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Original Research

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Determinants of Employee Productivity in Listed Manufacturing Firms in Southwestern Nigeria

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Abstract

The study analyzed the level of employee productivity and identified factors influencing employee productivity in listed manufacturing firms in southwestern Nigeria. The descriptive survey design was adopted for this study. A sample of 394 respondents was selected using a simple random sampling technique. Data collected using a structured questionnaire were analyzed using descriptive and inferential statistics. The study showed that a majority of the respondents (58.33%) had average productivity levels. Results further revealed that management and organizational factors were identified as having the greatest influence on employees' productivity, followed by organizational/technical factors, and then production and finance factors. In addition, results indicated that financial (B = -1.322, p = 0.000), management (B = -2.751, p = 0.000), personal (B = -2.721, p = 0.000), and organizational factors (B = -3.140, p = 0.000) all had significant and negative influence on workers' productivity. The study concluded that financial, management, personal, and organizational factors were potent factors that could define workers' productivity.

Keywords: *employee productivity, productivity factors, organizational performance, manufacturing*

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Introduction

The business environment is increasingly competitive, and firms are forced to advance their level of competencies and enlarge their capabilities to be more cost effective, creative, and competitive in the industry (Awan & Tahir, 2015). Firms' ability to compete depends on their financial strength, tangible resources (financial, material, facilities, etc.), intangible resources (patents), technical know-how, and employees. The most tactical of these resources are human resources—employees. Employees are considered the main support for a business and most instrumental in its development (Parvin & Kabir, 2011). They are the most important tool and are an essential part of an industry through which productions are managed (Khan et al., 2012). They are responsible for the optimal use of all the industry's resources in achieving daily tasks and the broad goals and objectives of the organization.

The manufacturing sector is a major driver of the global economy, and Nigeria is not exempt from this pattern (Ikpesu, 2019), although the Nigerian manufacturing sector has had its share of industry shocks, some of which led to the liquidation of firms in the industry (Ikpesu, 2019; Uchenna & Okeule, 2012). Studies assessing the profitability of manufacturing firms in Nigeria are very appropriate and especially important at this time, after the country has seen a number of economic and political reforms from one regime to another (Odusanya et al., 2018). A good number of manufacturing firms have been pushed to relocate their plants to other African countries due to an unfriendly business environment that has continued to plague firm and employee productivity in the manufacturing arena. While studies from Abdu and Jibir (2018), for example, analyzed the determinants of firm innovation in Nigeria, this study looked into issues affecting the productivity of employees in listed manufacturing firms in southwestern Nigeria.

Research Questions

The following were the research questions for this study:

1. What is the level of employee productivity in the listed manufacturing firms in southwestern Nigeria?
2. What are the factors influencing employee productivity in the listed manufacturing firms in southwestern Nigeria?
3. What are the challenges to employee productivity in the listed manufacturing firms in southwestern Nigeria?
4. What are the individual and joint roles of the factors in influencing employee productivity in the listed manufacturing firms in southwestern Nigeria?

Objectives of the Study

The broad objective of this study was to evaluate the determinants of employee productivity in listed manufacturing firms. The specific objectives were to

- analyze the level of employee productivity in the listed manufacturing firms in southwestern Nigeria,
- identify the factors influencing employee productivity in the listed manufacturing firms in southwestern Nigeria,
- discuss the challenges to employee productivity in the listed manufacturing firms in southwestern Nigeria, and
- assess the individual and joint roles of the factors in influencing employee productivity in the listed manufacturing firms in southwestern Nigeria.

Literature Review

Productivity is a concept commonly defined as the relation between output and input, which has been practical in diverse circumstances on various levels for over two centuries. The International Labour Organization has defined productivity as the ratio connecting the output and input of resources used up in the production process (Kato, 2016). Etekpe (2012) described productivity as the creation of goods and services in large quantities and the application of factors of production to yield positively. Productivity is the total output/total amount of input, which shows the link between the unit of labor input and output (Igbokwe-Ibeto, 2012). From a business perspective, productivity is viewed in terms of individual industries or firms and the extent to which employees apply the productivity concept to their jobs, while some see the concept as a measure of the efficiency level achieved in production.

According to Ataullah et al. (2014), by increasing the level of productivity, a firm can utilize its employees to attain competitive advantage. High employee productivity can be an essential indication of progress in sales or market growth. Although it is acknowledged that employee productivity may not necessarily point to the effort of each employee, it provides a useful measure of the labor productivity index as a factor in the manufacturing process.

