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Effect of Selection Process on Organizational Performance in the Brewery Industry of Southern Nigeria

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Abstract
The aim of this paper is to investigate the "Effect of Selection Process on Organizational Performance in the Brewery Industry of Southern Nigeria". Guided by Reflection and Attribution Theory, the research sought to: (i) ascertain the extent to which there was a positive relationship between employment tests and creativity, (ii) determine the extent to which there was a positive relationship between selection interview and profitability. Two hypotheses were formulated to guide the study. Through proportionate stratified random sampling, 328 individuals were selected from the organizations of study. Responses from the questionnaire were complemented with personal interviews of some selected management staff. The data obtained were analyzed using frequency tables and the values expressed in percentages. Pearson Product Moment Correlation was used for testing the hypotheses and t-test was used for testing the level of significance of correlation coefficient at 5% error and 3-degrees of freedom. The findings of this study are: there is a positive relationship between employment tests and creativity; there is a positive relationship between selection interview and profitability.
Keywords: Selection process, Organization performance, Employment tests, Selection interview.

1.Introduction

Recruitment and selection in modern organizations can be said to be anchored or rooted on the biblical saying that, "many are invited, but few are chosen", (Matt 22:14).

Selection process pulls together organizational goals, job designs and performance appraisals as well as recruitment and selection (Grobler, Warnich, Carell, Elbert and Hatfield, 2005). It is a series of specific steps used to decide which recruits should be hired. The process begins when recruits apply for employment and ends with the hiring decision. The series of steps involved in selection process are preliminary reception of applicant, employment tests, selection interview, references and background checks, medical evaluation, supervisory interview, realistic job preview and hiring decision (Werther and Davis, 1996).

The main selection methods are interview; assessment centres and tests, (Armstrong, 2006). Herriot as cited by Leopold, Harris and Watson (2005) posits that systematic and processual are other approaches to selection adding that assessment centres are not a method per se, rather, they operate as an amalgam of other selection methods and operate on a multi-trait, multi-methods basis.

On the other hand, organizational performance (OP) refers to the rate or degree to which an organization achieves its corporate objectives. There are several indicators for measuring organizational performance and these are dependent on the objectives of the organization. Specifically, Kaplan and Morton (1992) suggest that companies should collate performance information from four perspectives namely: the financial perspective, the customers' perspective, the internal business perspective, and innovation and learning perspective, (Kaplan and Norton, 1992). However, apart from Kaplan and Norton's model, other organizational performance measures are: creativity, profitability, productivity, competitive advantage, effectiveness, efficiency, flexibility, quality, etc.

Selection of personnel into organizations in Nigeria is inundated with myriad of unethical practices. These unethical practices include selection bias, selection discrimination, and favoritism. In many organizations, managers are empowered to select, appraise, reward and develop people. Problems often arise either because adequate time is not given to these functions, or because they are carried out without due consideration of their effects on the organizational performance. Besides, most managers do not receive adequate training in this important area. If employee selection is not given a serious attention, it may lead to giving employment to unqualified personnel who cannot put in their best so as to achieve the organizational objectives. Management experts posit that human resource is one of the most important inputs of production. This is essentially because it is man that combines, directs and co-ordinates other inputs of production with a view to achieving the organizational objectives. But, it is regrettable to note that in Nigeria, many organizations do not select the 'right' people to do the 'right' job as a result of what is termed 'god fatherism'. Many organizations fail to select the right people for the right job because the organizational goals are not clearly defined; the job designs are not properly

stated so as to facilitated the achievement of the organizational goals; job description and job specification are not appropriately specified and the selection methods used may be faulty. For instance, many organizations do not have standardized test instruments. As a result, the test items which are used in testing potential employees are oftentimes neither reliable nor valid. Besides, the interpretation of test results may be biased. Further, in other organizations that conduct interviews, the questions asked may be ambiguous, some panel members may be biased in their judgments and the timing of the interviews may not be appropriate. The net effect is that the organization will hire wrong persons.

It is generally believed that hiring someone who does not fit a particular job or who does not suit the culture of the organization may cause serious problems. The symptoms of these problems include disciplinary problems, disputes, absenteeism, high labour turnover, fraud, low productivity, low profitability, poor service delivery to customers, suppressed creativity, innovation and learning. All these may culminate to poor organizational performance. It is against the above scenario that it becomes pertinent to determine the effect of selection process on organizational performance with special reference to brewery industry in Southern Nigeria.

