

# GLOBAL JOURNAL

OF MANAGEMENT AND BUSINESS RESEARCH: A

## Administration and Management

Impact of Effective Recruitment

Quality of E-Government Services

Highlights

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Discovering Thoughts, Inventing Future

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# The Quality of E-Government Services and its Role on Achieving Beneficiaries Satisfaction

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**Abstract-** The aim of this study is to analyze the impact of the quality of e-government services dimensions including: website design, reliability, responsiveness, security and privacy, and the availability of information and ease of use that are provided by the Ministry of Interior of the United Arab Emirates in achieving customer satisfaction. To achieve the objectives of the study, data were collected through a questionnaire that was developed and distributed to an appropriate sample of beneficiaries of the services provided by the Ministry of Interior of the United Arab Emirates. Also, appropriate statistical methods in data analysis were used to test the hypotheses of this study. Based on the results of the statistical analysis, the study has reached a number of conclusions of which the most important was: the impact of a statistically significant dimensions of the quality of electronic services community provided by the Ministry of Interior of the United Arab Emirates in achieving the satisfaction of beneficiaries.

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# The Quality of E-Government Services and its Role on Achieving Beneficiaries Satisfaction

Applied Study in Ministry of Interior of United Arab Emirates

Sulieman Ibraheem Shelash Al-Hawary<sup>α</sup> & Saleh Mohammad Al-Menhaly<sup>σ</sup>

**Abstract** The aim of this study is to analyze the impact of the quality of e-government services dimensions including: website design, reliability, responsiveness, security and privacy, and the availability of information and ease of use that are provided by the Ministry of Interior of the United Arab Emirates in achieving customer satisfaction. To achieve the objectives of the study, data were collected through a questionnaire that was developed and distributed to an appropriate sample of beneficiaries of the services provided by the Ministry of Interior of the United Arab Emirates. Also, appropriate statistical methods in data analysis were used to test the hypotheses of this study. Based on the results of the statistical analysis, the study has reached a number of conclusions of which the most important was: the impact of a statistically significant dimensions of the quality of electronic services community provided by the Ministry of Interior of the United Arab Emirates in achieving the satisfaction of beneficiaries. Moreover; the study found an impact of each of the dimensions of quality electronic services provided by the Ministry of Interior of the United Arab Emirates at the abstract level on achieving customer satisfaction provided by ( $\alpha \leq 0.05$ ).

Referring to the results that have been reached, the researcher has suggested a number of recommendations that would elevate the level of electronic services provided by the Ministry of Interior of the United Arab Emirates.

## 1. INTRODUCTION

The world has witnessed a growing interest in electronic services provided by governments in the past few years. This is due to the necessity and inevitability for the modern development in the field of information and communication technology. The Internet has played a major and important role as a mediator to complete the implementation of electronic-services provided by the governments which became a reality. There has been a major shift from traditional form of government services to the modern electronic form (E government).

The Ministry of Interior in the United Arab Emirates has persuaded the development of the electronic services and the improvement of the quality of electronic services which include: Website Design,

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Security and Privacy, Responsiveness, Information Availability, Ease of Use, and Reliability. The main electronic gate of the Ministry of Interior includes (384) services distributed over the main departments. The Ministry of Interior has worked to provide electronic services around the clock. The main gate also provide high-speed infrastructure protected with high-level security systems. The average daily operations on the portal is done in a quick easy matter and it exceeds quarter of a million process including queries, implementation of services and review pages.

The Ministry is working continuously on developing the electronic services, providing the best facilitations, and making it easier for users to quickly complete their transactions confidentially. The ministry electronic services became a model for all institutions on the local and international levels. The government is considered as a major indication in civilized countries that is built on information technology, telecommunication and knowledge economy. Therefore, the United Arab Emirates had to cope with all what is new in the field.

There, while applying the e-government services, important dimensions and applications are required, such as quality of electronic services from the website design, reliability security and privacy information availability and ease of use slot of e-government services. Beneficiaries believe in these dimensions that may increase the satisfaction on Electronic Government Services.

Electronic government services is considered a main building block of the development strategies and keeping up with the world of information and information technology that faces a rapid development. The countries aim through supporting its e-government services is to be more effective and efficient by employing telecommunication and information technology. Thus, the importance of this study is to focus on the electronic services, which is considered a main subject in increasing transparency and effectiveness in country management. It is also supporting the participation of building new economy based on knowledge.

Hence, the importance of this study is presented through providing information to decision makers in the interior ministry about the beneficiaries

satisfaction on the services providing by the ministry of interior in United Arab Emirates. Moreover, the study discusses a new topic that Arabic library shows a lack of according to the researchers knowledge.

It is expected that true result of this study will benefit the decision makers of ministry of interior in the United Arab Emirates in developing and improving their electronic services. This study is made to examine the impact of quality of electronic services on achieving the satisfaction of the beneficiaries.

## II. LITERATURE REVIEW

According to the rapid growth of using internet and information technology applications, the organizations around the world have worked on keeping up with this development by transforming its services from the traditional way into the electronic form that is delivered through various kinds of electronics. By applying the electronic services, the managerial procedures will easily decrease the cost and improve the quality and effectiveness of the performance of public institutions. Additionally, the electronic services is considered a revolution to eliminate the bureaucracy.

