

EXPLORATORY FACTOR ANALYSIS OF HUMAN RESOURCES MANAGEMENT STRATEGIES IN THE NIGERIAN AIRLINE INDUSTRY

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Abstract - The aftermath of liberalisation of the Nigerian aviation sector reveals itself in increasing demand for airline services at the Nigerian air terminals. The new competitive regime is seemingly a corollary of policy intervention to induce growth in quondam public dominated subsector. Such impact will no doubt attract passenger services variance levels. The study examined factors which describe the critical variables that impinge on human resource management in a typical airline. To achieve some reduction in the categorical data points to deal with, while also investigating the structure of the data, we carried out an exploratory factor analysis. The analysis also serve the purpose of streamlining the study by removing highly correlated variables from the data set. The Principal Component Analysis (PCA) was the extraction method used under the IBM SPSS 19.0 system. The result of the Principal Component Analysis seemed somewhat reasonable in the absence of a clear idea of the nature of the distribution of airlines personnel interviewed in the study; that is, since we could not tell whether the data was generally normally-distributed or significantly normal. The numbers of factors retained following the analysis were five including: supervision of staff performance; effect of good interpersonal relationship; effect of provision of working equipment/facilities; reward for excellence in performance and the need for credit on staff performance. The critical variables that motivates employees of the airlines is the provision of working equipment and facilities. This is closely followed by need for labour pressure group to protect the interest of the staff. The next prime motivator of the workforce is provision of adequate reward system for excellence in workers' performance of their task. From the communalities recorded in the analysis, where it is shown that the two variables with the lowest values scored 0.610 and 0.654 respectively. One may therefore summarize that

the analysis has unraveled the structure of the factors used to represent human resource management strategies.

Keywords- Airline, factor analysis, communalities, strategies and HRM.

I. STUDY BACKGROUND

The duties of Human Resource Management unit of the airlines include appointments, recruitment, conversion/upgrading, transfer, condonation and merger of service, promotion, disciplinary matters, staff welfare, training, retirement, pensions, processing allowances, death benefits, NYSC and IT matters, health issues, co-ordination of HIV/AIDS activities, sports and recreational activities, transportation and industrial harmony. It is also in charge of maintenance of offices and equipment, protocol matters, sourcing and allocation of office accommodation, security, SERVICOM, Secretariat of top Management and Senior Management Meetings and advises on Personnel issues of Agencies. For the purpose of effective and efficient discharge of the aforementioned duties, the unit is divided into two main Divisions, namely: Appointment, Promotion and Discipline; and Staff Welfare and Training.

In services, operational failures are often evident to the customer, as the service is indistinguishable from the process that provides it [6]. Service failures are particularly damaging because of the impact on customer retention and future sales [12]. The service operations literature identifies employees as critical to service recovery during operational failures ([7], [13], [14]).

Employees can be trained in a "script" to respond in appropriate ways to common problems. However, employees are vastly more flexible than machines, and with proper understanding of company values and appropriate allocation of decision rights, employees can go beyond a script to generate satisfactory service encounters in a dynamic setting. High

quality employee interactions produce customer satisfaction, which in turn stimulates demand that is more resilient to competition and achieved at lower long-run cost than otherwise ([10],[13].

II. LITERATURE REVIEW

Certainly, there are no doubts the impacts of air transport industry to the socio-economic development of Africa. According to [1], the air transport industry generates around 430,000 jobs in Africa and contributes USD \$9.2 billion to Africa GDP (direct, indirect and induced impacts). Similarly in its regional air traffic figures and forecast for Africa sees a 5.6 and 4.6%, respectively in economic induced increase in passengers and freight for the continent [11]. Also, the integration of Africa economies with the global economies has been largely enhanced through air transport. Moreover, it has buoyed the comparative advantage of most African countries and especially Nigeria on some special economic activities as tourism and allied industry. Tourism developments in Nigeria have been reliably linked to the development of air services to tourism destinations in Nigeria [15].

