

Research Paper**PERCEPTION SURVEY OF EMPLOYEES PARTICIPATION IN DECISION MAKING
AND ORGANIZATIONAL PRODUCTIVITY IN JULIUS BERGER NIGERIA PLC BONNY ISLAND****ABSTRACT**

The paper is a perception survey of employees' participation in decision making and organizational productivity in Julius Berger Nigeria Plc Bonny Island. It defines employees' participation in decision making as a process of sharing influence in decision making among individuals who are otherwise hierarchically unequal. It assumes that involvement of employees in decision making increases their commitment and organizational productivity. The research question addressed the extent of the relationship between employees' participation in decision making and increased employees commitment and organizational productivity in Julius Berger Nigeria Plc Bonny Island. The place of study is Julius Berger Nigeria Plc. Bonny Island while the duration of study is between May 2012 and June 2013. A descriptive research design was used in executing the study using 200 randomly selected respondents from a population of 2000 employees for questionnaire administration. The sample size of 200 was judgmentally determined from 10% of the population size. The core aspect of the study is the use of cross sectional survey research design in generating the required primary data. Data collected were analyzed using descriptive and inferential statistics. Results from the data analysis indicated that significant relationship exists between employees' participation in decision making and increased employees commitment and organizational productivity. The research therefore concludes that significant relationship exists between employees' participation in decision making and organizational productivity in Julius Berger Nigeria Plc. Bonny Island and recommends among others: encouragement of work teams, training and re-training of employees, improvement of reward system and improvement of internal communication channels.

Keywords: employees' participation, decision making, employees' commitment, organizational productivity, Julius Berger.

1. INTRODUCTION

Julius Berger Nigeria Plc is a German-based multiservice civil construction company which started its operations in Nigeria with the construction of the Lagos Eko Bridge in 1965. The company is jointly owned by Bilfinger Berger of Germany (49%) and two Nigerian state governments (51%). As the largest building, construction and civil engineering contractor in Nigeria, it focuses on winning privately financed concession projects and providing integrated solutions for construction challenges. Its business is built on the strategy of having vertically integrated operations, which improves efficiency and timeliness of project execution. Its head office is located in Abuja, with additional permanent locations in Lagos and Uyo. It is currently gaining most of

its contracts in the oil and gas industry and from public-sector clients. With employees from close to 40 nations and clients from both Nigeria and the global oil and gas industry, it has become Nigeria's leading construction company and largest private employer with total staff strength of 18,000 employees [1]. As a pivotal partner in the building of the country's fledgling industrial and civil infrastructure, Julius Berger Nigeria Plc is a key collaborator in the development of Nigeria's new capital, Abuja, in addition to the construction of key roads, railways, ports and dams.

The award of the civil aspect of the Bonny NLNG construction project in 1996 to Julius Berger Nigeria Plc necessitated the extension of the company's activities to Bonny Island. Since the Bonny NLNG construction project is a high-risk, complex and interconnected set of activities, it became increasingly difficult for one person or even one department to reach a decision without consulting others who have relevant information or may be affected by the outcome of such decisions, hence the company's management adopted 'employees' participation in decision making' as a personnel management approach in achieving its project objectives. The idea of employees' participation in decision making dates back to the 19th century industrial revolution when it was realized that machines cannot replace human effort, since human beings have capabilities, abilities and skills that drive organizational performance along with other resources such as money, materials and information[2].

Employees can affect organizational productivity positively when they are willing and committed to organizational goals. Willingness and commitment can be exhibited by employees towards their job if they are involved in decision making and participate in the affairs of the organization. Thus, for management to win the commitment of employees to get their job done properly, individual employees should not be treated in isolation, but must be involved in matters concerning them and the organization. When employees are involved in decision making, staff absenteeism is reduced, there's greater organizational commitment, improved performance, reduced turnover and greater job satisfaction [3, 4]. It is for this reason that the management of Julius Berger Bonny Island allowed employee involvement in decision making on matters that affect them to elicit their commitment to organizational goals.

Employees' participation in decision making has been widely recommended as a means of improving the quality of work life. However, when considering employees participation in decision making in the work place, one must differentiate between two levels. The first is horizontal participation- involves interaction between teams, co-workers, or peers. The second is vertical participation (direct and indirect) - involves interaction with one's superiors. Both types of participation are important components of the quality of work life. An organization which encourages both types will allow decision making at the lowest feasible hierarchical level. The implied goal is to provide an environment where an individual will have the freedom and autonomy to make choices which are related to his work environment and to improve the fit between his personality and the job demands as well as between his work and non-work domains. Participation in decision making strengthens the relationship between performance and the expectation of a satisfactory outcome through a better understanding of what the desired outcomes are and how they can be achieved as well as directs the energies of employees/work group towards

the goals and objectives of the organization. Commitment to organizational goals may result from the sense of ownership or proprietary rights achieved through the participation process.