1.2 Objectives of the Study

The broad objective of this study is to determine the effect of selection process on organizational performance in the brewery industry of Southern Nigeria. However the specific objectives are:

1. To ascertain the extent to which there is a positive relationship between employment tests and creativity in the brewery industry.
2. To determine the extent to which there is a positive relationship between selection interview and profitability in the brewery industry.

2. Theoretical Framework

This study is guided by Reflection and Attribution Theory of Personality which we discussed as below:

Once the manager or assessor has some kind of concrete experience of the candidates, this information can be used, reflecting on that experience to form a view of the candidates (Leopold et al, 2005). Attribution theorists begin from the premise that we naturally try to look for the causes of either our own or other people's behaviour. These theorists (dating back to the work of Heider, 1958) have sought to uncover the principles we use in deciding the causes of what happens. Basically, these causes can be narrowed down to three kinds:

- Internal-controllable causes- where the outcome is explained in terms of the individual's own behaviour, which he or she can control, i.e. effort.
- Internal uncontrollable causes - where the outcome is explained in terms of the individual's own behaviour, which he or she cannot control, i.e. ability.
- External causes- where the outcome is explained in terms of something outside the individual him/herself, e.g. luck, other people.

Attribution theory is relevant to selection, because during a selection process assessors will inevitably find out information about the past work performance of candidates. The candidates may be given the opportunity to explain this past behaviour and in doing this they will make statements that indicate how they attribute the causes of that performance. Sylvester, Anderson-Gough, Anderson and Mohamed (2002) showed that interviewers have a better impression of candidates who, when asked about previous negative events, provided internal-controllable attributions. Where attributions were made that suggested either internal-uncontrollable or external-uncontrollable causes, interviewers had more negative impressions of the candidates.

The problem is that research evidence demonstrates that there are regular biases in the ways in which we attribute causation. The fundamental attribution error refers to the strong tendency to attribute responsibility to the actor - i.e. infer an internal attribution. We tend to ignore situational factors that influenced the behaviour, at least in Western society with its strong emphasis on individual responsibility (Morris and Peng, 1994).

In terms of reflecting on candidate information, it is the fundamental attribution error that is more pertinent. Assessors will tend to assume that the 'data' they have about an individual candidate can be attributed to the personal qualities of the individual, rather than seeing it as a reflection of his/her situation. Thus, candidates may wrongfully get credit for successful performance, either during the selection episodes themselves or from previous history, or may wrongfully get behaviour the blame for failures. For example, in an interview situation, the candidates' behaviour is strongly influenced by the behaviour of the interviewer, so that the same interviewee can behave very differently depending on the interviewer's behaviour (Dougherty, Turban and Callender, 1994). Or in a group discussion exercise, a normally fairly shy person can appear to dominants because of working with others who are even more shy, while a fairly dominant person may appear reticent because owing to working with a group all high on assertiveness.

2.2 Conceptual Clarification

In this study, an attempt was made to define some basic concepts operationally as they were used. The concepts are as follows: Employment tests and Selection interview.

Employment Tests

Employment tests are devices that assess the match between applicants and job requirements. Some are paper and pencil tests; others are exercises that simulate work conditions (Werther and Davis, 1996).

The main types of tests are intelligence, personality, ability, aptitude and attainment tests. For general selection purpose, an intelligence test can be administered to a group of candidates is the best, especially if it has been properly validated, and it is possible to relate test scores to 'norms' in such a way as to indicate how the general individual taking the test compares with the rest of the population, in general or in a specific area (Armstrong 2006).

Personality tests attempt to assess the personality of candidates in order to make predictions about their likely behavior or role (Armstrong, 2006). Ability tests measure job-related characteristic such as number, verbal, perceptual or mechanical ability.

Aptitude tests are job-specific tests that are designed to predict the potential an individual has to perform tasks within a job. They can cover such areas as clerical aptitude, numerical aptitude, mechanical aptitude and dexterity.

Attainment tests measure abilities or skills that have already been acquired by training and experience.

Employment tests are limited to factors that can be easily tested and validated (Werther and Davis, 1996). Among others, IPD (1997a) states that the results of single tests should not be used as the sole basis for decision-making. This is particularly relevant with regard to personality tests.

Selection Interview

The selection interview is a formal in-depth conversation to evaluate an applicant's acceptability (Werther and Davis, 1996). Selection interviews are the most widely used selection technique. Their popularity stems from their flexibility. They can be adapted to unskilled, skilled, managerial and staff employees. They also allow a two-way exchange of information such that interviewers learn about the applicant, and the applicant learns about the employer (Werther and Davis, 1996).