The e-business is considered a necessity for business nowadays, and it is expanding to reach all parties related to the organization including (suppliers, partners, and customers). E-business became a main part of organizations to achieve comparative advantage. (Melao, 2008). The quality of e-government services is considered a base in evaluating the success of electronic services offered to beneficiaries. Even though the concept of quality of electronic services still in its early stages in Arab communities, the Abu-Dhabi government puts a lot of effort to improve the electronic services and revising the beneficiaries complements and roles. This is done by using the bench marking to improve the electronic services regarding to services offered to citizens in the developed countries. It is done to reach the highest levels of satisfaction on the services provided by the Abu-Dhabi government, specially the Ministry of Interior.

E-service providers are seeking, in general, to get benefit from information technology and telecommunication techniques in giving and providing the costumer with services. No one can deny the role of technology in affecting and facilitating services and converting it from common services to electronic services. Zeithaml et al. (2012) defined electronic services as actions, efforts and performances that are transformed using information technology. It includes selling services, costumer services, and delivery services. Moreover; Sanayel and Jokar (2013) defined e-business as "providing services on the electronic networks, like the internet, which is presented by service and production organizations. The success of those organizations depends on the quality of services they provide.

The three previous definitions reflect the main components of electronic services. Those components are: Service provider, service acceptor, and the delivery method. Nowadays, the Internet is considered the major and the most important tool in transforming electronic services. The researcher defined the e-business as the services that is provided remotely by the public and private sector institutions desired to facilitate using it between the practitioners from outside those institutions in any of the electronic forms like the e-mail or the internet.

### a) *The quality of electronic services*

The electronic management applications are considered one of the tools that can analyze, describe and share information to keep up with technological improvements and being aware of information security through protecting electronic management websites from the hackers and up use. By protecting information security, the beneficiaries will have trust in the electronic business as trust is considered a main and essential element of electronic business, especially in the cases where the services require a personal information. The beneficiaries need to feel that the information they provide won't be used in unethical and unprofessional matters; therefore, we can consider security as a major factor in doing electronic management.

The quality of electronic services concept gained a lot of attention from all parties that deal with the organization. This attention came from the competitive advantage gained through focusing on quality of electronic services and its impact on the beneficiary who drew mental picture of the organization by using these electronic services. The quality of electronic service can be defined as "the ability of electronic service to deliver the benefit for the beneficiaries as they expect and to make them satisfied by using this service within specific standards" (Al-Shwadfi, 2010). The electronic services participates in providing facilities to help managers in decision making and supporting the efficiency by collecting the necessary information about customers. In addition it helps in saving time, offering easiness, assuring privacy and accuracy and finally meeting the users' needs (Heidari et al., 2014).

### b) *Electronic services quality standards*

There have been several attempts to specify the dimensions of the quality of electronic services. One of these attempts is the participation of Parasurman et al. (1985) in specifying the quality dimensions. The researchers suggest that quality dimensions are ten: Reliability, responsiveness, efficiency, instant, civility, communication, trust, safety, understanding/ knowledge of the client, the concrete aspects of electronics. Also Dabhoklar (1996) in his study suggested that the quality of electronic services focused on six main dimensions: web design, enjoyment, trust, delivery, ease of use, and



control. Moreover; Sheng and Liu (2010) mentioned that quality of electronic services contains four dimensions: (first: easily accessing the site, speed of memory handling mechanism, Technical design of the site, the attraction motivations to the site rather than the others, response rate reactions so the users won't feel bored and leave the page. This study focuses on six dimensions of the quality of electronic services that will be mentioned later on in this study.

*Website design:* The website design on internet is considered as an important matter to the user and it is the interface that connects the user with the government (Sukasame, 2010). The website design is a representative of the electronic government website on the Internet. The design is used to attract beneficiaries to the website. According to (Loiacono et al., 2002) designing the website on the internet plays a major role in achieving customer satisfaction. It is also important in assessing the quality of electronic services.

*Reliability:* The reliability is related to information security. It is a representative on how much we can count on the level of security. We can define reliability as the ability of service provider to offer the service in a high level of accuracy and validity as it is expected. The beneficiaries expect to get the service in the perfect performance and timing (Al-Dmour, 2008). Gronross (1998) defined reliability with the consistency and coordination of performance to complete the desired service in an accurate way that can be relied on. Similarly, Abdalkader (2005) defined reliability as the consistency in the performance; doing the service in the right way that is better than the first time while committing their promises to the customers by: accurate files and accounts, eliminating errors, providing proper banking services, punctual provision of services, and ensuring consistency of the service performance.

Swaid & Wigand (2007) stated that achieving reliability indicates the company's capability to do what they are promising to do. The quality of information should achieve some standards including: precision, punctuality, importance, clearance. The customer expects to get an accurate service in the right time as the company has promised from before; therefore, service provider should commit to the promises given to the beneficiaries. For example, the mechanical promises to repair a car in specific time and in a form that can be relied on (Al Radaideh, 2011).