Remarkably, airline services are seen as a veritable instrument of globalization and market expansion, political and cultural integrated and destination value enhancement [1]. Air services make possible multinational institutions, corporations and companies to expand rapidly growing distant markets. It facilitates competition among industries leading to efficiency, innovations, entrepreneur development, revenue enhancement and increased productivity. It has changed the global supply chain and facilitates rapid and realizable movement of goods and services worldwide. Similarly, political and cultural integration of the nations of the world have been greatly enhanced through open skies treaties among nations of the world creating political and cultural interference and optimal diplomacy. The values of numerous destinations across the globe have been greatly enhanced because accessibility of destinations has been greatly enhanced.

Notably, policy interventions and innovations as deregulation and liberalization, recapitalization, institutional framework as well as globalization have impacted on the airline services in Nigeria. For instance, the deregulation of the air transport services has brought reality to air transport services in Nigeria ([3], [2]). Similarly, the institutional restructuring and reforms of government's agencies have created a regime of efficiency and effectiveness which have impinged on air services operations in Nigeria [15]. Also, the re-capitalization policy of the federal government on all airlines operating in the country resulted in the consolidation of the investment portfolio of most airlines operations leading to merger and acquisition of airline. The effects led to acquisition of brand new aircraft, route expansion and capital base enlargement.

However, the laudable policy intervention and globalization have impacted positively on the airline services in Nigeria. No doubt, it brought a new paradigm of competition, innovation which has impacted on service delivery among the airline operators in Nigeria [9]. The Nigeria airline industry has gone through a roller-coaster ride for the past few years. Among factors contributing to the situation are increasing fuel prices, escalating security insurance, rapid deregulation of the industry, as well as natural disaster, ranging from the outbreak of diseases etc. that hinder the growth of air transport. In the past decade, air travel has grown by 7% per year. Many of the major Nigerian airlines have made significant investments in aircraft amenities (e.g. Overhead bin space, seating) at the same time that they have sharply reduced the number and the compensation of employees [4]. These actions suggests an alternative view of the service value profit chain for air travel and freight forwarding—that customer satisfaction is more dependent on physical attributes of the service than on employee interactions. I consider this possibility in the context of service operations failure.

Ideally, the market research should explicitly measure the effectiveness of organizations' selling channels (sales representatives, telephone sales etc.) and also customer's evaluations of the service received in ordering, gaining and using the product or service. For example, in the airline industry a customer service quality study would incorporate measures for the purchasing of tickets, pre-flight services (check-in, baggage handling, lounge), the actual flight itself (leaving on time, food service, special requests, general presentation and hospitality of crew), post flight service (baggage, connecting flights etc.) and any follow up contact (e.g. complaint handling). Behaviors such as repeat-purchase, recommending, complaining or paying price premiums are always expected of a customer by any service company. Where it isn't possible to measure actual behavior we advocate the use of non-attitudinal, probabilistic predictors of future behavior that have been shown to be reliable.

As studied in the ministry of aviation annual progress report 2009, the industry recorded a loss of 59,893,802 million naira. The tough situation has forced airlines to revoke old strategies and establish new policies and strategies into its business to keep up with its competitiveness. One of the main developments is the growing popularity of low cost airlines (aero contractors and air Nigeria). Air Nigeria serves both international and domestic routes across 10 destinations worldwide while aero contractors serves all domestic routes and one international route. They have the largest fleet sizes in Nigeria airline industry. The competition between these two airlines has been fierce in particular as regards the price factor and they both promote themselves with their tagline. They both serve different customers base and offer different service experience.

However this may not be necessarily true in the cases of domestic flights and some short distant international flights,

where the service differentiation is rather minimal. Nevertheless, it is expected that the customer satisfaction level for both airlines is different as the customers' perception on full service airlines and low cost airlines are different.

There is no doubt, the importance of airlines services in the enhancement of the movement of passengers, freight and development of the passenger in Nigeria. Remarkably, an airline service has indeed improved generally in Nigeria. This improvement is generally tied to the concept of deregulation and globalization that induce competition regime among the airline operators. [16] Identified a 3 phases period that characterized the level of airlines services and responsiveness of consumers. These 3 phases are production, sales and consumer oriented period. The contextual argument for transition reliably holds in emergence of changing and dynamics of services and market structure of airline services to attract market share in a competitive regime. Indeed, it is worthy to say that airline services have benefited from twin concept of globalization and deregulation in Nigeria.