Management experts classified interviews into various types. For instance, Werther and Davis (1996) classified interviews into the following types: Unstructured interviews, Structured interviews, Mixed interviews, Behavioural interviewing and Stress interviews.

Armstrong (2006) classified interviews into the following: Individual interviews, Interviewing panels; and Selection boards.

Edenborough (2005) posits that structured interviews vary in form, from simple planning aids to precise prescriptions of questions and admissible responses; adding that a number of forms of structured interview are aimed at gathering clear evidence of behavior. A variety of methods is available for deriving the dimensions for a structured interview. One example of these is the critical incident technique in which subject-matter experts (SMEs) are questioned about significant processes.

3. Research Design

The research design procedure adopted for this study is the survey research method. The procedure appeared best suited for this study because it is not possible to interview the entire population. In addition, there are fixed sets of questions, and responses are systematically classified, such that quantitative comparisons of the outcome can be made. The sources of primary data were through questionnaires that were administered to non-management staff and management staff; as well as oral interview held with some selected management staff. Secondary data were gathered from journals, annual reports of the organizations of study, text books, as well as research work and studies that have been done.

4. Method of Data Analysis

In order to ascertain whether the objectives of the study can be achieved or not, relevant questions were asked to address the issue. The data obtained were presented in frequency distribution tables and the corresponding values expressed in percentages. (See tables 1, 2, 3 and 4. Also, see Annexure A_1 and A_2 for relevant questions).

TABLE 1: The Relationship between Employment tests and Creativity in Nigerian Breweries Plc

Responses	Q_1	Q_2	Frequency	Percentage (%)
Strongly Agree (SA)	96	78	174	44.2
Agree (A)	79	96	175	44.4
Indifference (I)	11	10	21	5.3
Disagree (D)	6	8	14	3.6
Strongly Disagree (SD)	5	5	10	2.5
Total	**197**	**197**	**394**	**100**

Source: Field survey, 2011

TABLE 2: The Relationship between Employment tests and Creativity in Guinness Nigeria Plc

Responses	Q_1	Q_2	Frequency	Percentage (%)
Strongly Agree (SA)	59	55	114	43.5
Agree (A)	52	57	109	41.6
Indifference (I)	8	9	17	6.5
Disagree (D)	7	6	13	5.0
Strongly Disagree (SD)	5	4	9	3.4
Total	**131**	**131**	**262**	**100**

Source: Field survey, 2011

TABLE 3: The Relationship between Selection Interview and Profitability in Nigerian Breweries Plc

Responses	Q_5	Q_6	Frequency	Percentage (%)
Strongly Agree (SA)	88	96	184	46.7
Agree (A)	97	85	182	46.2
Indifference (I)	5	5	10	2.5
Disagree (D)	5	6	11	2.8
Strongly Disagree (SD)	2	5	7	1.8
Total	**197**	**197**	**394**	**100**

Source: Field survey, 2011

TABLE 4: The Relationship between Selection Interview and Profitability in the Guinness Nigeria Plc

Responses	Q_5	Q_6	Frequency	Percentage (%)
Strongly Agree (SA)	54	52	106	40.5
Agree (A)	53	56	109	41.6
Indifference (I)	9	10	19	7.2
Disagree (D)	10	8	18	6.9
Strongly Disagree (SD)	5	5	10	3.8
Total	**131**	**131**	**262**	**100**

Source: Field survey, 2011

Furthermore, the two hypotheses were tested using Pearson Product Moment Correlation Coefficient and the associated test of significance and results are as follows:.

Restatement of Hypothesis One

Ho:1 There is no positive relationship between employment tests and creativity in the brewery industry.

Ha: 1 There is a positive relationship between employment tests and creativity in the brewery industry (See Annexure A_1 and A_2 for relevant questions ie questions 3and 4)

TABLE 5: Contingency Table on the Correlation between the Type of Employment Tests Administered and Creativity of Workers in Nigerian Breweries Plc

Paired observation of x and y, n = 5	Type of employment test administered = x	Creativity of the workers in the organization of study = y	x^2	y^2	xy
Strongly agree	75	81	5625	6561	6075
Agree	87	80	7569	6400	6960
Indifference	18	17	324	289	306
Disagree	10	11	100	121	110
Strongly disagree	7	8	49	64	56
Total	**197**	**197**	**13667**	**13435**	**13507**

Source: Field Survey, 2011

Referring to the Annexure A_3 and A_7 we have the following:

The sampled correlation coefficient r = 0.99
Coefficient of determination r^2 = 0.9801
Number of paired observations, n = 5
Calculated value of t = 12.16
Critical value of t = 3.182

Sources: Statistical analysis (Annexure A_3 and A_7).