*Responsiveness:* It is the useful reaction on the beneficiaries' request without any delay. It also includes the respond to the user's questions and solving their problems through the website without any delay (Yang & Jun, 2002), Cox and Dale (2011) defined response as quick reactions on decisions related to beneficiaries. A lot of studies revealed a relation between responsiveness and customer satisfaction by using electronic government (Cox and Dale, 2011).

*Privacy and security:* Privacy and security are considered as major factors while dealing with service provider. Security refers to decrease in danger and suspicions while providing legal protection for customers using the electronic services (Lovelock & Wright, 2006: 40). Information security is considered one of the most important elements of electronic service, specially the ones exceeding the limits of the party to the Internet environment. This is what organizations that provide electronic services are looking for: protection of information that enters or leaves its electronic borders to the World Wide Web.

On the other hand privacy is prohibiting intervention of beneficiary's personal data and information (Chaffey, 2009). In the contrary it is the customers trust and expectation to keep their information secure and safe through the electronic procedures (Shanker & Sultan, 2002). Cho & Park (2001) also defined security as the ability of a website to protect the customer's private information and prevent the unauthorized people to reach these information. Moreover; the determination of the extent of privacy lies in the hands of the customers, groups and institutions: type, amount, mechanism, and timing of using their data by the electronic website (Aqil & Al Nadi, 2007).

*Availability:* The ability of website to provide electronic services around the clock and offering high-standard on time services to the clients while avoiding any technical problems that might disturb the work (Chaffey, 2009). This is done by operating many servers that work all together to serve the clients. Thus, Shutting down any of these servers won't affect the level or quality of services. This needs infrastructure, programs and applications to present electronic services (Floyd & Michael, 2000). Al Tarawneh (2011) said that the level of availability of services could be measured through answering the following questions:

1. Is the service available upon request?
2. Is the service available when it is needed by the client?
3. What is the time required to get the service?

*Website ease of use:* The concept "ease of use refers" to the degree of easiness while searching and finding information on a website (Yoo and Donthu, 2001). Moreover, a lot of researches found a statistical significant impact between ease of use and beneficiaries' satisfaction. The beneficiaries can get a direct and immediate help from the service provider when needed since client can inquire clarification about screens and fields.

#### c) *The beneficiaries' satisfaction*

Kotler and Armstrong (1999) defined satisfaction as "a person's feelings of pleasure or disappointment resulting from comparing a product's perceived performance in relation to his or her

expectations". Likewise, satisfaction is a type of judgment based on feelings or psychological processes. Customers satisfaction is considered as the main indicator for organizations that provide services whether it is traditional or electronic services (Abdulkader et al. 2011). Satisfaction can be defined by the quality of services preserved by customer through the comparison between customer expectation of service performance and real performance (Hoffman and Bateson, 2011). It is also known as the comprehensive assessment of clients to services provided by organizations. The service achieves customer satisfaction by meeting the customer needs and offering the necessary services (Lenka et al., 2009). Kotler and Armstrong (1999) defined satisfaction by the indication of preserved and expected value of performance from the customer perspective. In the case of low performance, customers will be disappointed or even discontent, but on the other hand, if the expected performance meets real performance, the customers will be satisfied and happy.

Beneficiary's satisfaction in this study refers to the feelings preserved by the clients who use the electronic services. As it reflects customer convection of the level of the services offered by the ministry of interior in the United Arab Emirates.

d) *Electronic services offered by the ministry of interior in the United Arab Emirates*

The electronic gate in the ministry of interior in the United Arab Emirates offers several services and information to all citizens, visitors and foreign investors. These services vary between submitting applications for visa, completing billing process, traffic violation automatically, and query about traffic roads movements. Number of electronic services provided by the ministry of interior in the United Arab Emirates reached (326) service in all of the ministry departments; in the traffic department and licensing: (75) service, civil defense:

(87) electronic service, police portal: (4) services, visa residency and citizen ship department: (139) electronic service. Punitive and Reformatory Establishments: (4) services.

III. RESEARCH HYPOTHESES

Based on the above literature reviewed, the research hypothesis is:

H1. Quality of E-Government Services directly influences Beneficiaries Satisfaction of Interior Ministry of United Arab Emirates

More specifically:

H1a. Website design directly influences Beneficiaries Satisfaction of Interior Ministry of United Arab Emirates.

H1b. Reliability directly influences Beneficiaries Satisfaction of Interior Ministry of United Arab Emirates.

H1c. Responsiveness directly influences Beneficiaries Satisfaction of Interior Ministry of United Arab Emirates

H1d. Security and privacy directly influences Beneficiaries Satisfaction of Interior Ministry of United Arab Emirates

H1e. Availability of information directly influences Beneficiaries Satisfaction of Interior Ministry of United Arab Emirates

H1f. Ease of use directly influences Beneficiaries Satisfaction of Interior Ministry of United Arab Emirates.

IV. RESEARCH FRAMEWORK

Based on study hypothesis, the following theoretical framework, shown in Figure 1. As can be seen from the framework, the study investigates the impact of Quality of E-Government Services on Beneficiaries Satisfaction, where Quality of E-Government Services are the independent variable and are positively related to Beneficiaries' Satisfaction as the dependent variable.