Prior to deregulation, the Nigeria airline services are characterized of irregular and ineffective services and were generally shambolic in nature [15]. The consumer were left with Hobson's choice as alternatives do not exist there were limited participant and no options offered irrespective of the quality of services rendered [2]. These were the prevalent features which characterized the airline services in Nigeria prior to deregulation.

However after deregulation, the airline services in Nigerian witnessed a new era of growth and advancement. The deregulation regime offered an increased interest and investment in the more dormant Nigerian aviation industry. As more airlines entered the market, an enhanced investment in fleets of aircraft to retire the old and risky fleet also to imbue confidence in the market. The services offered witnessed a turnaround as market driven innovations came to bear to attract more passengers. The corollary of this is the emergent of varieties of services to suit all categories of air travelers which were never a feature of the industry.

In addition, the air service in the domestic and international terminal recorded tremendous changes as compared to the old. Also, foreign airlines use the nation's terminals as hubs for flights operations within and without the continents. On the other hand, the domestic operations of airline services benefited from deregulation and privatization as consortium invested in terminal development. The improved facilities and amenities offered in the new terminal engendered improved services to the passengers. Indeed, the airline services in Nigeria after deregulation witnessed an improved, standardized services compared to the period before deregulation.

III. STUDY DATA

The survey results were processed within SPSS system by coding the data and formatting them. The result reveals that

43.0% were female while 57.0% are men. The age distribution of the staff of airlines interviewed shows that of them (0.4%) reported that they were above 41 years old and majority (75%) were aged 25-36 years. The proportion of young adults was expectedly low (19.0%) showing that quite some length of time is required to acquire the expertise to work in the airline industry.

TABLE 1: AIRLINES' STAFF SEX

	Frequency	Percent	Valid Percent	Cumulative Percent
female	215	43.0	43.0	43.0
Male	285	57.0	57.0	100.0
Total	500	100.0	100.0	

TABLE 2: AIRLINES' STAFF AGE

	Frequency	Percent	Valid Percent	Cumulative Percent
19-24	95	19.0	19.0	19.0
25-30	184	36.8	36.8	55.8
31-36	191	38.2	38.2	94.0
37-41	28	5.6	5.6	99.6
Above 41	2	.4	.4	100.0
Total	500	100.0	100.0	

TABLE 3: AIRLINES' STAFF QUALIFICATION

	Frequency	Percent	Valid Percent	Cumulative Percent
Bsc/HND	386	77.2	77.2	77.2
MBA	13	2.6	2.6	79.8
OND	63	12.6	12.6	92.4
WAEC/SSCE	38	7.6	7.6	100.0
Total	500	100.0	100.0	

The educational background reported was quite interesting, suggesting that 7.75 had basic education, while remaining personnel interviewed had tertiary education in conformity with high skilled labour requirement in the airline industry. Taken altogether, the entire results would tend to give the impression of well educated population of personnel in the airline industry in Nigeria. The other information relates to various cadre of personnel interviewed. Senior personnel recorded 39.2% while the top management staff was just 1.6%.

TABLE 4: AIRLINES' STAFF CATEGORY

	Frequency	Percent	Valid Percent	Cumulative Percent
Contract	11	2.2	2.2	2.2
Junior	285	57.0	57.0	59.2
Mgt	8	1.6	1.6	60.8
Senior	196	39.2	39.2	100.0
Total	500	100.0	100.0	

TEST OF RELIABILITY STUDY DATA

Reliability refers to the consistency, stability, of data collection instruction. A reliable instrument does not respond to chance factors or environmental conditions; it will have consistence results if repeated overtime or if used by two different investigator.