In many firms with large endowments of employees, measuring the productivity of employees can be agreed upon as an important way to understand changes occurring in the industry and the global market. It is also useful in providing insights to industry policy makers regarding trends in profitability, as well as increases in market share and sales growth. According to Chebet (2015), there were no specific approaches for the measurement of outstanding business achievements, especially employee productivity. Chebet suggested that it might be a good idea to measure employees' productivity from employees' overtime hours at work, the level of sales and other tasks completed by employees, the total amount of sales made, the level of solutions provided to customer complaints and problems on a consistent basis, the number of new customers gained by the firm, expenses per sale/new customer acquisition in the firm, and the rate of employees' total output in the firm, among other measures.

Employee productivity is very important for the success of a company in today's globally competitive market. The ability of an employee in a firm to maximize available resources to produce cost-effective goods or services has many advantages. These involve timeliness, discipline, coordination, analysis, and highly skilled manpower (Leonard, 2018).

Employee productivity helps firms to grow faster in the market (both local and global) and face cutthroat competition without worrying about failure. It can either build a firm or bring it to its downfall. Employee productivity determines the revenues and profits of the organization because profits are the end result of employees' efficiency as well as effectiveness in business policies and processes (Chebet, 2015). A firm can increase its employee productivity by enabling suitable changes in its business processes and policies in order to invest and take advantage of strengths (strong areas) for betterment.

The success of a business can be traced to its diligent employees for their excellent productivity. There is always a big difference in a firm's profit and output when each employee puts extra effort into their activities. It is necessary for employees to be motivated in order to reach their full potential and maximal level of productivity. Firms that recognize and encourage employee productivity are more likely to be successful than their counterparts that do not. The firm with the most productive employees will have zero effect of adverse market conditions because they are proactive (Shane, 2017).

In Nigeria, there are 21 listed consumer goods manufacturing firms in the consumer goods sector (Nigerian Stock Exchange, 2015), creating around 74% of job opportunities (National Bureau of Statistics, 2015). Diverse studies have been carried out with respect to manufacturing industries; however, the issue

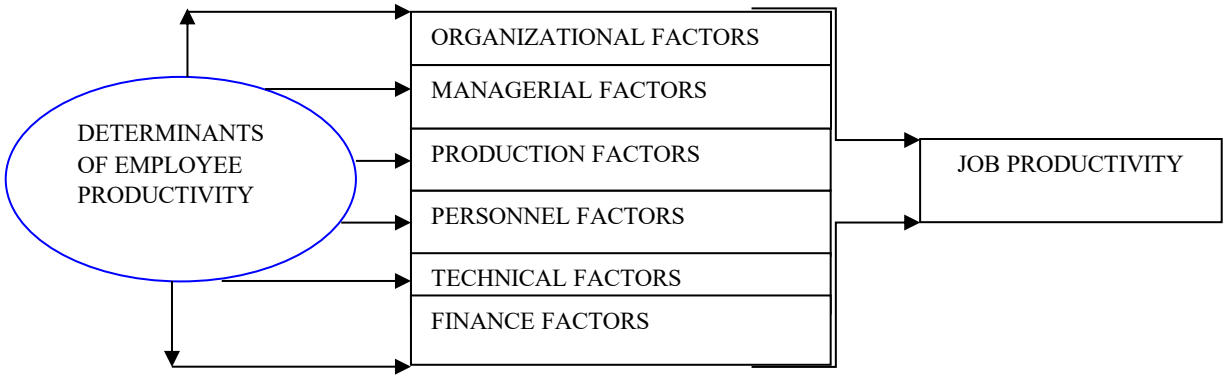
of employees' productivity has received little research attention, especially in the study area, hence the need for this study.

Dispersion Measures

Dispersion is related to the "width" of the productivity distribution and generally is measured using standard deviation. Standard deviation can be computed for any grouping of firms, which is very good and logical in comparing productivity levels among firms. This measure is used to derive the aggregate of employees' level of productivity. It can be used to divide the sum of employees' productivity into levels such as high, low, and average among employees or firms as a whole.

Determinants of Employee Productivity

Figure 1. *Determinants of Productivity*



Note. Adapted from *Management: Theory and Application* (p. 306, by L. L. Byars and L. W. Rue, 1977, Richard D. Irwin). Copyright 1977 by Irwin.