In granting employees opportunity to participate in decision making in its project execution, Julius Berger Nigeria Plc, improves the quality of work life by altering the work environment to accommodate employees' desires, as well as allowing them exercise greater control/autonomy over their work situation, thus creating opportunity for employees' self-esteem/actualization. It is against this background that it becomes pertinent to carry out employees' perception survey on the participation of employees in decision making and organizational productivity in Julius Berger Nigeria Plc Bonny Island.

1.1 Statement of the Problem

Since 1996, when Julius Berger Nigeria Plc commenced the execution of the Bonny NLNG construction project, it has recorded an average of 1 total workers strike, 2 partial workers strike, 3 near-strike cases and 5 minor workers disagreements per annum which is quite infinitesimal considering the magnitude of the workforce and the global construction industry labour disagreements statistics[5]. The occurrence of labour disagreements in construction sites usually leads to site closure for the purposes of settlement, loss of man/machine hours, loss of output, high labour turnover due to search for better conditions of work and loss of corporate reputation. Economic development activities are usually hampered in a country with high rate of labour disagreements; since productivity/national output will be low, inflation and rate of unemployment will be high while there will be an increase in social vices. Since labour disagreements originate from the exclusion of employees in decision making in matters that affect them, such disagreements, can be prevented through the adoption of a personnel management approach (whether direct or indirect) that guarantees employees participation in decision making in matters that affect them.

1.2 Research Objectives

The objectives of the research are as follows:

1. To determine the extent of the relationship between employees' participation in decision making and increased employees' commitment in Julius Berger Nigeria Plc Bonny Island.
2. To determine the extent of the relationship between employees' participation in decision making and increased organizational productivity in Julius Berger Nigeria Plc Bonny Island.

1.3 Research Questions

The identified gap of ineffectiveness in previous decision making approaches which were mostly management driven, propelled the adoption of employees' participation in decision making in Julius Berger Nigeria Plc Bonny Island thus prompting the following research questions:

1. Does any significant relationship exist between employees' participation in decision making and increased employees' commitment in Julius Berger Nigeria Plc Bonny Island?
2. Does any significant relationship exist between employees' participation in decision making and increased organizational productivity in Julius Berger Nigeria Plc Bonny Island?

1.4 Research Hypotheses

In view of the above research questions, the following null hypotheses were formulated:

1H₀: There is no significant relationship between employees' participation in decision making and increased employees' commitment in Julius Berger Nigeria Plc Bonny Island.

2H₀: There is no significant relationship between employees' participation in decision making and increased organizational productivity in Julius Berger Nigeria Plc Bonny Island.

1.5 Literature Review

The concept of employees' participation in decision making has been a focus of research and practice for many years. It has taken many different forms, evolving through employee involvement and participation in decision making to the contemporary empowerment perspective. The notion of empowerment involves the workforce being provided with a greater degree of flexibility and more freedom in decision making in relation to their work. This contrasts markedly with traditional management techniques that have emphasized control, hierarchy and rigidity. Knoop [6] defines participation in decision making as sharing decision making with others to achieve organizational objectives.

Numerous organizations began espousing the benefit of employees' participation in decision making in the 1980s. However, the effect of participation on performance has become increasingly disputed in recent years. Wagner [7] argued that many participation studies have demonstrated a consistent, albeit small impact on performance. However, researchers have not established a universal positive correlation between participation and productivity [8]. The form of participation and the context in which participative techniques are employed determine the extent of any positive effect on performance [9].

Many researchers have taken a more holistic approach to studying employees' participation in decision making, arguing that participative decision making requires a certain context over and beyond a set of programs or techniques. For example, Hecksher's [10] interviews of more than 250 managers in 14 large organizations suggested that participation has accomplished little and rarely breaks down the walls of bureaucracy. He argued that, without the redesign of work, employee involvement efforts can even have a negative effect. Participative approach such as delegation gave mixed results, especially in public organizations [11]. In contrast, participative decision making that gives employees the opportunity to make substantive changes in their work is a tool for large-scale organizational change [12].

Participation can offer employees various levels of influence in the decision making process, ranging from formally established consultative committees to the development of good relations with managers or supervisors at an informal level [13]. In fact, the variation in the interpretation and implementation of employees' participation in decision making has likely contributed to different approaches to evaluating it; with subsequent mixed findings. There are many different approaches to evaluating and implementing employees' participation in decision making. Dachler and Wilpert [14] identified three dimensions: the influence of formality versus informality, directness versus indirectness and the degree of access or influence.

Locke and Schweiger[15] evaluated employees' participation in decision making in terms of level, considering either more or less participation, whereas Tjosvold [16] considered supervisory use of co-operative problem solving and integrated decision making. More recently, Black and Gregersen [17] synthesized a multi-dimensional model of employees' participation in decision making from previous research, finding support for six dimensions that include; the rationale, form, structure, decision issues, and the level and range of participation in the processes. While they called for further multi-dimensional studies to understand the role of employees' participation in decision making, the reality is that the context largely shapes the level and range of employees' participation and this varies markedly across organizations.