TABLE 5: RELIABILITY STATISTICS

Cronbach's Alpha	N of Items
.710	20

Cronbach's was used as an examination indicator to determine the reliability of the measurement scale. The value of Cronbach's alpha is generally required to be over 0.7 and the calculated results were over 0.710 in the variables in human resource management of the airline industry in Nigeria. The figures representing as the output of research survey, it was observed that the reliability of all the twenty variables in the research sample, in terms of Cronbach's alpha, was greater than 0.7. This meant that the research measurement scale, applied in this study, was reliable.

The summary of the description of the entire variables posed in the study is presented in the above table, with the mean and standard deviations of the variables resulting from the survey on human resource management imperatives in the airline industry. On the whole, about 15 of the variables recorded mean values greater than 3.0, corresponding approximately to the 15 variables with highest scores in the factor analysis along with associated factors which scored in excess of 0.500 (see table below).

TABLE 7: COMPONENT MATRIX

	Component				
	1	2	3	4	5
Importance of HRM in Biz operations	.023	.463	.741	.284	.129
Cooperation of CEO with staff	.701	-.315	-.020	-.238	.297
Effect of supervision of staff performance	.631	-.452	.429	.107	-.283

Motivation with fat salaries	.359	-.490	-.121	.402	-.618
Effective HRM on positive attitude to work	-.018	-.032	.175	.633	.541
Concern on Workers welfare	.787	-.204	-.098	-.131	-.304
Need for staff quarters, hospitals, clubs etc	.562	.303	.618	-.262	-.116
Staff performance without motivation	.010	.436	.380	.336	-.676
Performance with delayed salaries	.659	.409	-.398	.233	.160
Performance of staff with monetary rewards	.870	.128	.300	-.067	.126
Staff social get-together as a motivator	.870	.128	.300	-.067	.126
Effect of good interpersonal relationship	.313	.555	-.614	-.042	.013
Need for labour pressure group	-.087	-.521	.520	-.226	.096
Need for recreational facilities	-.028	-.768	-.138	.167	.129
Effect of favouritism on productivity	.659	.409	-.398	.233	.160
Reward for excellence in performance	.085	.215	.253	.750	.411
Effect of reward of healthy competition	-.634	.513	-.193	-.433	-.011
Effect of provision of working equipment/facilities	-.060	.568	.522	-.418	-.186
Need for credit on staff performance	.342	-.193	.147	-.713	.488
Effect of job challenges on working attitude	.718	.084	-.594	-.147	-.183

Extraction Method: Principal Component Analysis.

a. 5 components extracted.

IV. (A) FRIEDMAN ANALYSIS OF HRM VARIABLES IN THE AIRLINE INDUSTRY

The Friedman procedure tests the null hypothesis that multiple ordinal responses come from the same population. As with the Wilcoxon test for two related samples, the data may come from repeated measures of a single sample or from the same measure from multiple matched samples. The Friedman test is the nonparametric equivalent of a one-sample repeated measures design or a two-way analysis of variance with one observation per cell. Friedman tests the null hypothesis that k related variables come from the same population. For each case, the k variables are ranked from 1 to k. The test statistic is based on these ranks. The Friedman chi-square tests the null hypothesis that the ranks of the variables do not differ from their expected value. For constant sample size, the higher the value of this chi-

square statistics the larger the differences between each variable rank sum and its expected value. Because the chi-square of 5744.626 for airlines with 18 degree of freedom are unlikely to have arisen by chance, the 500 staff of the airline interviewed do not have equal opinion on human resources management imperatives.

TABLE 8: TEST STATISTICS^A

N	500
Chi-Square	5744.626
Df	18
Asymp. Sig.	.000

a. Friedman Test

The asymptotic significance is the approximate probability of obtaining a chi-square statistics as extreme as 5744.626 for airlines with 18 degree of freedom in repeated samples if the rankings of airline's human resource management variables are not truly different. Hence, this is satisfied in the airline.