There are simple factors that need to be involved for employees to show productivity because employees need to feel that they are part of the company and not just workers in the workplace (Škare et al., 2013). Palmade (as cited in USAID, 2005) discussed factors that determine employee productivity and listed them as human resources, capital spending, innovation, company character, management, open market, and competition, among others. The factors that determine productivity are interrelated and interdependent. In this study, these factors were classified into six categories: organizational, managerial, production, technical, personnel, and financial factors.

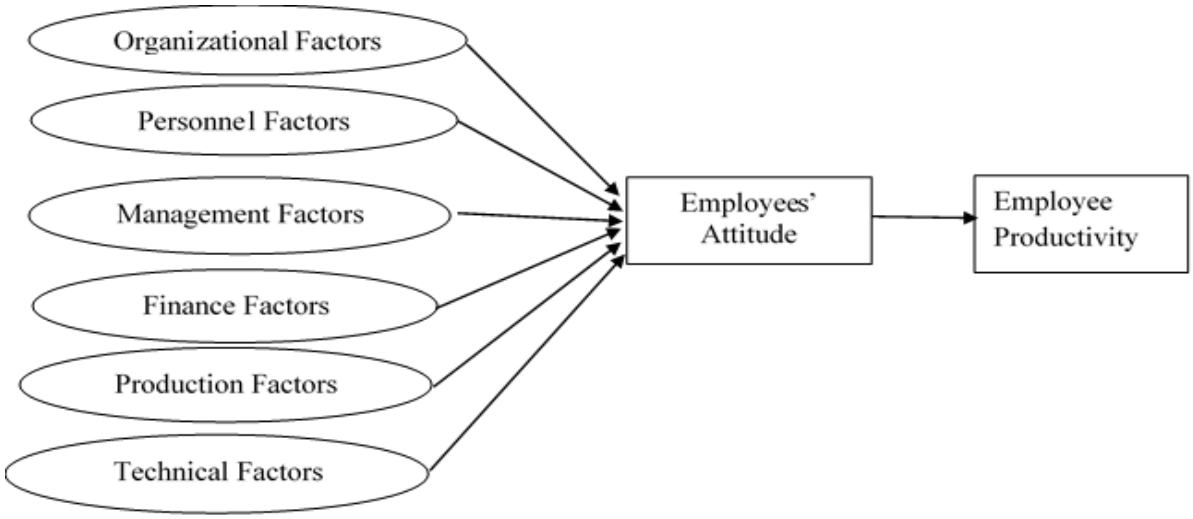
Conceptual Framework

Adopting Edwards's model, the original variables have been modified to suit this study and to generate a better outcome (Edwards, 2001). The main emphasis of this research is bridging the gap in the literature to explain how organizational, management, production, personal, finance, and technical factors influence employee productivity. This study splits the concept "determinants of employee productivity" into three variables, namely the dependent variable, independent variables, and intervening variable. The independent variables, detailed below, are also referred to as predictors; the intervening variable is the employee's attitude; and the dependent variable is employee productivity.

The conceptual framework in Figure 2 depicts the independent variables as organizational, management, production, personal, finance, and technical factors and the influences of these predictors on employee productivity. Organizational factors include infrastructure, safety and job security, good work

environment/condition, and geographical location. Management factors include management style, teamwork, supervision, and interpersonal relationship.

Figure 2. *A Conceptual Framework for the Study*



Gap in Literature

Within the existing literature on employee productivity in Nigeria, there is no in-depth study on factors influencing employee productivity and the challenges to employee productivity in manufacturing firms. The majority of studies have restricted their research to the establishment and identification of the factors that affect productivity only. Most of these studies have also been limited to financial and service-oriented firms in Nigeria. Presently, no study has assessed the individual and joint roles of the factors influencing employee productivity in Nigeria. Attempts were made to identify these factors in the existing literature, but little effort was made to group and rank them, or to match the groups with each other to determine their strengths with or without each other and their level of significance in influencing employee productivity in manufacturing firms in Nigeria, which was the scope of this study and hence the gap that this study was conducted to fill.