The computation of r using the data in table 5 gave a value of 0.99 indicating the existence of strong positive relationship between the type of employment tests (e.g intelligence test, personality and aptitudes tests) and creativity of the workers in the Nigerian Breweries Plc.

From the above, it becomes imperative to make inference about the population as to whether the correlation coefficient obtained is indicative of the actual relationship between the type of employment tests and creativity of the workers in the Nigeria Breweries Plc or whether it could be attributed to chance. The test to achieve this purpose is referred to as test of significance of correlation coefficient.

Recall that the population correlation coefficient is given by ρ (Greek letter) and pronounced as rho. Making reference to annexure A_3, we proceed to conduct the test as below:

Ho: $\rho = 0$, the correlation coefficient in the population is zero.
H_A: $\rho \neq 0$, the correlation coefficient in the population is different from zero.
Critical value of t = 3.182
Calculated value of t = 12.16

Decision Rule:

Reject Ho if the calculated t is greater than 3.182 or less than −3.182
Do not reject Ho if the calculated t lies between −3.18 and 3.182

Decision:

Since the calculated t is greater than 3.182 (i.e. 12.16 > 3.182), we reject Ho.
Accordingly, we accept H_A; and then claim that the correlation in the population is different from zero. By inference from this analysis, we reject the null hypothesis and accept the alternate hypothesis (H_A). Then, we can conclude that there is a positive relationship between employment tests and creativity in Nigerian Breweries Plc.
Still making use of the relevant questions (i.e. question numbers 3 and 4), we still test hypothesis 1 based on the data collected from Guinness Nigeria Plc. The test is shown in table 6.

TABLE 6: Contingency Table on the Correlation between the Type of Employment Tests Administered and Creativity of Workers in Guinness Nigeria Plc

Paired observation of x and y, n = 5	Type of employment test administered = x	Creativity of the workers in the organization of study = y	x^2	y^2	xy
Strongly agree	47	44	2209	1936	2068
Agree	41	46	1681	2116	1886
Indifference	23	21	529	441	483
Disagree	12	11	144	121	132
Strongly disagree	8	9	64	81	72
Total	**131**	**131**	**4627**	**4695**	**4641**

Source: Field Survey, 2011.

Making reference to the computation in Annexure in A_4 and A_7 we have the following:
The sample correlation coefficient r = 0.98
Coefficient of determination r^2 = 0.9604
Number of paired observation, n = 5
Calculated value of t = 8.53
Critical value of t = 3.182
Sources: statistical analysis (Annexure A_4 and A_7)
The computation of r using the data in table 6 gave a value of 0.98 indicating the existence of strong positive relationship between the type of employment tests (e.g. intelligence test, personality and aptitude tests) and creativity of workers in the Guinness Nigeria Plc.
Still making reference to Annexure A_4, we proceed to conduct the t test of the significance of correlation coefficient.
Ho: $\rho = 0$, the correlation coefficient in the population is zero.
H_A: $\rho \neq 0$, the correlation coefficient in the population is different from zero.
Critical value of t = 3.182
Calculated value of t = 8.53

Decision Rule:
Reject Ho if the calculated t is greater than 3.182 or less than −3.182
Do not reject Ho if the calculated t lies between −3.18 and 3.182

Decision:
Since the calculated t is greater than 3.182 (i.e 8.53 > 3.182), we reject Ho and accept Ha.
By inference from this analysis, we can conclude that there is a positive relationship between employment tests and creativity of workers in Guinness Nigerian Plc.

Restatement of Hypothesis 2
Ho:2 There is no positive relationship between selection interview and profitability in the brewery industry.
Ha:2 There is a positive relationship between selection interview and profitability in the brewery industry.
This hypothesis 2 will be tested using questions 7 and 8 in the questionnaire (see Annexure A_2).

TABLE 7: **Contingency table on the correlation between the type of selection interview adopted during employee selection and high profit made by Nigeria Breweries Plc**

Paired observation of x and y, n = 5	Type of selection interview adopted during employee selection = x	High profit made by brewery organization of study= y	x^2	y^2	xy
Strongly agree	78	68	6084	4624	5304
Agree	66	79	4356	6241	5214
Indifference	23	24	529	576	552
Disagree	17	15	289	225	225
Strongly disagree	13	11	169	121	143
Total	**197**	**197**	**11427**	**11787**	**11468**

Source: Field survey, 2011.