TABLE 9: FRIEDMAN RANK OF HRM FACTORS

Variables	Mean Rank	Remark
Cooperation of CEO with staff	9.46	14 th
Effect of supervision of staff performance	3.83	17 th
Motivation with fat salaries	10.76	11 th
Effective HRM on positive attitude to work	12.51	6 th
Concern on Workers welfare	14.16	4 th
Need for staff quarters, hospitals, clubs etc	10.42	12 th
Staff performance without motivation	5.47	16 th
Performance with delayed salaries	3.03	19 th
Performance of staff with monetary rewards	11.89	8 th
Staff social get-together as a motivator	11.89	8 th
Effect of good interpersonal relationship	4.20	18 th
Need for labour pressure group	15.29	2 nd
Need for recreational facilities	10.12	13 th
Effect of favouritism on productivity	3.03	19 th
Reward for excellence in performance	15.17	3 rd
Effect of reward of healthy competition	13.42	5 th
Effect of provision of working equipment/facilities	15.45	1 st
Need for credit on staff performance	11.86	10 th
Effect of job challenges on working attitude	8.07	15 th

From the table above, the critical variables that motivates employees of the airlines is the provision of working equipment and facilities. This is closely followed by need for labour pressure group to protect the interest of the staff. The next prime motivator of the workforce is provision of adequate

reward system for excellence in workers' performance of their task.

IV. (B) EXPLORATORY FACTOR ANALYSIS OF HRM STRATEGIES IN AIRLINES

The factors which describe the critical variables that impinge on human resource management in a typical airline. To achieve some reduction in the categorical data points to deal with, while also investigating the structure of the data, we carried out an exploratory factor analysis. It was hoped that the analysis would also serve the purpose of streamlining the study by removing highly correlated variables from the data set [8]. The Principal Component Analysis (PCA) was the extraction method used under the IBM SPSS 19.0 system.

As it turned out, the result of the CPA seemed somewhat reasonable in the absence of a clear idea of the nature of the distribution of airlines personnel interviewed in the study; that is, since we could not tell whether the data was generally normally-distributed or significantly normal. The numbers of factors retained following the analysis were five including:

1. Supervision of staff performance.
2. Effect of good interpersonal relationship
3. Effect of provision of working equipment/facilities
4. Reward for excellence in performance
5. Need for credit on staff performance

It means that the data structure suggests that there are ten principal components of the factors in the analysis. These factors were retained for rotation following the default option of the SPSS program which selects for all factors with eigenvalues greater than 1.0. Although this may not be the most accurate method for selecting the number of factors to retain, a careful inspection of the Scree plot (see figure 1 below) shows that some confidence can be place on the number of factors selected and that there is probably no over extraction or under-extraction of factors retained.

It seems clear then that the five components represent the underlying structure of the factors used in the study with 82.9 per cent of the total variance in the original variables, with only 10.02 per cent loss of information (see Tables 10 and 11).

The communalities recorded in the analysis can be seen above, where it is shown that the two variables with the lowest values scored 0.610 and 0.654 respectively. One may therefore summarise that the analysis has unraveled the structure of the factors used to represent human resource management strategies (see Table 12).

V. CONCLUSION

The underlying structure of the factors studied has been revealed by a careful inspection of the clustering of factor scores during the rotation process. The revealed structure consists of five key factors identifying functional human resources management strategies. The functional factors are:

FACTOR 1

Cooperation of CEO with staff	.613
Effect of supervision of staff performance	.904
Motivation with fat salaries	.625
Concern on Workers welfare	.763
Need for staff quarters, hospitals, clubs etc.	.546
Performance of staff with monetary rewards	.741
Staff social get-together as a motivator	.741

FACTOR 2

Effect of favouritism on productivity	.851
Effect of job challenges on working attitude	.754
Performance with delayed salaries	.851
Effect of good interpersonal relationship	.860

FACTOR 3

Importance of HRM in Business operation	.686
Staff performance without motivation	.522
Effect of provision of working equipment/facilities	.867

FACTOR 4

Reward for excellence in performance	.899
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FACTOR 5

Need for credit on staff performance	.893
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Following from the above analysis, it seems reasonable to infer that the data set for the present study is strong. The observation would seem to be supported by the uniformly high communalities recorded which have exceeded the more common magnitudes in social sciences of low to moderate communalities of 0.40 to 0.70 (see Table 12).