Nonetheless, despite the differences, there are some common traits and theoretical concepts that are useful for analyzing participative decision making strategies and outcomes. One outcome clearly emerging from the literature is that employee satisfaction and motivation does increase with employees' participation in decision making. For example, when considering cognitive and motivational effects, Latham et al. [18] found that participation in formulating task strategies significantly affected performance effectiveness. Yammarino and Naughton [19] observed that group level participation in decision making created shared perceptions that positively influenced job satisfaction outcomes. Similarly, Pearson [20] reported that feedback as part of participatory decision making process improved productivity as well as job satisfaction.

Employee participation provides workers or their representatives with the opportunity to take part in and influence decisions that affect their working lives. It involves workers exerting a countervailing and upward pressure on management control. Butler and Glover [21] described employee participation as more fundamentally power oriented which is typically about joint decision making or co-determination. Direct participation refers to those forms of participation in which individual employees are involved in decision making processes that affect their everyday work routines while indirect participation refers to those forms of participation in which representatives of the main body of employees participate in the decision making process.

Banfield and Kay [22] identified three perspectives of employees' participation in decision making:

- Unitary perspective - subordinates do not have the right to share their views or their voices are limited and they are compelled to accept every decision from management. This is associated with the belief that those subordinates who question managers are trouble makers. Management see participation as a threat and the most appropriate way to manage conflict is the removal of individual trouble makers.
- Pluralism perspective –

different groups can coexist in a state of partial and mutual interdependence. As a result of the existence of different groups and interests, conflict is welcomed as an uncontrollable consequence. Thus, conflict is not perceived as the work of outside trouble makers but it is managed and resolved through the creation of institutional mechanisms such as collective bargaining and arbitration. • Radical or Marxist perspective – existence of organizational hierarchies based on ownership of means of production and exploitation of workers in generating wealth. Participation is an expression of the political interests of workers that attempts to improve their terms of employment.

The major obstacle to employees' participation in decision making is resistance to change by management [23]. Many managers tend to resist employees participation in decision making because it is contrary to their habit-formed ways of thinking and behaving. In addition, failure to respond to employee recommendations is an example that reduces employees' involvement in decision making. If management does not acknowledge employees recommendations, employees rapidly conclude that management has no interest in their ideas. Fear is another obstacle to employees' involvement in decision making. At times, employees fear that they might lose their jobs if they voice out their views.

1.6 Conceptual Framework

Employees' participation in decision making when discussed as a means of improving organizational performance and individual workplace conditions, assumes the individual worker's direct participation in some form of decision-making within the company [24]. According to Fernie and Metcalf [25], some common assumptions associated with organizational performance and direct participation includes: • Employees generally have more knowledge and information about their work processes than their managers do and are better placed to achieve improved performance. • Employees involvement provides them with greater intrinsic rewards from work than do traditional forms of governance. These rewards will increase job satisfaction and motivate them to achieve new goals. • By giving workers greater access to management information, mutual trust and commitment will be increased 

Some of the major forms of direct and indirect employees' participation in decision making include: teamwork, financial participation, Quality Circles (QCs) and Joint Consultative Committees (JCCs).

• **Teamwork:** Team-building is essential in a modern society with its competitive environment that favours higher quality, innovativeness, rapid response to market shifts and intelligent production. Mathews[26] sees teamwork as the 'heart' of the new workplace culture and fundamentally involves a process of 're-engineering' work flows, so that groups of operators can take control of a series of tasks that produce a defined product or service. There are many theories on what constitutes effective team-building, but the general notion is that if it is done correctly, it will be highly beneficial to organizational performance and productivity.

• **Financial participation:** Employees financial participation is seen as a means of promoting employee loyalty and commitment to the organization. As with teambuilding, employee financial participation can take many

forms, and its success depends upon how well it is integrated and carried out. One way of employee financial participation is to offer employees' shares as part of or bonuses on their salaries - referred to as 'employee ownership'. For employee ownership to have any impact on productivity and performance, it has to be combined with other human resource policies such as improved communication, consultation and security [27].

•**Quality Circles (QCs):** Forming Quality Circles (QCs) is part of a Total Quality Control (TQC) technique to ensure that the organization meets the increasing demand in modern societies for high-quality products. Responsibility for quality control is given to shop floor employees and QCs include groups of workers that meet in regular forums to analyze and suggest improvements to their work process [28]. However, the cost of implementing QCs programs, the formality of the procedure and the slowness in developing and implementing quality improvement suggestions may be a reason for waning employers interest in QCs.

•**Joint Consultative Committees (JCCs):** This is an indirect form of participation that is used as a mechanism for collective representation of employees in the workplace. The consultation process implied by the existence of JCCs makes it easier to change working practices or introducing new technology leading to faster productivity growth. The increase in the stock of ideas available to decision-makers under JCCs may increase efficiency, productivity and quality [29].

Apart from being aware of the different forms of employees' participation in decision making, it is also necessary to look at the different levels/degree of employees' participation. Teicher [30], in his model shown in figure 1 demonstrates the complexity of employees' participation in the workplace.