Making reference to the computation in Annexure A_5 and A_7 we have the following:
The sampled correlation coefficient r = 0.96
Coefficient of determination r^2 = 0.9216
Number of paired observation, n = 5
Critical value of t = 3.182
Calculated value of t = 5.94
Source: Statistical analysis (Appendices A_5 and A_7)
The computation of r using the data in table 6 gave a value of 0.96 indicating a strong positive relationship between type of selection interview adopted during employee selection and high profit made by Nigerian Breweries Plc.
Still making reference to Annexure A_5 and A_7, we have:
Ho: $\rho = 0$, the correction in the population is zero
H_A: $\rho \neq 0$, the correlation in the population is different from zero.
Critical value of t = 3.182
Calculated value of t = 5.94

Decision Rule:
Reject Ho if the calculated t is less than -3.182 or greater than 3.182.
Do not reject Ho if the calculated t lies between -3.182 and 3.182.

Decision:
Since calculated t is greater than 3.182, we reject Ho, and then conclude that the correlation in the population is different from zero and as a result we accept the alternate hypothesis (Ha).
This implies that there is a positive relationship between selection interview and profitability in the Nigerian Breweries Plc.
Still making use of the relevant questions (i.e question numbers 7 and 8), we test hypothesis 2 based on the data collected from Guinness Nigeria Plc. The test is shown in table 8.

TABLE 8: **Contingency table on the correlation between the type of selection interview adopted during employee selection and high profit made by Guinness Nigeria Plc**

Paired observation of x and y, n = 5	Type of selection interview adopted during employee selection = x	High profit made by brewery organization of study= y	x^2	y^2	Xy
Strongly agree	53	46	2809	2116	2438
Agree	38	47	1444	2209	1786
Indifference	21	19	441	361	399
Disagree	11	10	121	100	110
Strongly disagree	8	9	64	81	72
Total	**131**	**131**	**4879**	**4867**	**4805**

Source: Field survey, 2011.

Making reference to the computation in Annexure A_6 and A_7 we have the following:
The sampled correlation coefficient r = 0.95
Coefficient of determination r^2 = 0.9025
Number of paired observation = 5
Critical value of t = 3.182
Calculated value of t = 5.27
Sources: Statistical analysis (Appendices A_6 and A_7)
The computation of r using the data in table 8 gave a value of 0.95 indicating a strong positive relationship between type of selection interview adopted during employee selection and high profit made by Guinness Nigerian Plc.
Still making reference to Annexure A_6, we have:
Ho: $\rho = 0$, the correction in the population is zero
H_A: $\rho \neq 0$, the correlation in the population is different from zero.
Critical value of t = 3.182
Calculated value of t = 5.27.
Decision Rule:
Reject Ho if the calculated t is less than -3.182 or greater than 3.182.
Do not reject Ho if the calculated t lies between -3.182 and 3.182.
Decision:
Since calculated t is greater than 3.182, we reject Ho, and then conclude that the correlation in the population is different from zero. By inference from this analysis, we conclude that there is a positive relationship between selection interview and profitability in the brewery industry.

5. Findings

The summary of the findings are discussed as follows:

The Relationship between Employment tests and Creativity in the Brewery Industry

The finding of Hypothesis 1 reveals that there is a positive relationship between employment tests and creativity in the brewery industry. This is because of the reasons discussed below. With respect to Nigerian Breweries Plc, the result of the correlation coefficient, shows that r = 0.99 indicating a positive correlation between employment tests and creativity in NB Plc. Besides, the coefficient of determination r^2 = 0.9801 and this value can be expressed in percentage as 98.01%. And, it can be interpreted to mean that 98.01% of the variation in creativity among the employees of NB Plc is explained, or accounted for, by the variation in the use of employment tests procedure during selection process. Furthermore, the test of significance of coefficient of correlation shows that the calculated t = 12.16 is greater than critical value of t = 3.182 (i.e 12.16 >3.182) at 5% error.