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TABLE 6: MEAN AND STANDARD DEVIATION OF VARIABLES IN THE HRM QUESTIONNAIRE

	N	Mean	Std. Deviation	Minimum	Maximum
Importance of HRM in Business operations	500	4.70	.458	4	5
Cooperation of CEO with staff	500	3.76	.936	2	5
Effect of supervision of staff performance	500	2.02	1.103	1	4
Motivation with fat salaries	500	3.87	1.023	2	5
Effective HRM on positive attitude to work	500	4.37	.733	2	5

Concern on Workers welfare	500	4.64	.488	3	5
Need for staff quarters, hospitals, clubs etc	500	3.86	1.057	2	5
Staff performance without motivation	500	2.58	1.246	1	4
Performance with delayed salaries	500	1.61	.889	1	4
Performance of staff with monetary rewards	500	4.23	.753	1	5
Staff social get-together as a motivator	500	4.23	.753	1	5
Effect of good interpersonal relationship	500	1.96	1.175	1	5
Need for labour pressure group	500	4.88	.348	3	5
Need for recreational facilities	500	4.00	.566	1	5
Effect of favouritism on productivity	500	1.61	.889	1	4
Reward for excellence in performance	500	4.84	.365	4	5
Effect of reward of healthy competition	500	4.61	.489	4	5
Effect of provision of working equipment/facilities	500	4.89	.316	4	5
Need for credit on staff performance	500	4.27	.790	2	5
Effect of job challenges on working attitude	500	3.36	.957	2	5

TABLE 10: TOTAL VARIANCE EXPLAINED

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.486	27.431	27.431	5.486	27.431	27.431
2	3.296	16.478	43.909	3.296	16.478	43.909
3	3.224	16.121	60.030	3.224	16.121	60.030
4	2.562	12.812	72.842	2.562	12.812	72.842
5	2.005	10.027	82.870	2.005	10.027	82.870
6	.952	4.761	87.630			
7	.846	4.231	91.861			
8	.631	3.154	95.015			
9	.261	1.305	96.320			
10	.209	1.043	97.363			
11	.167	.836	98.198			
12	.151	.753	98.951			
13	.079	.394	99.345			
14	.064	.320	99.665			
15	.031	.157	99.822			
16	.020	.101	99.923			
17	.011	.056	99.980			
18	.004	.020	100.000			
19	6.443E-18	3.222E-17	100.000			
20	-2.124E-19	-1.062E-18	100.000			

Extraction Method: Principal Component Analysis.

TABLE 11: ROTATED COMPONENT MATRIX^A

	Component				
	1	2	3	4	5
Importance of HRM in Business operation	.071	-.170	.686	.580	-.142
Cooperation of CEO with staff	.613	.167	-.128	-.037	.561
Effect of supervision of staff performance	.904	-.230	.005	-.003	-.088
Motivation with fat salaries	.625	-.006	-.437	-.172	-.562
Effective HRM on positive attitude to work	-.006	-.022	-.171	.833	.036
Concern on Workers welfare	.763	.296	-.050	-.326	.041
Need for staff quarters, hospitals, clubs etc.	.546	-.005	.745	-.017	.131
Staff performance without motivation	.142	.000	.522	.021	-.782

Performance with delayed salaries	.268	.851	.028	.194	.067
Performance of staff with monetary rewards	.741	.298	.370	.147	.295
Staff social get-together as a motivator	.741	.298	.370	.147	.295
Effect of good interpersonal relationship	-.139	.860	.064	-.147	.028
Need for labour pressure group	.237	-.698	-.006	-.007	.257
Need for recreational facilities	.211	-.321	-.701	.057	.107
Effect of favoritism on productivity	.268	.851	.028	.194	.067
Reward for excellence in performance	.052	.123	.043	.899	-.149
Effect of reward of healthy competition	-.825	.046	.315	-.324	.044
Effect of provision of working equipment/facilities	-.105	-.122	.867	-.175	.004
Need for credit on staff performance	.227	-.100	.146	-.203	.893
Effect of job challenges on working attitude	.418	.754	-.164	-.389	.094

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 14 iterations.

