., Onu, A. N., &Agagbo, O. C. (2022), the Nigerian government since independence has beenspending an immense amount of money obtained from external funding institutions forentrepreneurial and small business development programs, which have generally yielded poor results (Salau, N. A., &Nurudeen, A. D. E. Y. E. M. I., 2022). This author is of the opinion that if waste materials are harnessed effectively via modern waste management technology, there will be a monumental boom in SMEs development in Nigeria.
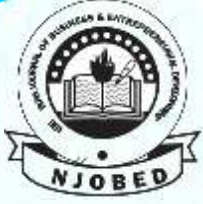
2.1.2 Regulatory Factors and SME Development

The regulatory environment, including government policies, tax regimes, and business laws, play a crucial role in SME growth. However, the efficiency of these regulations can be mediated by patronage, especially when favorable regulations align with customer expectations. For instance, simplified tax systems or supportive legislation can reduce the burden on SMEs, but customer support and loyalty ultimately determine the success of SMEs within these frameworks. Studies emphasize the importance of local patronage in reinforcing the effects of regulatory support, as customers tend to support businesses that are perceived as compliant with ethical standards and local regulations (Gbandi&Amissah, 2014).

2.1.3 Institutional Capacity and SME Development

Institutional capacity refers to the ability of organizations and governments to support SME development through resources, training, and infrastructure. Recent research reveals that patronage can mediate this relationship. For example, when SMEs benefit from institutional support like financing or training programs, customer loyalty becomes pivotal. Without strong patronage from customers, even well-supported SMEs may struggle to thrive (Famiola&Wulansari, 2020). In some African countries, institutional pressures to adopt sustainable practices have also been shown to indirectly affect SMEs through the level of local patronage (Eweje, 2020).

2.1.4 Cultural Factors and SME Development

Cultural factors, including community values, traditions, and societal norms, heavily influence the success of SMEs. In certain contexts, local cultural expectations may either enhance or undermine the patronage of SMEs. For instance, SMEs that align their practices with cultural values such as sustainability or social responsibility may experience higher patronage. Research suggests that in regions with strong cultural identities, customer patronage can serve as a powerful mediator between cultural alignment and SME success (Higgs & Hill, 2019). This is particularly true in settings where SMEs adopt practices that resonate with local cultural beliefs, thereby enhancing customer loyalty and business sustainability. Hence, the following hypotheses are developed.

2.2.1 Hypothesis Development

Ho1: Patronage factors does not mediate the relationship between regulatory factors and SME development.

SMEs that benefit from supportive regulatory environments will experience greater development if they also cultivate strong customer patronage(Gbandi&Amissah, 2014).

Ho2: Patronage factors does not mediate the relationship between institutional capacity and SME development.

 SMEs with institutional support, such as access to finance and infrastructure, will achieve higher performance if they enjoy strong customer loyalty (Famiola&Wulansari, 2020).

Ho3: Patronage factors does not mediate the relationship between cultural factors and SME development.

SMEs that align with local cultural values will experience greater development through enhanced customer patronage(Higgs & Hill, 2019).