Methodology

The study adopted the survey research approach. The population for this study consisted of all workers of the 21 consumer goods manufacturing firms listed on the Nigerian Stock Exchange (NSE, 2015). Out of the 21 listed companies, seven fast-moving consumer goods (FMCG) firms were selected, with a total population of 24,590 employees. The selection of the seven FMCG firms was based on the fact that they had a higher frequency of purchase and were characterized by low price and inventory turnover; additionally, FMCG are the largest segment of consumer goods (Binuyo et al., 2019). A total sample of 394 respondents was selected from the workers using a formula by Slovin (as cited in Sekaran, 2012).

Table 1. *Sampled Listed Manufacturing Firms*

S/N	Company name	Total population	Total sample
1	Nigeran Breweries	3,195	52
2	Nestlé Nigeria	3,300	53
3	Nigerian Flour Mills	7,284	116
4	Unilever Nigeria	994	15
5	Cadbury Nigeria	1,797	28
6	PZ Cussons	4,520	73
7	Nigeria Bottling Company	3,500	57
	Total	24,590	394

The data were collected by means of a clearly worded questionnaire to acquire information from the respondents. Reliability was tested using 40 copies of the questionnaire, which were retested with randomly selected individuals. A pilot study was conducted to test the simplicity, clarity, and accuracy of the instrument. Rule of thumb suggested that the pilot test should be carried out on 10% of the target sample (Cooper & Scilder, 2011; Gall & Borg, 2007). Reliability testing was carried out using Cronbach's alpha to examine the internal consistency of the questionnaire. Internal consistency is higher if Cronbach's alpha coefficient is closer to 1 (Sekaran, 2012).

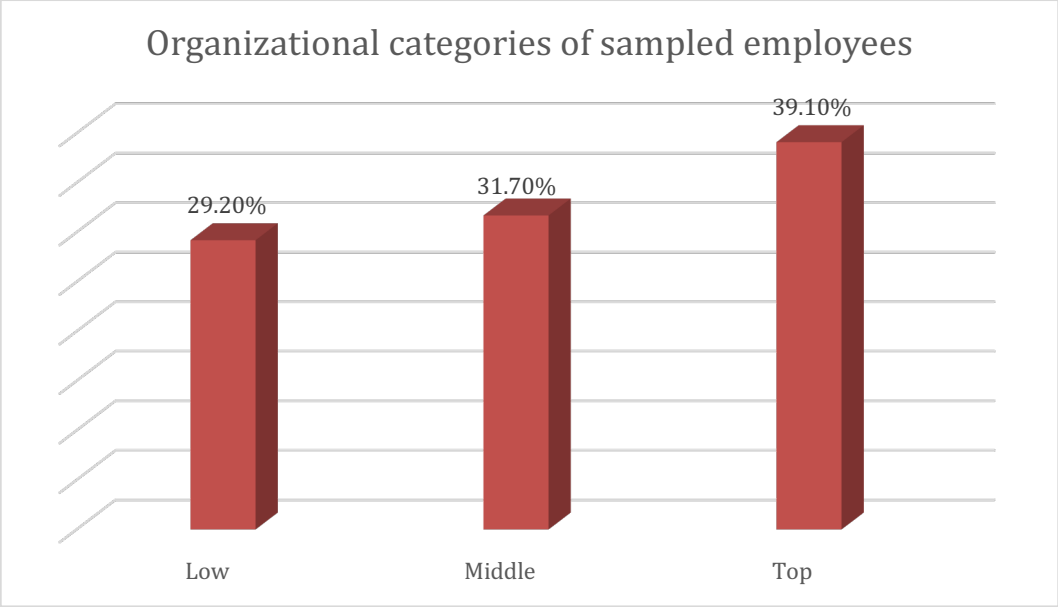
Table 2. *Result of the Cronbach's Alpha Reliability Test on Instrument*

Item	No. of items	Cronbach's alpha results	Remark
Level of employee productivity	15	0.887	Pass
Factors influencing employee productivity	33	0.957	Pass
Challenges to employee productivity	15	0.887	Pass

Results

The distribution of employee category reflected that 39.1% of the respondents were top-level staff, 31.7% were middle-level staff, and 29.2% were lower-level staff. The analysis of the staff category revealed a mixed distribution, with the majority being in middle- and top-level positions. Employees at these levels are able to provide more accurate information about organizational issues.

Figure 3. *Distribution of Respondents by Employee Categories*



Research Question 1

What is the level of employee productivity in the listed manufacturing firms in southwestern Nigeria?