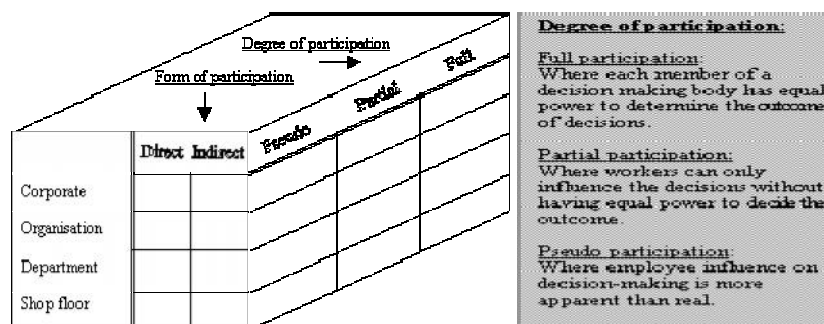


Figure1: Teicher Model of Different Forms/Degree of Employees' Participation in Decision Making

Source: Teicher, J., (1992), "Theories of Employee Participation and Industrial Democracy: Towards an Analytical Framework", in B. Dabscheck, G. Griifin, & J. Teicher, (Eds.), *Contemporary Australian Industrial Relations*, Longman Cheshire, Melbourne.

The model shows that an organization can adopt different strategies in terms of employee participation where the ideal form is both indirect and direct full participation at all levels in the workplace. Though, he admits, that few organizations are likely to achieve this it provides a standard in assessing employees participation initiatives and ultimately the most efficient for the organization. However, it may be argued that setting such a high standard might enforce negative aspects of employee participation into organizational efficiency, hence

affecting productivity. Also, too much participation could lead to the development of a 'manager organization' where employees demand more and more autonomy in decision-making processes that they threaten the role of middle managers [31]. In contrast, Harley [32] believes that empowerment in modern organizations is a 'pervasive myth', and that employees really have not gained much control in decision-making processes.

1.7 Theoretical Framework

This research is based on Herzberg's Two Factor Theory of motivation [33] shown in figure 2 which states that the presence of intrinsic/motivation factors: recognition (employees' participation in decision making), responsibility, advancement, achievement and the nature of the work itself will lead to job satisfaction which in turn will increase employees commitment and organizational productivity because of employees innate need for growth and self-actualization. While the presence of extrinsic/hygiene factors: company policies, quality of supervision, relations with others, rate of pay, job security etc. will lead to less job dissatisfaction because of employees need to avoid unpleasantness. This theory suggests that to improve job attitudes and productivity, administrators must recognize and attend to both sets of factors and not assume that an increase in satisfaction leads to decrease in unpleasurable dissatisfaction. It assumes that employees' motivation is important to both the organization and individual employees because it affects productivity. By providing motivators and removing hygienes through employees' participation in decision making, management can facilitate the growth of employees and the organization. Growth makes the employee more valuable to the organization because of his/her ability to perform higher order duties. A desire to fulfill our potential drives us to seek growth and provides the incentive to achieve. According to Herzberg, the idea that the work one does is significant leads, ultimately, to satisfaction with the work itself. Employees will be motivated to do work that they perceive to be significant.

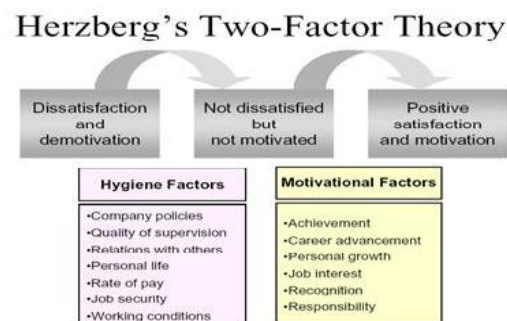


Figure 2: Herzberg's Two Factor Theory of motivation

Source: Herzberg F. "The motivation-hygiene concept and problems of manpower". Personnel Administrator 1964; 27 (1), 3–7.

From figure 2, five factors stood out as strong determiners of job satisfaction: achievement, recognition, work itself responsibility and advancement. The last three factors were found to be most important for bringing about lasting changes of attitude. It should be noted, that recognition refers to recognition for achievement as in

coming up with new ideas in participative decision making as opposed to recognition in human relations sense.

The theory concludes that: • Management cannot really motivate employees; it can only create the environment in which the employees motivate themselves. • Motivators are the key to satisfaction. • Effective motivation results from the determination and satisfaction of employees motivational needs. • Employees' participation in decision making increases employees' motivation, job satisfaction and organizational commitment. •

Management should focus on rearranging work so that motivator factors can take effect. This can be done through job rotation, job enlargement and job enrichment.

2. MATERIALS AND METHODS

The scope of this research is limited to the employees of Julius Berger Nigeria Plc. Bonny Island. It is assumed that responses obtained from the sample respondents would be representative of the opinions of all employees of the company on their perception of employees' participation in decision making and organizational productivity in their company. The duration of study is between May 2012 and June 2013. The core aspect of the study is the use of cross sectional survey research design in generating the required primary data. A sample of 200 randomly selected respondents from a population of 2000 Julius Berger employees in Bonny Island were used for questionnaire administration. The sample size of 200 was judgmentally determined from 10% of the population size. Data collected were analyzed using descriptive and inferential statistics. The questionnaire was designed to obtain a fair representation of the opinions of the 200 sample respondents using a four-point Likert type scale. The questionnaire responses of the sample respondents were presented using tables while formulated hypotheses were tested using analysis of variance (ANOVA). A total of 200 copies of the questionnaire were administered, collected and used for the analysis.