2.2.2 Conceptual Frame work

Independent Variable

Dependent Variable

Mediator

Regulatory framework

Institutional Capacity

Cultural Factors

Patronage factors

SMEs Development
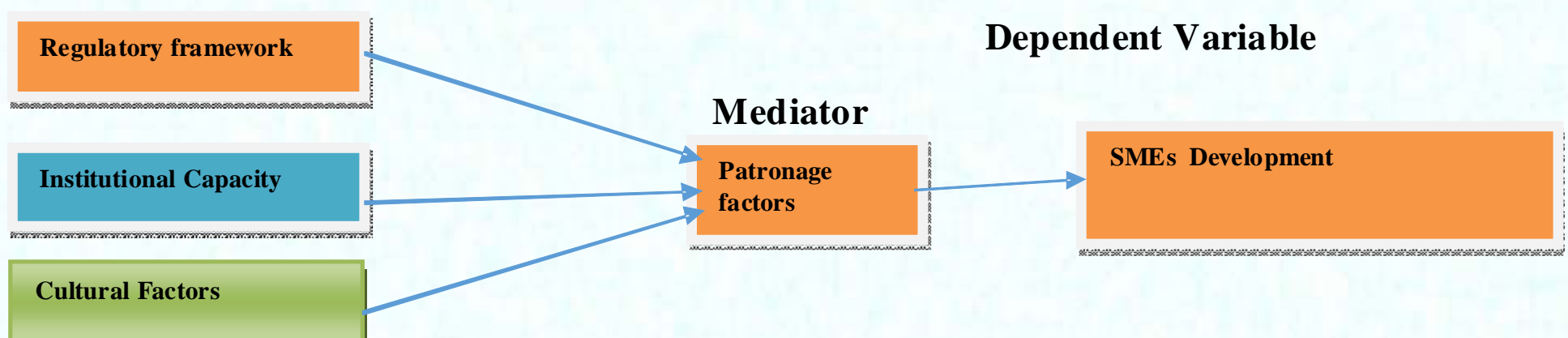
3.0 Research Methodology
3.1 Research Design

Quantitative approach was used, and primary data were collected using self-administered questionnaire for analysis purpose.

3.2 Population and Sample of the study

The research population was drawn from scavengers across Kano state. The sampling frame is therefore the entire list of the scavengers totaling four hundred and fifty five (455). The sample size shall be computedbased on theTaro Yamane (1967) formulafor sample size thus:

$n = N/ (1+N (e)^2)$

n = Signifies the sample size

N = the population under study

e = Signifies the margin error (it could be 0.10, 0.05, 0.01)

Therefore, the sample size was computed as follows:

$n = 455/ (1+455 (0.10)^2)$

n = 455/ (1+455 (0.01)

n = 455/ (1+ 4.55)

n = 455/5.55

n = 81

3.3 Measures and Scales.
Two variables are used in this study. They are Training and development, employee performance 21 questions of training and development and employee performance. The measurement was adopted from the study of Williams L. J and Anderson S. A. (1991), Hansson B. (2007). All variables were measured using a 5-point likert scale in which 5 represented strongly agree to 1 which is strongly disagreeing.

3.4 Model Specification and Multiple Regressions.

Multiple regressions was used to determine the contribution of waste recycling management (CWRM) on the development of SMEs(DSMEs) in the selected states of Nigeria. The studyused regression model for the estimation of dependent variable by the independent variable with community development (CD) and customer support (CS) as patronage factors mediating the relationship whichis estimated as follows:

DSMEs = 0 + 1CWRM + 2CD+ 3CS + ……………………………….………… (1)

4.0 Data Presentation and Analysis

Table 4.1 Questionnaire Distribution and Retention

Item	Frequency	Percentage (%)
Distributed Questionnaires	122	100
Returned Questionnaires	122	100.
Rejected(Outliers) Questionnaires	5	10
Retained Questionnaires	117	94.4

Source: Field Survey, 2024

4.2 RELIABILITY TEST

There are different types of reliability tests, but the most widely used technique in many researches is internal consistency reliability (Litwin, 1995). The Cronbach alpha coefficient test was carried out to measure the internal consistency reliability. Table 4.2 present the summary of the reliability test result.

Table 4.2 Summary of Reliability TEST

Variables	Number of Items	Cronbach Alpha
Regulatory Framework	7	0.290
Institutional Capacity	5	0.732
Cultural Factors	4	0.627
SMEs Development	6	0.581

Source: Field Survey (2024), Generated from SPSS, 22 Version

The regulatory framework ensures regulatory activities, the institutional capacity indicates the ability of the institution and the cultural factors influence the nexus between the variables.

Table 4.3 Regression Analysis

Model	R	R Square	Adjusted R Square(R^{-2})	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df 1	df2	Sig. F Change
1	.483[a]	.233	.205	5.31694	.233	8.223	3	81	.000

Table 4.4 ANOVAᵃ

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	697.362	3	232.454	8.223	.000ᵇ
Residual	2289.861	81	28.270		
Total	2987.224	84			

a. Dependent Variable: SMEs DEVELOPMENT
b. Predictors: (Constant), REGULATORYFRAMEWORK, INSTITUTIONAL CAPACITY, CULTURAL FACTORS

Table 4.5 Regression Table

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	12.892	3.707		3.478	.001
RF	.094	.106	.094	.889	.377
IC	.489	.218	.276	2.238	.028
CF	.347	.190	.218	1.830	.071

Source: Generated from SPSS, 22 Version.