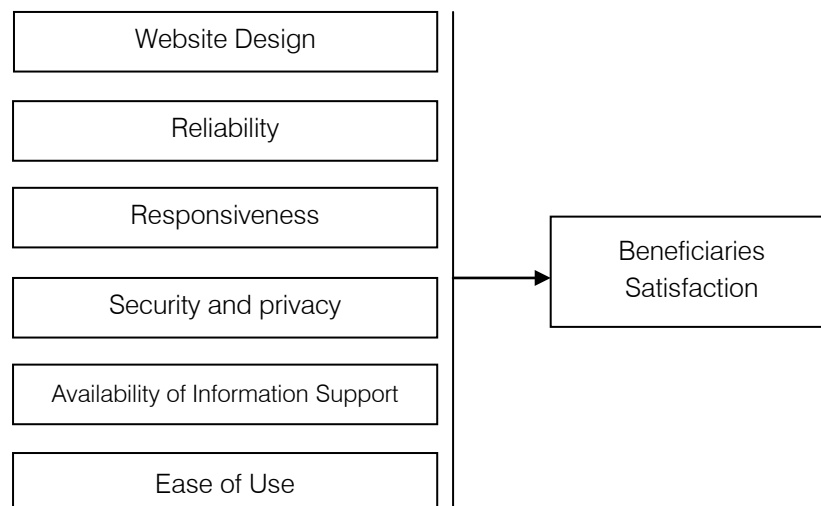


Figure 1: Theoretical Model

## V. METHODOLOGY

The methodology section of the current research depicts the sample of the study, the measurements, the statistical analysis to test the validity and reliability of the study tool, and to test the study hypotheses employed to test the relationship between study constructs (Quality of E-Government Services and Beneficiaries Satisfaction).

### a) Study sample

The target population of the survey was all Beneficiaries of services provided by Interior Ministry of United Arab Emirates. Sample size equals 550 beneficiaries as computed according to the following equation (Issa and Michael, 1989):

$$N = \frac{Z^2 s^2}{e^2}$$

$$N = \frac{(0.5986)^2 \times (1.96)^2}{(0.05)^2}$$

Table 1: Description of the Respondents

		Frequency	%
Educational level	Secondary school	80	24.3
	Diploma	27	8.2
	Bachelor	137	41.6
	Master	71	21.6
	PhD	14	4.3
Gender	Male	200	60.8
	Female	129	39.2

### b) Data collection

Data are collected using a questionnaire. The questionnaire was divided into three sections: Section A consisted of a list of questions intended to probe the demographic variables of the respondents. Section B contained questions aimed at gauging the respondents' evaluation of quality of e-Government services provided by Interior Ministry of United Arab Emirates adopted from previous studies, and which could possibly influence Beneficiaries Satisfaction, using a five-point Likert scale. The following dimensions were focused on; website design (6 statements), reliability (6 statements), responsiveness (6 statements), security and privacy (7 statements), the availability of information (5 statements), and ease of use (5 statements). Section C is also adopted from previous studies, contained questions aimed at gauging the beneficiaries satisfaction toward the services provided by Interior Ministry of United Arab Emirates, six statements used to measure beneficiaries satisfaction.

A pretest was carried out with five professors of management and information system to determine the validity of the content of the survey questionnaires. In the main survey study, a total of 550 Beneficiaries of

Out of 550 questionnaires distributed to Beneficiaries, 346 were returned, 174 questionnaires were not included in the analysis. Thus, data analysis is based on a sample of 329 questionnaires representing a response rate of 59.81%.

The respondents include 329 beneficiaries of Interior Ministry of United Arab Emirates. Females make (39.2 percent) of the beneficiaries on the other hand Males respondents represented (60.8percent) of the survey population. With regard to educational level, holders of Bachelor degrees were the largest group of respondents make (41.6). While holders of Secondary school degrees make (24.3 percent) of the Beneficiaries. Holders of PhD degrees were the smallest group of respondents make (4.3 percent). The sample characteristics of the respondents represented in Table I.

services provided by Interior Ministry of United Arab Emirates were randomly chosen. A cover letter was attached together with the survey questionnaire. The cover letter described the aim of the study, guaranteed anonymity of data, requested the respondent to answer each question.

### c) Variable measurements

#### i. Independent variables

*Quality of e-Government services:* The measures of quality of e-Government services (website design, reliability, responsiveness, and security and privacy, and the availability of information and ease of use) were adopted from previous empirical studies by (Alanezi et al., 2010; Lin and Lee, 2005). Responses to these items were on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree.