3. RESULTS AND DISCUSSIONS

3.1 Distribution of Responses on Research Questions

3.1.1 Question number 1

Does any significant relationship exist between employees' participation in decision making and increased employees' commitment in Julius Berger Nigeria Plc. Bonny Island? Table 1 shows that questions: 1, 2, 3, 4, and 5 with varying mean scores of 3.40, 3.10, 2.70, 2.90 and 2.85 were above the weighted average of 2.5. The table further revealed a grand mean score of 2.99 indicating a strong evidence of the existence of a significant relationship between employees' participation in decision making and increased employees' commitment in Julius Berger Nigeria Plc. Bonny Island. This conclusion is buttressed by Pearson and Duffy [34] perception that employees' participation in decision making increases employees' motivation, job satisfaction and organizational commitment.

Table1. Mean responses on the relationship between employees' participation in decision making and increased employees' commitment in Julius Berger Nigeria Plc. Bonny Island (n=200)

S/No.	Research Questions	SA (4)	A (3)	D (2)	SD (1)	Total Responses	Mean Score
1	Does employees' participation in decision making motivate employees in Julius Berger Nigeria Plc. Bonny Island?	120 480	50 150	20 40	10 10	680	3.40
2	Does employees' participation in decision making enhance job satisfaction of employees in Julius Berger Nigeria Plc. Bonny Island?	100 400	40 120	40 80	20 20	620	3.10
3	Does employees' participation in decision making create a positive job attitude in employees of Julius Berger Nigeria Plc. Bonny Island?	60 240	60 180	40 80	40 40	540	2.70
4	Does employees' participation in decision making in Julius Berger Nigeria Plc. Bonny Island provides them with greater intrinsic rewards than other traditional means of governance?	75 300	60 180	35 70	30 30	580	2.90
5	Does employees' participation in decision making create a sense of ownership in policy execution in employees of Julius Berger Nigeria Plc. Bonny Island?	70 280	60 180	40 80	30 30	570	2.85
Grand Mean							2.99

Source: Field Survey, 2013.

3.1.2 Question number 2

Does any significant relationship exist between employees' participation in decision making and increased organizational productivity in Julius Berger Nigeria Plc. Bonny Island? Table 2 shows that questions: 6, 7, 8, 9, and 10 with mean scores of 3.05, 2.90, 3.10, 2.95 and 2.98 were above the weighted average of 2.5. The grand mean of 3.00 shows that there is a strong evidence of a significant relationship between employees' participation in decision making and increased organizational productivity in Julius Berger Nigeria Plc. Bonny Island. This conclusion is buttressed by the study of Black and Lynch [35], which observed that establishment practices that encourage workers to think and interact in order to improve the production process are strongly associated with increased productivity. They also found that co-operative workplaces with a high level of union involvement were linked with higher productivity than non-union similar co-operative workplaces. These findings are similar to when self-management was introduced at Malta Drydocks, productivity increased by 2-3% per year. Cruz Azul in Mexico is another example of a successful enterprise with employee participation that has a higher labour productivity than the average industry in Mexico [36].

Table2. Mean responses on the relationship between employees' participation in decision making and increased organizational productivity in Julius Berger Nigeria Plc. Bonny Island (n=200)

S/No.	Research Questions	SA (4)	A (3)	D (2)	SD (1)	Total Responses	Mean Score
6.	Does employees' participation in decision making direct the energies of employees/work group towards organizational goals in Julius Berger Nigeria Plc. Bonny Island?	80	70	30	20		
		320	210	60	20	610	3.05
7.	Does employees' participation in decision making bring about improved organizational performance in Julius Berger Nigeria Plc. Bonny Island?	70	60	50	20		
		280	180	100	20	580	2.90
8.	Does employees' participation in decision making bring about greater flexibility and increased workflow in Julius Berger Nigeria Plc. Bonny Island?	100	40	40	20		
		400	120	80	20	620	3.10
9	Does employees' participation in decision making bring about production efficiency and cost effectiveness in Julius Berger	80	60	30	30		

	Nigeria Plc. Bonny Island?	320	180	60	30	590	2.95
10	Does employees' participation in decision making motivate them to increase their individual productivity?	85	50	40	25		
		340	150	80	25	595	2.98
	Grand Mean						3.00

Source: Field Survey, 2013.

3.2 Test of the First Hypothesis

H_0 : There is no significant relationship between employees' participation in decision making and increased employees' commitment in Julius Berger Nigeria plc. Bonny Island.

H_1 : There is a significant relationship between employees' participation in decision making and increased employees' commitment in Julius Berger Nigeria plc. Bonny Island.