On the other hand, with respect to Guinness Nigeria Plc (GN Plc), the result of the findings show that the

correlation coefficient r = 0.98 indicating a positive correlation between employment tests and creativity in the organization. Besides, the coefficient of determination $r^2 = 0.9604$ and this value can be expressed in percentage as 96.04%. And, it can be interpreted to mean that 96.04% of the variation in creativity among the employees of GN Plc is explained, or accounted for, by the variation in the use of employment tests procedure during selection process. Furthermore, the test of significance of coefficient of correlation shows that the calculated t = 8.53 is greater than critical value of t = 3.182 (i.e. 8.53 > 3.182) at 5% error. By implication, the first objective of the study which is to ascertain the extent to which there is a positive relationship between employment test and creativity was accomplished. This is in line with biblical saying that with the testimony of two or three witnesses a matter can be decided (Deut 17:6; Matt. 18:16; 1 Tim 5:19).

The Relationship between Selection Interview and Profitability in the Brewery Industry

The result of Hypothesis 2 shows that there is a positive relationship between selection interview and profitability in the brewery industry.

This is because the data collected from the two brewery organizations were analyzed and the results obtained are discussed below:

With respect to NB Plc, the result of the correlation coefficient r = 0.96. This indicates a strong positive relationship between the two variables. Also, the coefficient of determination $r^2 = 0.9216$, and this can be expressed in percentage as 92.16%. And, it can be interpreted to mean that 92.16% of variation in profit made by Nigerian Breweries Plc is explained, or accounted for, by the variation in the use of selection interview method during selection process. In addition, the test of significance of correlation shows that t calculated = 5.94 is greater than the critical value of t = 3 182 (i.e. 5.94 > 3.182) at 5% error.

With respect to Guinness Nigeria Plc, the result of findings show that the correlation coefficient r = 0.95 indicating a positive correlation between selection interview and profitability in the organization. Besides, the coefficient of determination $r^2 = 0.9025$ and this can be expressed in percentage as 90.25%. And, it can be interpreted to mean that 90.25% of the variation in profit made by Guinness Nigeria Plc is explained, or accounted for, by the variation in the use of selection interview method during selection process. In addition, the test of significance of correlation shows that t calculated = 5.27 is greater than the critical value of t = 3.182 (i.e. 5.27 > 3.182) at 5% error.

Based on this result, therefore, the null hypothesis (Ho) is rejected. Consequently, the alternate hypothesis (H_A) is accepted. By implication, the second objective of the study which is to determine the extent to which there is a positive relationship between selection interview and profitability in the brewery industry was accomplished.

6. Conclusion

This study is basically exploratory as well as descriptive in nature. With reference to the data analysis, the main conclusion emanating from the data analysis is that the brewery organizations of study seem to have their mission statement, vision and core values at the back of their minds when selecting personnel to work in their organizations. Furthermore, the goals of the organizations are put into considerations during personnel selection. Based on the data analysis, we specifically conclude that good employment tests facilitate the selection of creative employees in the brewery industry; proper selection interview facilitates the selection of productive personnel whose contribution to the organization enhances its profitability.

Apart from the selection methods, training, development and motivation of workers, the findings implicitly revealed that age, education background, years of experience in the job and sex play vital role in enhancing he performance of these organizations.

7. Recommendations

Based on the result of the findings the following recommendations are made:

1. Other business organizations especially the brewery organisations should during employee selection adopt selection methods that will enhance organization performance. As a result they should emulate the organizations of study.
2. Other business organizations (especially manufacturing firms) should design their jobs so as to facilitate the completion of tasks on schedule; and use appropriate selection methods to select quality caliber of personnel.
3. The NB Plc and GN Plc should make it easy for genuine researchers to have access to reliable and verifiable data from their organizations.

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Annexure A_1

Employment tests and creativity in the brewery industry.

Key: (5) Strong Agree (4) Agree (3) Indifference(2) Disagree
(1) Strongly Disagree

S/N		Likert Scale				
1	Employment tests administered by your brewery organization are so designed to enhance creativity among selected employees	5	4	3	2	1
2	Well prepared employment tests enable your brewery organization to select employees that perform well on the job.					
3	In your organization the type of employment tests administered during employee selection enable it to select creative workers.					
4	The creativity of the workers in your organization can be attributed to the type of employment tests administered during employee selection					

Annexure A_2

The relationship between selection interview and profitability in the brewery industry.

Key: (5) Strong Agree (4) Agree (3) Indifference(2) Disagree
(1) Strongly Disagree

S/N		Likert Scale				
5	In your brewery organization, selection interview is designed to enable the organization realize the objective of selecting people that will produce quality products.	5	4	3	2	1
6	The objective of good selection interview was achieved in your organization.					
7	In your brewery organization, the type of selection interview adopted during employee selection enables it realize its financial performance objective.					
8	The high profit made by your brewery organization can be attributed to the type of selection interview it adopts during employee ion.					