#### ii. Dependent variable

Beneficiaries Satisfaction, the beneficiaries Satisfaction measures were adopted from previous studies (Atyani, 2014). Responses to these items were on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree.

d) *Factor analysis and scale reliabilities*

Factor analysis and reliability analysis were used in order to determine the data reliability for the Quality of e-Government services and beneficiaries Satisfaction within factor, factor analysis was performed to assess convergent validity. All individual loadings were above the minimum of 0.5 recommended by Hair et al. (1998). The results of the factor analysis and reliability tests of Quality of e-Government services are presented in Table (II). The KMO measure of sampling adequacy was 0.77 (i.e >0.60) while the Bartlett's test of sphericity was significant (p = 0.000). A total of 36 items which are unidimensional and factorially distinct loaded on the constructs were retained for further analysis. The results of factor analysis are summarized in Table (2). Similarly, another factor analysis was undertaken to see the dimensionality of the dependent variable

(beneficiaries Satisfaction). A single factor solution emerged with eigenvalue of 2.648 explaining 71.36 percent of variance in the data. The KMO measure of sampling adequacy was 0.69 indicating sufficient intercorrelations, while the Bartlett's Test of Sphericity was significant (p = 0.000). The result of factor analysis for beneficiaries Satisfaction is summarized in Table (III). The reliability of the questionnaire was tested according to Cronbach's a measurements. Reliability tests were conducted on Quality of e-Government services (website design, reliability, responsiveness, and security and privacy, and the availability of information and ease of use) and beneficiaries Satisfaction. The Cronbach a values of the study variables are shown in Table II and Table (III). The reliability coefficient of the study variables exceeded the minimum acceptable level of 0.6, which concurs with the suggestion made by Sekran (2003).

Table 2: Factor analysis of Quality of e-Government services

Variables	M	Loadings	Reliability
Website design (WD)	3.8688		<b>0.731</b>
WD1		0.634	
WD2		0.677	
WD3		0.542	
WD4		0.568	
WD5		0.661	
WD6		0.679	
Reliability (R)	3.9777		<b>0.695</b>
R1		0.714	
R2		0.658	
R3		0.627	
R4		0.691	
R5		0.735	
R6		0.667	
Responsiveness (RE)	3.863		<b>0.796</b>
RE1		0.567	
RE2		0.624	
RE3		0.589	
RE4		0.716	
RE5		0.543	
RE6		0.657	
Security and privacy (SP)	3.8875		<b>0.783</b>
SP1		0.729	
SP2		0.568	
SP3		0.547	
SP4		0.632	
SP5		0.642	
SP6		0.527	
SP7		0.686	
Availability of information (AI)	3.899		<b>0.778</b>
AI1		0.574	
AI2		0.569	
AI3		0.635	
AI4		0.648	
AI5		0.619	
Ease of use (EU)	3.9078		<b>0.821</b>
EU1		0.527	

EU2		0.658	
EU3		0.749	
EU4		0.539	
EU5		0.548	
EU6		0.642	

Table 3: Factor analysis of beneficiaries Satisfaction

Variables	M	Loadings	Reliability
<b>Beneficiaries Satisfaction (BS)</b>	<b>3.9407</b>		<b>0.778</b>
BS1		0.567	
BS2		0.628	
BS3		0.647	
BS4		0.591	
BS5		0.643	
BS6		0.677	

Table 4: Kaiser-Meyer-Olkin and the Bartlett's Test of Sphericity

Variables	Kaiser-Meyer-Olkin Values	Bartlett's Test of Sphericity	
		Approx. Chi-Square	Sig.
Website design	0.759	759.562	0.000
Reliability	0.726	749.389	0.000
Responsiveness	0.781	810.387	0.000
security and privacy	0.736	791.359	0.000
Availability of information	0.792	755.391	0.000
Ease of use	0.711	749.357	0.000
Beneficiaries Satisfaction	0.734	813.391	0.000

e) Correlation analysis: relationships between the independent variables

The correlation coefficients as shown Table (V) between the independent variables (Quality of e-Government services) and the dependent variable (Beneficiaries Satisfaction) were less than 0.9, indicating

that the data was not affected by a collinearity problem (Hair et al., 1998). These correlations are also further evidence of validity and reliability of measurement scales used in this research (Barclay et al., 1995; Hair et al., 1998).

Table 5: Summary of correlation coefficients of independent variables

Variables	WD	R	RE	SP	AI	EU
Website design	1					
Reliability	0.362**	1				
Responsiveness	0.267**	0.218**	1			
security and privacy	0.625**	0.317**	0.281**	1		
Availability of information	0.379*	0.238**	0.428**	0.364**	1	
Ease of use	0.467**	0.197**	0.517**	0.672**	0.117	1

Notes: \* Correlation is significant at the 0.05 level (2-tailed); \*\* Correlation is significant at the 0.01 level (2-tailed).

f) Descriptive statistics analysis

Table (II) and Table (III) indicates that Beneficiaries of e-Government services evaluate Reliability (with the highest mean scores, i.e. M = 3.9777) to be the most dominant and evident to a considerable extent, followed by ease of use (M= 3.9078), availability of information (M= 3.899), security and privacy (M= 3.8875), Website design (M= 3.8688), and Responsiveness (M= 3.863). With regard to beneficiaries Satisfaction, Beneficiaries of e-Government services evaluate their satisfaction with high level (with the mean scores, i.e. M = 3.9407).