Table 3. *Overall Level of Employee Productivity Among the Listed Manufacturing Firms*

	Frequency (number of employees)	Percentage	Cumulative
Low	78	25.0	25
Average	182	58.33	83.33
High	52	16.67	100
Total	312	100.0	

Table 3 shows the level of total productivity in the listed manufacturing firms. The mean score of productivity revealed in this study is 66.0, while the standard deviation (*SD*) is 6.0. Using the mean (66.0) and *SD* (6.0), any firm with a score above 72 (66.0 + 6.0) is considered high in its level of employee productivity, any firm below 60 (66.0 – 6.0) is considered low in its level of productivity, and any firm between 61 and 70 [(66.0 + 6.0) and (66.0 – 6.0)] is considered to have an average level of productivity. The results showed that about 16.67% of the employees in the manufacturing firms had a high level of productivity, 25% had a low level of productivity (below 60), and a majority (58.33%) had an average level of productivity. In summary, this study revealed the overall level of productivity in these manufacturing firms to be average, with 58.33%, which predicts that more than half the firms are averagely productive.

Research Question 2

What are the factors influencing employee productivity in the listed manufacturing firms in southwestern Nigeria?

Table 4. *Groupings of the Factors Affecting Employees' Productivity*

Group	Factors	Variables	% of variance explained
1	Management/Organizational	C24, C26, C27, C28, C29, C30, C32, C33	16.29
2	Management/Personnel	C23, C40, C53, C54, C55	15.08
3	Organizational/Technical	C35, C36, C37, C38, C39, C41	11.11
4	Production/Finance	C43, C44, C45, C46	10.24
5	Finance/Personnel	C48, C49, C51, C52	9.02
6	Organizational	C31	7.44
	Total		69.19

Table 4 shows the groupings of the factors. Factor loadings are numerical values that indicate the strength and direction of a factor on a measured variable. Factor loadings indicate how strongly the factor influences the measured variable. Out of a total of 33 factors, 28 factors loaded on at least one of the component matrices. These factors were retained and analyzed, while five other factors failed to load on at least one of the components. The failure of these factors (C25, C34, C42, C47, and C50) to load might not be unconnected to the fact that extraction was done by suppressing coefficients that were less than 0.6. This was done to correct overlapping of variables. Therefore, the remaining 28 items were grouped under the six identified components shown in Table 4. From the table, management/organizational-related factors accounted for the highest variance (16.2%) of factors influencing employee productivity, followed by management/personnel-related factors (15.1%) and organizational/technical factors (11.1%). Together, all six factors explained about 69.19% of the variation in the data.

Research Question 3

What are the challenges to employee productivity in the listed manufacturing firms in southwestern Nigeria?

Table 5. *The Challenges to Employees' Productivity*

Challenges to employee productivity	SD		D		N		A		SA		Mean	TS	RII
	N	%	*N*	%	*N*	%	*N*	%	*N*	%			
Inability to ensure implementation and improvement recommendations	6	1.9	30	9.6	119	38.1	148	47.4	9	2.9	3.397	1,060	15
Constant breakdown of equipment and staff shortages	3	1.0	15	4.8	106	34	158	50.6	30	9.6	3.631	1,133	10
Deficiencies in communication between management and employees	15	4.8	27	8.7	91	29.2	149	47.8	30	9.6	3.487	1,088	13
Inability of management to emphasize employee understanding, cooperation, and involvement	12	3.8	30	9.6	99	32.7	147	47.1	24	7.7	3.451	1,077	14
Unavailability of adequate revenue in the firm	9	2.9	27	8.7	65	20.8	175	56.1	36	11.5	3.647	1,138	9
Organizational chain of command	9	2.9	15	4.8	107	34.3	169	54.2	12	3.8	3.512	1,096	12
Unrealistic expectations from employees and poor work-life balance	3	1.0	30	9.6	78	25.0	192	61.5	9	2.9	3.557	1110	11
Zero feedback on employees' performances	3	1.0	9	2.9	36	11.5	180	57.7	84	26.9	4.067	1269	2
Inadequate opportunity for knowledge accumulation and application			6	1.9	27	8.7	198	63.5	81	26.0	4.134	1290	1
Unfavorable company culture and policy	6	1.9	3	1.0	56	17.9	190	60.9	57	18.3	3.926	1225	6
Inability of employees to make optimal use of available resources	3	1.0	6	1.9	30	9.6	221	70.8	52	16.7	4.003	1249	4
Insufficient production capacity due to lack of facilities	6	1.9	3	1.0	49	15.7	169	54.2	85	27.2	4.038	1260	3
Limited cost-cutting measures available	6	1.9	6	1.9	58	18.6	175	56.1	67	21.5	3.932	1227	5
Difficulty in quality control	6	1.9	6	1.9	46	14.7	205	65.7	49	15.7	3.913	1221	7
Capabilities in developing local products	3	1.0	3	1.0	58	18.6	226	72.4	22	7.1	3.836	1197	8