Table 3. Computation of Statistical Variables on the First Hypothesis from table 1.

S/No.	Strongly Agree		Agree		Disagree		Strongly Disagree	
	X	X ²	X	X ²	X	X ²	X	X ²
1	120	14400	50	2500	20	400	10	100
2	100	10000	40	1600	40	1600	20	400
3	60	3600	60	3600	40	1600	40	1600
4	75	5625	60	3600	35	1225	30	900
5	70	4900	60	3600	40	1600	30	900
Totals	425	38525	270	14900	175	6425	130	3900

Source: Survey Data, 2013.

Calculation of total sum of square (SS_T)

$$\text{Total SS} = \sum X^2 - \frac{(\sum X)^2}{N}$$

$$\sum X^2 = 38525 + 14900 + 6425 + 3900 = 63750$$

$$\frac{(\sum X)^2}{N} = \frac{(425 + 270 + 175 + 130)^2}{20} = \frac{(1000)^2}{20} = 2500$$

$$\frac{\sum X^2 - (\sum X)^2}{N} = 63750 - 2500 = 61250$$

$$SS_T = 61250$$

$$\text{Between SS} = \frac{\sum (\sum X)^2}{n} - \frac{(\sum X)^2}{N}$$

$$\frac{(\sum X)^2}{n} = \frac{(425)^2}{5} + \frac{(270)^2}{5} + \frac{(175)^2}{5} + \frac{(130)^2}{5}$$

$$= 36125 + 14580 + 6125 + 3380 = 60210$$

$$\frac{(\sum X)^2}{N} = \frac{(425 + 270 + 175 + 130)^2}{20} = \frac{(1000)^2}{20} = 2500$$

$$SS_B = 60210 - 2500 = 57710$$

$$SS_W = SS_T - SS_B$$

$$= 61250 - 57710 = 3540$$

$$SS_W = 3540$$

Calculation Degrees of Freedom

df for the whole group = total number of observation minus one

$$df = 20 - 1 = 19$$

$$SS_B \text{ df} = \text{number of group minus 1} = 4 - 1 = 3$$

$$SS_W \text{ df} = \text{number of group taken away from number of subjects} = 20 - 4 = 16$$

Calculation of Mean Squares:

$$\text{Mean square for } SS_B = \frac{57710}{3} = 19236.67$$

$$\text{Mean square for } SS_W = \frac{3540}{16} = 221.25$$

$$F\text{-value} = \frac{\text{Between group mean square}}{\text{Within group mean square}} = \frac{19236.67}{221.25} = 86.95$$

$$\text{Within group mean square} = 221.25$$

Table 4 shows that calculated F-Value of **86.95** resulted from the relationship between employees' participation in decision making and increased employees' commitment in Julius Berger Nigeria Plc. Bonny Island. This calculated F-Value is significant since it is greater than the critical F-Value of 5.29 given 3/16 degree of freedom at 0.01 level of significance. Hence, the null hypothesis is rejected while the alternative is accepted. This shows that there is a significant relationship between employees' participation in decision making and increased employees' commitment in Julius Berger Nigeria Plc. Bonny Island.

Table 4. Computation of Analysis of Variance on the relationship between employees' participation in decision making and increased employees' commitment in Julius Berger Nigeria Plc. Bonny Island.

Source of variance	Sum of squares	Degree of freedom	Mean sum of squares	Calculated F-value	Table critical F-value	Decision
Between groups	57710	3	19236.67	86.95	5.29	H₀: Rejected
Within group	3540	16	221.25			
Total	61250	19				

Source: Statistical Computation and Table 3.

3.3 Test of the Second Hypothesis

H₀: There is no significant relationship between employees' participation in decision making and increased organizational productivity in Julius Berger Nigeria plc. Bonny Island.

H₁: There is a significant relationship between employees' participation in decision making and increased organizational productivity in Julius Berger Nigeria plc. Bonny Island.

Table 5. Computation of Statistical Variables on the second Hypothesis from table 2.

S/No.	Strongly Agree		Agree		Disagree		Strongly Disagree	
	X	X ²	X	X ²	X	X ²	X	X ²
6	80	6400	70	4900	30	900	20	400
7	70	4900	60	3600	50	2500	20	400
8	100	10000	40	1600	40	1600	20	400
9	80	6400	60	3600	30	900	30	900

10	85	7225	50	2500	40	1600	25	625
Totals	415	34925	280	16200	190	7500	115	2725

Source: Survey Data, 2013.