## VI. MULTIPLE REGRESSION ANALYSIS

Multiple regression analysis was employed to test the hypotheses. It is a useful technique that can be used to analyze the relationship between a single dependent variable and several independent variables (Hair et al., 1998). Before employing the multiple regression test, Variance Inflationary Factor (VIF) test and Tolerance test were used to test the relationships between independent variables, taking into account that VIF should not exceed the value of 10 and Tolerance value should exceed the value of 0.05. The results can be seen in Table (6). The results shown in Table (6)

indicate that VIF values for all variables were less than 10 (1.338-2.902), and values of Tolerance for all variables were greater than 0.05 (0.345-0.747). Therefore, there is no multicollinearity between independent variables, which means that the model used in this study is correct. Based on this method, the six main independent variables (quality of e-Government services) and dependent variable (Beneficiaries Satisfaction) were entered together. Histogram and Normal P-P plot of standardize residual that were conducted also indicate normality of the error term while scatter plot shows consistent variance of error terms (Homoscedasticity). The partial regression plot indicates positive linearity of the relationship between the independent (quality of e-Government services) variables and dependent variable (Beneficiaries Satisfaction). From these analyses, it can be concluded that multiple regression model of this study meets the six assumptions required to ensure validity of its

significance test. This indicates that there is a statistically significant relationship between quality of e-Government services and Beneficiaries Satisfaction. As depicted in Table (6), the coefficient of determination ( $R^2$ ) was 0.879, representing that 87.9 percent of Beneficiaries Satisfaction can be explained by the six model variables. The proposed model was adequate as the F-statistics was significant at less than 1 percent level ( $p < 0.01$ ). The individual model variables revealed that Ease of use (which got the highest effect,  $t = 26.960$ ,  $p < 0.05$ ) followed by security and privacy ( $t = 9.263$ ,  $p < 0.05$ ), Availability of information ( $t = 8.737$ ,  $p < 0.01$ ), Reliability ( $t = 8.383$ ,  $p < 0.01$ ), Responsiveness ( $t = 5.794$ ,  $p < 0.01$ ), and Website design (which got the lowest effect  $t = 3.651$ ,  $p < 0.01$ ) were found to have a significant and positive effect on Beneficiaries Satisfaction. Therefore, the hypotheses H1a, H1b, H1c, H1d, H1e and H1f were supported.

Table 4: Regression Summary of Quality of e-Government services on beneficiaries Satisfaction (N=328)

MODEL	T	SIG.	COLLINEARITY STATISTICS	
			Tolerance	VIF
1				
Website design	3.651	0.000	0.644	1.553
Reliability	8.383	0.002	0.607	1.648
Responsiveness	5.794	0.006	0.352	2.838
security and privacy	9.263	0.003	0.747	1.338
Availability of information	8.737	0.000	0.345	2.902
Ease of use	26.960	0.000	0.516	1.937
Notes: Adj. $R^2 = 0.879$ ; Sig. $F = 0.000$ ; F-value = <b>390.917</b> ; dependent variable, beneficiaries Satisfaction $p < 0.01$				

## VII. DISCUSSION

The website design for the Ministry of Interior in the United Arab Emirates was remarkable. The researcher relied on an excellent method to grab the attention of the ministry on website design. Through peoples' opinion on the study sample, the website design received a lot of admiration.

With regard to reliability, as one of the e-Government services quality, it was high. The researcher referred to the high care offered by the ministry of interior of the reliability dimension. This is because the website provide the information to the beneficiaries at a high level of accuracy and transparence. Additionally, the services are provided in high level of credibility and clarity as well. The response rate to the website used by beneficiaries of the ministry was satisfactory. It is related to the employment of specialist team who provide solutions to problems that face the beneficiaries. With regard to the privacy and security, Interior website was pleasing as well. It referred to the requirements of privacy and security requested from the users such as: user name and password. Moreover the ministry

provides guarantees to insure the privacy and information security of the users. The level of information availability on the ministry of interior website was satisfactory. The researcher found that this result is consistent with the electronic services availability on the website, specially that the user can access all the electronic services from inside or outside the ministry. The study participants can access the website 24 hours a day. Also, the website provides all the services needed by the beneficiaries. For these reasons, the average of the answers received by the participant in the study sample was high. Finally, The ease of use of the electronic services provided by the Ministry of Interior was high. From the researcher point of view, this result consists of the quality of electronic services provided on the ministry website. It can be used easily as it is easily reachable. It is also easy to sign-up and register, and thus, easier to participate in.

The level of beneficiaries satisfaction on the electronic services provided by the ministry of interior in the United Arab Emirates was high. The researcher considers this result supportive to the descriptive analysis resulted in the independent variable items in

this study. The study sample participants present their satisfaction on the electronic services provided by the website. These services are characterized by accuracy, high quality and beneficiary sensation of the amount of help gained through using these services in accomplishing their transactions easily without the need to take a job leave to finish these transactions.