Note. SD = Strongly Disagree; D = Disagree; N = Neutral; A = Agree; SA = Strongly Agree; TS = Total Score; RII = Relative Importance Index

The Challenges to Employee Productivity in the Listed Manufacturing Firms

Table 5 shows the employee productivity challenges as indicated by the respondents. The respondents were presented with 15 issues as possible challenges to employee productivity. A majority (89.5%; mean = 4.134) of the respondents from the listed manufacturing firms agreed that there was inadequate opportunity for knowledge accumulation and application by employees in their firm, and the issue was ranked as the major challenge to employee productivity in their individual firms. Another key challenge to employee productivity, indicated by 84.4% of the respondents, was zero feedback on employee productivity level over time, which was ranked as the second major challenge with a mean score of 4.067, with a meager 3.9% disagreeing that it was a challenge. The inability of employees to make optimal use of available resources to get maximum output at the lowest cost was another factor agreed upon by a majority (87.5%; mean = 4.003) of the respondents as one of the major challenges to employee productivity. The respondents also viewed insufficient production capacity due to lack of facilities as a challenge to employee productivity in their respective domain; about 81.4% of them agreed that this was the case, while 3.8% disagreed. Limited cost-cutting measures available in the firm were identified by 77.6% of the respondents as a challenge suffered in the firm.

Meanwhile, inability to ensure the implementation of productivity improvement recommendations and full commitment of the employees was ranked lowest among challenges to employee productivity (3.397), with 50.3% of the respondents endorsing this as a challenge. In the same vein, inability of management to emphasize employee understanding, cooperation, and involvement in the productivity aspect of the firm also received a low ranking as a challenge to employee productivity (3.451), with 54.8% of the respondents endorsing it. In response to the prompt of constant breakdown of equipment and staff shortages in the firm, 66% agreed that it constituted a challenge to employee productivity.

Similarly, 67.6% of the surveyed respondents, with a mean score of 3.647, agreed that unavailability of adequate revenue in the firm to get the necessary resources for production posed a challenge to employee productivity. About 58% of the respondents agreed that the organizational chain of command in the firm hindered employee productivity, with a mean score of 3.512. Less than 11% of the respondents disagreed that unrealistic expectations from employees and poor work-life balance constituted a challenge to employee productivity, while 64.4% agreed.

Finally, 79.2% of the respondents concluded that they suffered unfavorable company culture and policy. Difficulty in quality control was also reported as a challenge to employee productivity by 81.4% of the respondents, while 79.5% agreed that they had weak capabilities in developing local products and services.

Research Question 4

What are the individual and joint roles of the factors in influencing employee productivity in the listed manufacturing firms in southwestern Nigeria?

Table 6. *Model Summary of Hierarchical Regression*

					Change statistics				
Model	*R*	*R* square	Adjusted *R* square	Std. error of the estimate	*R* square change	*F* change	df1	df2	Sig. *F* change
1	.132 [a]	.018	.014	5.85805	.018	5.479	1	307	.020
2	.297 [b]	.088	.082	5.65323	.070	23.649	1	306	.000
3	.297 [c]	.088	.079	5.66131	.000	.127	1	305	.722
4	.367 [d]	.135	.124	5.52384	.047	16.370	1	304	.000
5	.431 [e]	.186	.173	5.36704	.051	19.023	1	303	.000
6	.433 [f]	.188	.171	5.37102	.001	.551	1	302	.458

Note. EP = employee productivity is constant (C); FF = finance factor; MF = management factor; PRF= production factor; PEF = personnel factor; OF = organizational factor.

[a] Predictors: (Constant), FF. [b] Predictors: (Constant), FF, MF. [c] Predictors: (Constant), FF, MF, PRF. [d] Predictors: (Constant), FF, MF, PRF, PEF. [e] Predictors: (Constant), FF, MF, PRF, PEF, OF. [f] Predictors: (Constant), FF, MF, PRF, PEF, OF, TF.