Calculation of total sum of square (SS_T)

$$\text{Total SS} = \frac{\sum X^2}{N} - \frac{(\sum X)^2}{N}$$

$$\sum X^2 = 34925 + 16200 + 7500 + 2725 = 61350$$

$$\frac{(\sum X)^2}{N} = \frac{(415+280+190+115)^2}{20} = \frac{(1000)^2}{20} = 2500$$

$$\frac{\sum X^2}{N} - \frac{(\sum X)^2}{N} = 61350 - 2500 = 58850$$

$$SS_T = 58850$$

$$SS_B = \frac{\sum (\sum X)^2}{n} - \frac{(\sum X)^2}{N}$$

$$\frac{(\sum X)^2}{n} = \frac{(415)^2}{5} + \frac{(280)^2}{5} + \frac{(190)^2}{5} + \frac{(115)^2}{5}$$

$$= 34445 + 15680 + 7220 + 2645 = 59990$$

$$\frac{(\sum X)^2}{N} = \frac{(415+280+190+115)^2}{20} = \frac{(1000)^2}{20} = 2500$$

$$SS_B = 59990 - 2500 = 57490$$

$$SS_W = SS_T - SS_B = 58850 - 57490 = 1360$$

$$SS_W = 1360$$

Calculation of Degrees of Freedom

$$SS_T \text{ df} = N - 1 = 20 - 1 = 19$$

$$SS_B \text{ df} = n - 1 = 4 - 1 = 3$$

$$SS_W df = n - 1 + n - 1 + n - 1 + n - 1 = 4n - 4 = 4(5) - 4 = 20 - 4 = 16$$

Calculation of Mean Squares:

$$\text{Mean square } SS_B = \frac{57490}{3} = 19163.33$$

3

$$\text{Mean square } SS_W = \frac{1360}{16} = 85$$

16

$$F\text{-value} = \frac{\text{Between group mean square}}{\text{Within group mean square}} = \frac{19163.33}{85} = 225.45$$

Table 6 shows that calculated F-Value of **225.45** resulted from the relationship between employees' participation in decision making and increased organizational productivity in Julius Berger Nigeria Plc. Bonny Island. This calculated F-Value is significant since it is greater than the critical F-Value of 5.29 given 3/16 degree of freedom at 0.01 level of significance. Hence, the null hypothesis is rejected while the alternative is accepted. This shows that there is a significant relationship between employees' participation in decision making and increased organizational productivity in Julius Berger Nigeria Plc. Bonny Island.

Table 6. Computation of Analysis of Variance on the relationship between employees' participation in decision making and increased organizational productivity in Julius Berger Nigeria Plc. Bonny Island.

Source of variance	sum of square	Degree of freedom	Mean sum of square	Calculate F-value	Table critical F-value	Decision
Between group	57490	3	19163.33	225.45	5.29	H₀: Rejected
Within group	1360	16	85			
Total	58850	19				

Source: Statistical Computation and Table 5

4. CONCLUSION

The paper has discussed employees' participation in decision making and organizational productivity in Julius Berger Nigeria Plc. Bonny Island. It assumes that involvement of employees in decision making increases their commitment and organizational productivity. Employees expect to participate in decision making processes that affect their everyday work routines. The three major findings of the research are as follows:

- ❖ Employees' participation in decision making in Julius Berger Nigeria Plc. Bonny Island provides them with greater intrinsic rewards than other traditional means of governance.
- ❖ There is a significant relationship between employees' participation in decision making and increased employees' commitment in Julius Berger Nigeria Plc. Bonny Island.
- ❖ There is a significant relationship between employees' participation in decision making and increased organizational productivity in Julius Berger Nigeria Plc. Bonny Island.

Arising from the findings of this paper, it is suggested that Julius Berger Nigeria Plc. Bonny Island should take the following measures to improve employees' participation in decision making:

1. Unionization of the workforce: Management should encourage the establishment of unions within the work environment as a mechanism for representativeness inclusion.

2. Establishment of open and broad-based decision making system: If not in all issues, management should establish an open and broad-based decision making system that is more favourable to employee participation.

3. Establishment of work teams: Management should reorganize the workforce into work teams to encourage participative decision making at lower hierarchical levels.

4. Training and re-training of employees: Management should train and re-train employees to enable them acquire decision making skills that are relevant to their daily routines.

5. Redesigning of employees jobs: Management should redesign and enrich employees' jobs to be more challenging and motivating by creating from for autonomy and flexibility in decision making.

6. Improvement of reward system: Management should improve the current reward system to include more intrinsic factors like gain sharing/profit-sharing to ensure a sense of ownership in employees decision making.

7. Improvement of internal communication channels: Management should establish additional channels of internal communication to ensure the free flow of information especially those that lubricates participative decision making.

COMPETING INTERESTS

The author has declared that no competing interests exist.

REFERENCES

1. JBN. Facts and figures on Julius Berger Nigeria Plc. Abuja: JBN public and government affairs department. 2011; 6(1):35-53.