The study results showed a significant impact of the e-Government services quality dimensions on the beneficiary's satisfaction of the electronic services provided by the ministry of interior in the United Arab Emirates. This result came consistent with many of the previous studies made in the same field but in different sectors and different countries, specially the study of Chang, Wang & Yang (2009), Hassan (2006) and Kayabasi & Buyukarslan (2013). With regard to the website design, it has a significant impact on the beneficiaries satisfaction of the electronic services provided by the Ministry of Interior. It is concluded that the excellence of designing the website participated in meeting the beneficiary's demands. This result was shown in their level of satisfaction. Furthermore this result coincides with the previous studies done by Kayabasi & Buyukarslan (2013) and Al- Mhamed (2012). There is a significant impact of the reliability on the beneficiaries of the electronic services provided by the ministry of interior satisfaction. This result is also consistent with Knungo (2014) and Cen and Wei (2014). With regard to responsiveness, it has a significant impact on the beneficiaries of the electronic services provided by the ministry of interior, this result indicates that the beneficiaries are satisfied from the services provided by the ministry website because the response time needed to finish their transaction is short. The significant impact of the privacy and security dimensions on the beneficiaries of the electronic services provided by the ministry of interior as a result of the high level of beneficiary's awareness of the security and privacy dimension is high. The result consist with many studies in this field such as Scheduler& Schmidt (2004), Al-Hnaite (2005), Abu-zaid (2006) and Hassan (2006).

There is a significant impact of the information availability on the beneficiaries of the electronic services provided by the ministry of interior satisfaction. This result indicates a beneficiary's satisfaction influenced by information availability on the ministry website. Finally, the ease of use has a significant impact on achieving the beneficiaries of the electronic services provided by the ministry of interior. This result coincides with the results mentioned in the previous studies.

## VIII. RECOMMENDATIONS

In light of the study results, the researchers recommend the following:

1. Working on increasing the awareness of the importance of transforming all services provided by the government to electronic services. Generalizing the experience of ministry of interior in those services to the rest of the ministries in the United Arab Emirates.
2. Improving the capabilities of the employees in solving the problems of the ministry of interior to enhance the electronic services. It is important to response to the needs and requirements of the beneficiaries, and in addition, to answering the users' questions and enquires as fast as possible.
3. Working on improving the website design will decrease the download time also the pressure on the beneficiaries. Thus they will reach the information in a smooth easy way.
4. Solving all criticism that is facing the electronic business specially the ones related to privacy and to the beneficiaries. This is done by insuring the beneficiaries that the website is safe and has the programs needed to prohibit any eligible access. The information of the customers will be used only on the service requested by them.
5. Providing the electronic website with all technical support; either the audio or visual in Arabic or in English. This took into consideration that number of foreigners in the United Arab Emirates exceeds the number of employees (citizens) according to the latest statistics.
6. Expanding the electronic services provided by the ministry of interior in order to include all services of the ministry, such as: identity, social number and other information that takes long time to finish their procedure.

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# Modeling and Scheduling of Multi-Stage and Multi-Processor Flow Shop

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**Keywords:** *multi-processor flow shop scheduling, critical ratio, processing complexity, completion time, set up time, mean time between maintenance.*

**GJMBR-A Classification:** *JEL Code: L23*



*Strictly as per the compliance and regulations of:*



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# Modeling and Scheduling of Multi-Stage and Multi-Processor Flow Shop

Himangshu Kumar Paul <sup>α</sup>, Ridwan Al Aziz <sup>σ</sup>, Touseef Mashrurul Karim <sup>ρ</sup> & Abdullahil Azeem <sup>ω</sup>

**Abstract-** This paper addresses a multi-stage and multi-processor flow shop scheduling problem while minimizing the over utilization of machines. Fuzzy Inference System has been used to determine the job priority, considering factors such as completion times, processing complexity, critical ratio, profit over time, cost over time and level of inventory, while incorporating their uncertainties. In a similar manner, machine priority has been deduced, taking into account the mean time between failure, mean time to repair, mean time between shutdown, mean time between maintenance, failure rate and set up time. The grouping and sequencing of jobs in every stage are determined by an algorithm in such a way that the problem becomes multi-objective with objectives like minimizing the lead time, set up time, level of inventory, while maximizing machine and labor utilization along with profit over time. A case study has also been presented to test the validity of the model.

**Keywords:** multi-processor flow shop scheduling, critical ratio, processing complexity, completion time, set up time, mean time between maintenance.

## 1. INTRODUCTION

Scheduling involves the timing and coordination of operations with the goal of obtaining a smooth rate of flow of goods or customers through the system, while attaining a high utilization of resources. Developing the production schedule in high-volume systems are often referred to as flow shop scheduling. In a multi-processor flow shop, there are multiple identical parallel machines in at least one of the multiple stages of operation. Some stages may have one machine, but at least one stage must have multiple machines. Each job is processed by one machine in each stage and it must go through one or more stages. Machines operating in parallel can be identical, uniform or unrelated.