TABLE 12: COMMUNALITIES

	Initial	Extraction
Importance of HRM in Business operations	1.000	.861
Cooperation of CEO with staff	1.000	.736
Effect of supervision of staff performance	1.000	.877
Motivation with fat salaries	1.000	.926
Effective HRM on positive attitude to work	1.000	.725
Concern on Workers welfare	1.000	.780
Need for staff quarters, hospitals, clubs etc	1.000	.871
Staff performance without motivation	1.000	.904
Performance with delayed salaries	1.000	.840
Performance of staff with monetary rewards	1.000	.883
Staff social get-together as a motivator	1.000	.883
Effect of good interpersonal relationship	1.000	.785
Need for labour pressure group	1.000	.610
Need for recreational facilities	1.000	.654
Effect of favouritism on productivity	1.000	.840
Reward for excellence in performance	1.000	.849
Effect of reward of healthy competition	1.000	.890
Effect of provision of working equipment/facilities	1.000	.808
Need for credit on staff performance	1.000	.922
Effect of job challenges on working attitude	1.000	.930

Extraction Method: Principal Component Analysis.

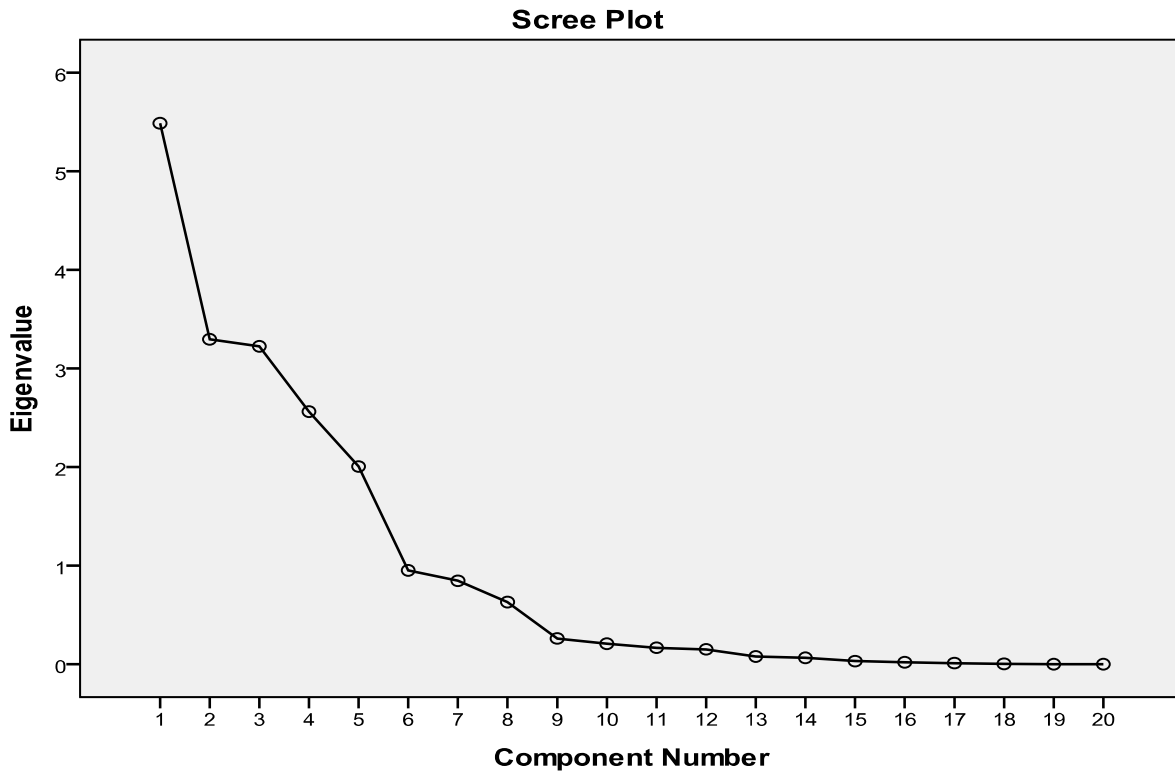


Figure 1: Scree Plot