Appendix A_3

Computation of Hypothesis 1 Result Based on Data Collected from Nigerian Breweries Plc and test of Level of Significance for the Coefficient of Correlation

Recall that Pearson Product Moment Correlation Coefficient for a sample is given by:

$$r = \frac{n\Sigma xy - \Sigma x\,\Sigma y}{\sqrt{[n(\Sigma x^2) - (\Sigma x)^2]\,[(n\Sigma y^2) - (\Sigma y)^2]}}$$

Where:

N = 5, $\Sigma x = 197$, $\Sigma y = 197$,

$\Sigma x^2 =$ 13667, $\Sigma y^2 = 13435$, $\Sigma xy = 13507$

Substitute to obtain

$$r = \frac{5(13507) - (197)(197)}{\sqrt{[5(13667) - (197)^2][5(13435) - (197)^2]}}$$

$$= \frac{28726}{\sqrt{(29526)(28366)}} = 0.99$$

Coefficient of determination $r^2 = (0.99)^2$

$= 0.9801$

Recall that the formula for the t-test for the correlation coefficient is given by:

$$t = r\sqrt{\frac{n-2}{1-r^2}}$$; with n – 2 degrees of freedom

Substitute $r = 0.99$, $n = 5$, we obtain

$$t = 0.99\sqrt{\frac{5-2}{1-(0.99)^2}} = 12.16$$

The critical value is given by $t_{0.025},3 = 3.182$ (refer to Annexure A_7).

APPENDIX A_3

Computation of Hypothesis 1 Results Based on the Data Collected from Guinness Nigeria Plc and Test of Level of Significance for the coefficient Correlation.

Recall that Pearson's product moment correlation coefficient for a sample is given by:

Using $$r = \frac{n\Sigma xy - \Sigma x\Sigma y}{\sqrt{[n\Sigma x^2 - (\Sigma x)^2][n\Sigma y^2 - (\Sigma y)^2]}}$$

N = 5, $\Sigma x = 131$, $\Sigma y = 131$, $\Sigma x^2 = 4627$

$\Rightarrow$ $\Sigma y^2 = 4695$, $\Sigma xy = 4641$

$$r = \frac{5(4641) - (131)(131)}{\sqrt{[5(4627) - (131)^2][5(4695) - (131)^2]}}$$

$$= \frac{6044}{(5974)(6314)} = \frac{6044}{6141.6} = 0.98$$

Coefficient of determination $r^2 = (0.98)^2 = 0.9604$

Recall that the formular for the t…..test for the correlation coefficient is given by

$$T = \sqrt{\frac{n-2}{1-r^2}} \quad ; \text{with } n-2 \text{ degrees of freedom}$$

Substitute $r = 0.98$, $n = 5$, to obtain:

$$t = 0.98\sqrt{\frac{5-2}{1-(0.98)^2}} = 0.98\sqrt{\frac{3}{1-0.9604}}$$

$$= 8.53$$

APPENDIX A_5

Computation of Hypothesis 2 Results Based n the Data Collected from Nigerian Breweries Plc and Test of Level Significance for the Correlation Coefficient.

Recall that Pearson Product Moment Correlation Coefficient for a sample is given by:

Recall $$r = \frac{n\Sigma xy - \Sigma x\Sigma y}{\sqrt{[n(\Sigma x^2) - (\Sigma x^2)]\,[n(\Sigma y^2) - (\Sigma y)^2]}}$$

where :

$n = 5$, $\Sigma x = 197$, $\Sigma y = 197$, $\Sigma x^2 = 11427$, $\Sigma y^2 = 11787$, $\Sigma xy = 11468$

Substitute to obtain

$$r = \frac{5(11468) - (197)(197)}{\sqrt{[5(11427) - (197)^2]\,[5(11787) - (197)^2]}}$$

$$= \frac{57340 - 38809}{\sqrt{(18326)(20126)}} = \frac{18631}{19204.9} = 0.96$$

Coefficient of determination $r^2 = (0.96)^2 = 0.9216$

Recall that the formular for the t test for the correlation coefficient is given by:

$$t = r\sqrt{\frac{n-2}{1-r^2}} \quad ; \text{with } n-2 \text{ degrees of freedom}$$

Substitute $r = 0.96$, $n = 5$, we have

$$t = 0.96\sqrt{\frac{5-2}{1-(0.9)^6}} = 0.96\sqrt{\frac{3}{0.0784}}$$

$$= 5.94$$

APPENDIX A_6

Computation of Hypothesis 2 Result Based on the Data Collected from Guinness Nigeria Plc and Test of Level Significance of Correlation Coefficient.