2. David BE. Workers participation in decision making: A means towards radical economic development in Nigeria. *Management in Nigeria*, July/September, 1992; 12(15):18-19.
3. Luthans F. *Organizational behavior* 10th edition. New York: McGraw-Hill Irwin; 2005.
4. Moorhead G. & Griffin R. *Organizational behaviour: Managing people and organizations* 7th edition. Boston: Houghton Mifflin Company; 2004.
5. JBN. Facts and figures on Julius Berger Nigeria Plc. Abuja: JBN public and government affairs department. 2013; 2(1):11-32.
6. Knoop R. "Influence of participative decision-making on job satisfaction and organizational commitment of school principals". *Psychology. Rep.*, 1995; 76(2): 379-382.
7. Wagner JA. "Participation's effects on performance and satisfaction: a reconsideration of research evidence". *Acad. Manage.Rev.* 1994; 19(1):312-330.
8. Kearney RC. & Hays SW. "Labor-management relations and participative decision making: toward a new paradigm". *Public Admin. Rev.*, 1994; 54(1):44-51.
9. Cotton JL., Mcfarlin DB. & Sweeney PD. "A cross-national comparison of employee participation". *J. Manage. Psychol.*, 1993; 8(1):10-19.
10. Hecksher C. 'The failure of participatory management'. *Across the Board*, November/December, 1995; 16-21.
11. Worsham J., Eisner MA. & Ringquist EJ. "Assessing the assumptions: a critical analysis of agency theory". *Admin. Soc.*, 1997; 28(2):419-440.
12. Greengard S. "Reengineering: out of the rubble". *Pers. J.*, 1993; 72(12):48B.
13. Scully JA., Kirkpatrick SA. & Locke EA. "Locus of knowledge as a determinant of participation on performance, affect, and perceptions". *Organ. Behav. Hum. Decis. Process.* 1995; 61(3): 276-288.
14. Dachler HP. & Wilpert B. "Conceptual dimensions and boundaries of participation in organizations: a critical evaluation". *Admin. Sci. Q.*, 1978; 23(2):1-39.
15. Locke EA. & Schweiger D. "Participation in decision making: one more look", in Staw BM. (Ed.), *Research in organizational behavior*. Erlbaum, Greenwich, CT, 1979; 265-339.
16. Tjosvold D. "Effects of approach to controversy on superior's incorporation of subordinates' information in decision-making". *J. Appl. Psychol.*, 1982; 67(2):189-193.
17. Black JS. & Gregersen HB. "Participative decision making: an integration of multiple dimensions". *Hum. Relat.*, 1997; 50(7): 859-879.
18. Latham GP., Winters DC. & Locke EA. "Cognitive and motivational effects of participation: a mediator study". *J. Organ. Behav.* 1994; 1(15):49-63.
19. Yammarino FJ. & Naughton TJ. "Individualized and group-based views of participation in decision making". *Group Organ. Manag.*, 1992;17(4):398-413.
20. Pearson CAL. "An assessment of extrinsic feedback on participation, role perceptions, motivation and job satisfaction in a self-managed system for monitoring group achievement". *Hum. Relat.*, 1991; 44(5): 517-537.

21. Butler P. & Glover L. Human resource management: A contemporary approach. London: Pearson Education Limited, 2007.
22. Banfield P. & Kay R. Introduction to human resource management. Oxford: Oxford University Press, 2008.
23. Bratton J. & Gold J. Human resource management, theory and practice. New York: Palgrave Macmillan, 2003.
24. Ozaki M. "Direct participation in work organization: A survey of recent international developments". Economic and Labour Relations Review, Centre for Applied Economic Research, University of NSW, Sydney, June, 1996; 7(1): 25 – 42.
25. Fernie S. & Metcalf D. "Participation, contingent pay, representation and workplace performance: Evidence from Great Britain". British Journal of industrial Relations. September, 1995; 33 (3): 56-71.
26. Mathews J. Catching the wave: Workplace reform in Australia. Melbourne: Oxford University Press, 1994.
27. Kruse D. & Blasi J. "Employee ownership, employee attitudes, and firm performance". NBER Working paper no. 5277, 1995. <http://gray.nber.org/papers/W5277>.
28. Wright C. "The Reorganization of work and new production concepts". The Management of Labour. Melbourne: OUP, 1995.
29. Marchington M. "Surveying the practice of joint consultation in Australia". Journal of Industrial Relations. 1992; 34(4):11- 28.
30. Teicher J. "Theories of employee participation and industrial democracy: Towards an analytical framework", in Dabscheck B., Griffin G. & Teicher J. (Eds.). Contemporary Australian Industrial Relations. Melbourne: Longman Cheshire, 1992.
31. Turberville S. Employee financial participation: A logical consequence of enterprise bargaining? National Key Centre in Industrial Relations. Working paper no. 58. Melbourne: Monash University, 1998.
32. Harley B. "The myth of empowerment: Work organization, hierarchy and employee autonomy in contemporary Australian workplaces". Working paper no.4. Department of Management, University of Melbourne, 1998.
33. Herzberg F. "The motivation-hygiene concept and problems of manpower". Personnel Administrator 1964; 27 (1), 3–7.
34. Pearson CAL. & Duffy C. "The importance of the job content and social information on organizational commitment and job satisfaction: a study in Australian and Malaysian nursing contexts". Asia Pacific J.Hum. Resour., 1999; 36(3): 17-30.
35. Black S E. & Lynch LM. "How to compete: The impact of workplace practices and information". NBER Working paper no. 6120, 1997. <http://gray.nber.org/papers/W6120>.
36. Prasnikar J. Workers' participation and self-management in developing countries. Boulder, USA: Westview Press Inc., 1991.