5.0 Result and Discussion

R^2 of .233 implies that predicting variables (Regulatory Framework, Institutional Capacity and Cultural Factors) under the study were able to account or explain 23% variance in the dependent variable (SMEs Development), while the remaining 77% was not captured by this study. Furthermore, Cohen and Cohen (1988) classify the R^2 into three (3) categories: 0.02 as weak, 0.13 as moderate and 0.26 as substantial.

In view of this classification, the present study R^2 is considered substantial. The results also shows R^{-2} of .205 which implies that the predicting variables were able to explain 21% variation

in the SMEs Development. The significant F. test of (8.223, p<0.000) signifies the overall significant prediction of independent variables to the dependent variable, which further implies p value of 0.000 in the model fitness in regressing the relationship between factors of waste management and SMEs Development. Therefore, f statistics value measures the strength of regression model with a value of 8.223.

Institutional Capacity is the second variable that best predicts the dependent variable with (=.276, t=2.238, P>0.028), the relationship between Knowledge gained and employee performance can said to be significant with a p-value of 0.028. The result further suggests that institutional capacity will lead to an improvement in SMEs Development. Therefore, the null hypotheses raised that state:

Ho1: Patronage factors does not mediate the relationship between regulatory factors and SME development was not supported.

Ho$_2$ Patronage factors does not mediate the relationship between institutional capacity and SME development was not supported.

Ho3: Patronage factors does not mediate the relationship between cultural factors and SME development was not supported.

This result is consistent with results of several studies, such as; Machira et al; (2014); Chowdhury et al., (2013); Mansor& Mat (2010); Okapor&Amalu (2010); Hilton, etal, (2006).

Findings.

1. The analysis revealed that regulatory factors, such as government policies and tax incentives, have a significant positive impact on SME development. However, this relationship is greatly enhanced when strong customer patronage is present. SMEs that effectively communicate their compliance with regulatory standards tend to attract more local customers, thereby boosting their growth. Conversely, SMEs that fail to engage with their customer base often struggle, even in favorable regulatory environments.

2. The study also indicates that institutional capacity, including access to finance and training programs, positively influences SME development. However, the effectiveness of these institutional supports is significantly mediated by patronage. SMEs that actively cultivate community relationships and customer loyalty are better able to leverage institutional resources, resulting in enhanced performance.

3. Cultural factors, including local traditions and societal norms, have a strong influence on SME development. The analysis highlighted that patronage plays a critical role in this relationship; SMEs that align their practices with cultural values experience increased customer loyalty and support. This cultural alignment not only enhances patronage but also leads to sustainable growth.

Recommendations.

1. SMEs should invest in marketing strategies that highlight their compliance with regulatory standards to build trust and loyalty among customers.

2. Policymakers should work with SMEs to create clearer, more accessible regulatory frameworks that are easy to understand, fostering customer confidence in compliant businesses.

3. SMEs should prioritize relationship-building with local communities, fostering loyalty that can amplify the benefits of institutional support.

4. Institutions should design programs that not only provide financial support but also include capacity-building initiatives that emphasize customer relationship management.

5. SMEs should actively engage in practices that resonate with local cultural values, such as sustainability and community involvement, to foster customer loyalty.

6. Local governments and organizations should create awareness campaigns that highlight the importance of supporting culturally aligned businesses, thereby encouraging community patronage.

Conclusion

The study analyzed the pivotal role of patronage factors as mediators in the relationships between regulatory, institutional, and cultural factors of waste management and SME development in Kano State. By focusing on customer engagement, community relationships, and cultural alignment, SMEs can leverage their surroundings to foster growth and sustainability. This integrated approach will not only benefit individual businesses but also contribute to the overall economic development of the region. The study showed that scavenging and waste management if well harnessed, could contribute in poverty reduction and employment generation which is badly needed in Kano state and environs.

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