Table 6 shows the model summary of the hierarchical regression of the individual and joint roles of factors influencing employee productivity. These models are used to indicate the factors that will further influence the level of employee productivity if more attention is given to them. This is revealed in the R^2 of each model, and the R^2 change further revealed each model's level of significance. The result showed that Model 1, which has financial factors as the only predictor variable, had an R^2 of 0.018, which showed that the predictor variable explained about 1.8% of the variance in the dependent variable (employee productivity). The R^2 = 0.088 of Model 2, which has financial and management factors as predictor variables explained about 8.8% of the variance in employee productivity. The *R*-square change = 0.07 of Model 2 [$F(2,306) = 14.77$, $p < 0.05$] showed that there was significant variance explained by the model with the addition of the management factor. No statistically significant change in the variance was explained by Model 3, which included the production factor as a predictor variable for the level of employee productivity among the listed firms. However, the model was statistically significant to influence the level of employee productivity [$F(3, 305) = 9.858$, $p < 0.05$), $R^2 = 0.088$]. The fourth model had an R^2 of 0.135, which showed that four factors (financial, management, production, and personnel) explained significantly 13.5% of the variance in employee productivity. There was an associated statistically significant increase in the *R*-squared [$F(1, 304) = 16.370$, $p < 0.05$], and the model was also statistically significant, showing the influence of the predictor variables . Model 5, which has five predictor variables, had a significant increase in the R^2 (0.186), which showed that the model predictor variables explained about 18.6% of the variance in employee productivity, which had a significant statistical change [$F(1,303) = 19.023$, $p < 0.05$]. Model 6 had $R^2 = 0.188$, which showed a slight increase in the variance of the employee productivity explained by all six factors itemized in this study. The statistics result [$F(1, 302) = 0.551$, $p > 0.05$] showed that there was no significant change in the R^2 of Model 6 from Model 5. However, the model prediction was found to be statistically significant [$F(6,302) = 11.620$, $p < 0.05$]. Additionally, the table indicated the specific factor that is likely to cause a more significant impact if more attention is given to it.

Table 7. *Coefficient Result of the Influence of the Factors on Employee Productivity*

		Unstandardized coefficients		Standardized coefficients		
	Model	B	Std. error	Beta	*t*	Sig.
1	(Constant)	70.686	2.139		33.054	.000
	FF	-1.322	.565	-.132	-2.341	.020
2	(Constant)	75.483	2.287		33.000	.000
	FF	.081	.617	.008	.131	.896
	MF	-2.751	.566	-.300	-4.863	.000
3	(Constant)	75.497	2.291		32.954	.000
	FF	.199	.701	.020	.284	.777
	MF	-2.630	.661	-.287	-3.981	.000
	PRF	-.251	.707	-.029	-.356	.722
4	(Constant)	74.307	2.255		32.958	.000
	FF	1.580	.765	.158	2.066	.040
	MF	-2.015	.662	-.220	-3.044	.003
	PRF	.710	.729	.082	.974	.331
	PEF	-2.721	.673	-.346	-4.046	.000
5	(Constant)	75.355	2.204		34.194	.000
	FF	.818	.763	.082	1.072	.285
	MF	.805	.912	.088	.883	.378
	PRF	.746	.709	.086	1.053	.293
	PEF	-2.157	.666	-.274	-3.238	.001
	OF	-3.140	.720	-.394	-4.362	.000
6	(Constant)	75.227	2.212		34.008	.000
	FF	.651	.796	.065	.818	.414
	MF	.852	.915	.093	.931	.353
	PRF	1.203	.939	.139	1.281	.201
	PEF	-2.024	.690	-.257	-2.932	.004
	OF	-2.963	.759	-.372	-3.906	.000
	TF	-.641	.864	-.084	-.742	.458

Note. Employee productivity is constant. FF = finance factor; MF = management factor; PRF= production factor; PEF = personnel factor; OF = organizational factor; TF = Technical Factor