Recall the Pearson Product Moment Correlation Coefficient for a sample is given by:

$$r = \frac{n\Sigma xy - \Sigma x\Sigma y}{\sqrt{[n(\Sigma x^2) - (\Sigma x)^2]\,[n(\Sigma y^2) - (\Sigma y)^2]}}$$

where :

$n = 5$, $\Sigma x = 131$, $\Sigma y = 131$, $\Sigma x^2 = 4879$

$\Sigma y^2 = 4867$, $\Sigma xy = 4805$

Substitute to obtain

$$r = \frac{5(4805) - (131)(131)}{\sqrt{[5(4879) - (131)^2]\,[5(4867) - (131)^2]}}$$

$$= \frac{24025 - 17161}{\sqrt{(7234)(7174)}} = \frac{6864}{7203.9} = 0.95$$

Coefficient of determination $r^2 = (0.95)^2 = 0.925$

Recall formular for the t test for the correlation coefficient is given by:

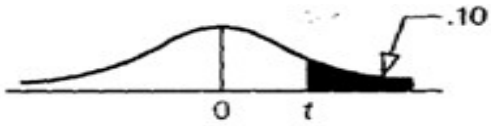
$$t = r\sqrt{\frac{n-2}{1-r^2}} \quad ; \text{with } n-2 \text{ degrees of freedom}$$

Substitute $n = 5$, $r = 0.95$, we have

$$t = 0.95\sqrt{\frac{5-2}{1-(0.95)^2}} = 0.95\sqrt{\frac{3}{0.075}} = 5.27$$

Annexure A_7

Student's* t *Distribution



df	Level of Significance for One-Tailed Test					
	0.10	0.05	0.025	0.01	0.005	0.0005
	Level of Significance for Two-Tailed Test					
	0.20	0.10	0.05	0.02	0.01	0.001
1	3.078	6.314	12.706	31.821	63.657	636.619
2	1.886	2.920	4.303	6.965	9.925	31.599
3	1.638	2.353	3.182	4.541	5.841	12.924
4	1.533	2.132	2.776	3.747	4.604	8.610
5	1.476	2.015	2.571	3.365	4.032	6.869
6	1.440	1.943	2.447	3.143	3.707	5.959
7	1.415	1.895	2.365	2.998	3.499	5.408
8	1.397	1.860	2.306	2.896	3.355	5.041
9	1.383	1.833	2.262	2.821	3.250	4.781
10	1.372	1.812	2.228	2.764	3.169	4.587
11	1.363	1.796	2.201	2.718	3.106	4.437
12	1.356	1.782	2.179	2.681	3.055	4.318
13	1.350	1.771	2.160	2.650	3.012	4.221
14	1.345	1.761	2.145	2.624	2.977	4.140
15	1.341	1.753	2.131	2.602	2.947	4.073
16	1.337	1.746	2.120	2.583	2.921	4.015
17	1.333	1.740	2.110	2.567	2.898	3.965
18	1.330	1.734	2.101	2.552	2.878	3.922
19	1.328	1.729	2.093	2.539	2.861	3.883
20	1.325	1.725	2.086	2.528	2.845	3.850
21	1.323	1.721	2.080	2.518	2.831	3.819
22	1.321	1.717	2.074	2.508	2.819	3.792
23	1.319	1.714	2.069	2.500	2.807	3.768
24	1.318	1.711	2.064	2.492	2.797	3.745
25	1.316	1.708	2.060	2.485	2.787	3.725
26	1.315	1.706	2.056	2.479	2.779	3.707
27	1.314	1.703	2.052	2.473	2.771	3.690
28	1.313	1.701	2.048	2.467	2.763	3.674
29	1.311	1.699	2.045	2.462	2.756	3.659
30	1.310	1.697	2.042	2.457	2.750	3.646
40	1.303	1.684	2.021	2.423	2.704	3.551
60	1.296	1.671	2.000	2.390	2.660	3.460
120	1.289	1.658	1.980	2.358	2.617	3.373
∞	1.282	1.645	1.960	2.326	2.576	3.291

Source: Lind, Mason and Marchal (2000). Basic Statistics for Business and Economics. Boston: McGraw-Hill Inc.