Table 7 shows the coefficient result of the influence of the factors on the employee productivity in the listed firms. In the first model, the unstandardized coefficient was observed to be significant for the financial factor (t = -2.341, p = 0.05), hence showing that a unit increase in the financial factor will cause a decrease in the employee

productivity in the firms. Model 2 showed that the financial factor has a nonsignificant influence on employee productivity when placed with the management factor, which was statistically influential in predicting employee productivity (t = -4.863, p = 0.05). From Model 3, it was observed that among the three factors (FF, MF, and PRF) that significantly predict the employee productivity, change in MF will significantly influence the level of employee productivity (t = -3.981, p = 0.05), and changes in the other two factors will not influence productivity (p > 0.05). The coefficient result for Model 4 with four predictor variables (FF, MF, PRF, PERF) showed that any change in financial factors, management factors, and personal factors will significantly influence employee productivity (t = 2.066, t = 3.044, t = 4.046; p = 0.05, respectively). Model 5 showed that among factors in the model (FF, MF, PRF, PERF, OF), personnel factors (PERF) and organizational factors (OF) significantly contribute to the model (t = 3.238, t = 4.362; p = 0.05). In Model 6, the result showed that among the six predictor variables (FF, MF, PRF, PERF, OF, TF), organizational factors (OF) and personnel factors (PERF) significantly contribute to the model (t = 2.932, t = 3.906; p = 0.05).

Discussion of Findings

The study was conducted to investigate employees' productivity among manufacturing industries in Nigeria. Four objectives were raised to achieve this study. For the first objective, results showed that a majority of the employees in the manufacturing firms had an average level of productivity. This finding is partly consistent with that of Maduka and Okafor (2014) that the productivity of employees in some Nigerian companies was low. In another study, Tahir et al. (2014) discovered high employee productivity in the banking industry in Pakistan, and the research of Sal (2016) conducted in Jordan agreed with that of Tahir et al. These discrepancies may be due to the levels of availability of certain factors encouraging productivity in the selected industries and countries.

The second objective showed the factors influencing employees' productivity in the selected firms. The results indicate that management and organizational factors were the highest factors influencing employees' productivity, followed by management/personnel factors. The findings of Akinyele (2010) in a study conducted in Nigeria confirmed this result. According to Akinyele, internal, external, and psychological factors limit employees' productivity. These factors include organizational, personnel, as well as technical factors. Absence of these factors negatively influences productivity (Akinyele, 2010), while their presence positively influences productivity (Tahir et al., 2014).

Results from Objective 3 showed the challenges facing employee productivity in the selected firms. Out of the identified challenges, "inadequate opportunity for knowledge accumulation and application" ranked first, followed by "zero feedback on employees' performances," which ranked second, and "insufficient production capacity due to lack of facilities," which ranked third. Also, from the results, "deficiencies in communication between management and employees," "inability of management to emphasize employee understanding, cooperation, and involvement" and "inability to ensure implementation and improvement recommendations" ranked lowest, with 13th, 14th, and 15th positions. This finding is consistent with the findings of Diamantidis and Chatzoglou (2018) that factors affecting employees' productivity included environmental, managerial, performance, adaptability, and motivation factors. Some of the challenges highlighted in this study could be easily categorized under these factors. Further, the findings of Watetu (2017) in Kenya are consistent with this finding. This result is also supported by a research study carried out by Peshave and Gujarathi (2010) in which they concluded that inadequate opportunity for knowledge accumulation and application, zero feedback on employee productivity level over time, and the inability of employees to make optimal use of available resources to get maximum output at the lowest cost are the major challenges to employee productivity in firms.

Finally, Susilo's (2013) finding that organizational and personnel factors play a very significant role in influencing the productivity of workers in both agriculture and the manufacturing industry can also be observed in the results of this study. This result also supports a study carried out by Okech and Njururi

(2016). It can be concluded that both organizational and personnel factors could be further enhanced by manufacturing enterprises in order to bring about a highly significant change in employee productivity.

Implications for Management Practice

The findings of this study establish that employees of manufacturing firms are not optimally productive, which should be a major concern for business managers. Management and organizational issues are key determinants of increased productivity. With innovations and technology being tangible assets in organizations, intangible dimensions such as organizational culture and managerial processes must be given adequate attention. Further, manufacturing firms should take employee training and development more seriously. Seminars, action-learning programs, on-the-job training, and so on may be employed to help employees acquire necessary skills for increased productivity as well as to boost employee morale while taking performance feedback very seriously.

Suggestions for Further Studies

Based on the findings, it is suggested that each of the factors indicating a negative effect on the productivity of employees should be individually researched. These factors include financial, managerial, personal, and organizational factors. In-depth research in these areas could probably shed more light on why they have negative effects and may provide solutions to promote firms' optimal performance and productivity.

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