Fuzzy set theory has been used to model this system. Recently, significant attention has been given to modeling scheduling problems within a fuzzy framework. This Fuzzy logic was introduced by Zadeh (1965). McCahone and Lee (1992) used fuzzy logic for job scheduling in flow shop. Chan et al. (1997) developed a fuzzy approach to operation selection. Tsujimura et al. (1993) showed that fuzzy set theory is useful in flow shop scheduling problems with uncertain

processing times. Grabot and Geneste (1994) proposed a way to use fuzzy logic in order to build aggregated rules, to allow obtaining a compromise between the satisfactions of several criteria. Ishibuchi et al. (1994) formulated a fuzzy flow shop scheduling problem where the due-date of each job is given as a fuzzy set and the objective function was to maximize the minimum grade of satisfaction over given jobs. Hong and Wang (2000) showed that flexible flow shops can be considered as generalizations of simple flow shops. Petroni and Rizzi (2002) presented a fuzzy logic based tool intended to rank flow shop dispatching rules under multiple performance criteria. Kacem et al. (2002) proposed a Pareto approach based on the hybridization of fuzzy logic (FL) and evolutionary algorithms (EAs) to solve the flexible job-shop scheduling problem (FJSP). Yun, Y. S. (2002) proposed a new genetic algorithm (GA) with fuzzy logic controller (FLC) for dealing with preemptive job-shop scheduling problems (p-JSP) and non-preemptive job-shop scheduling problems (np-JSP). Keung et al. (2003) used genetic algorithm to optimize the machine utilization and balance tool magazine capacity of a flexible machining workstation (FMW) in a tool-sharing environment where fuzzy logic technique could be incorporated to develop more realistic result. Paul & Azeem (2010) addressed the Hybrid Flow Shop (HFS) scheduling problems to minimize the total work in process inventory. Naderi-Beni et al. (2012) considered no-wait flow shop problem where setup times depend on sequence of operations and solved the model using two-phase fuzzy programming. Galzina et al. (2012) proposed a novel adaptive approach with fuzzy particle swarm optimization technique to optimize flow shop scheduling problem. A literature review on exact, heuristic and meta heuristic methods that can be applied to solve the scheduling of hybrid flow shop problem have been proposed by Ruiz & Vázquez-Rodríguez (2010). Chen et al. (2009) minimized make span using genetic algorithm to move from local optimal to near-optimal solutions in Reentrant Permutation Flow Shop scheduling problem. Lei (2010) used random key genetic algorithm (RKGA) to find a schedule that maximizes the minimum agreement index subject to periodic maintenance, non-resumable jobs and fuzzy due-date. Zare & Fakhrzad (2011) used hybrid genetic algorithm to minimize the total job tardiness for flexible flow-shop. Behnamian & Ghomi (2011) solved sequence-dependent setup time hybrid flow shop

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scheduling problems using genetic algorithm and a variable neighborhood search. Wang & Liu (2013) proposed genetic algorithm to optimize a two-stage no-wait hybrid flow shop scheduling problem. Moradinasab et al. (2013) used adaptive imperialist competitive algorithm (AICA) and genetic algorithm (GA) to minimize the total completion time of a two-stage flow shop scheduling problem. Six heuristic algorithms were used by Shafaei & Mirzaeyan (2011) to solve a no-wait two stage flexible flow shop with minimizing makespan. Ramanan et al. (2011) used neural network to find a sequence of jobs in the flow shop to minimize makespan. Chou (2013) used PSO algorithm and cocktail decoding method to minimize the make span of a hybrid flow shop (HFS) problem. Marichelvam et al. (2014) used cuckoo search (CS) meta heuristic algorithm to minimize the make span for the Hybrid flow shop scheduling (HFS). Gupta et al. (2002) developed and compared different local search heuristics for two stage flow shop problem considering total weighted tardiness as a secondary criterion. Khalouli et al. (2010) used ant colony optimization method to minimize the sum of the total earliness and tardiness penalties in a hybrid flow shop scheduling problem. Behnamian & Zandieh (2011) proposed colonial competitive algorithm (CCA) to minimize earliness and quadratic tardiness penalties. Cheng et al. (2001) articulated three machine permutations in a flow shop scheduling problem where the main objective was to minimize the maximum completion time. Gu et al. (2010) proposed an improved gravitational search algorithm (IGSA) to solve the flow shop scheduling problem with the objective of minimizing production time. Rabiee et al. (2012) proposed the adapted imperialist competitive algorithm (AICA) to minimize mean completion time (MCT) of a no-wait two-machine flow shop scheduling problem. Bozejko et al. (2013) proposed Parallel tabu search algorithm for the hybrid flow shop problem. Mozdgir et al. (2013) addressed a two stage assembly flow shop problem with multiple non-identical assembly machines and proposed a mixed-integer linear programming model to solve the problem. Benavides et al. (2014) proposed heuristic solution for a combined assignment and scheduling problem named Heterogeneous Flow Shop Scheduling Problem.

The above proposed methods did not consider the fuzzy multi objective parallel flow shop problem and machine reliability based utilization during scheduling while considering criteria like critical ratio, completion time, processing complexity, mean time between maintenance and set up time. In this research, fuzzy rule based system is developed to address the uncertainty and satisfy the multiple objectives. This system provided the priority of each job by considering the information of processing time, due date, cost over time, profit over time, critical ratio, inventory level, etc. as appropriate fuzzy membership functions. On the other hand, the

fuzzy inference system (FIS) provided the machine priority based on reliability and availability at each of the stages, considering mean time between failure (MTBF), mean time to repair (MTTR), mean time between shutdowns (MTBS), mean time between maintenance (MTBM), failure rate (FR) and set up time (ST).

## II. PROBLEM DEFINITION

In hybrid flow shop there may be a numbers of stages of processor and each stage has more than one identical machine. The machines are identical in a sense that, for a given stage the jobs need the same time to be processed on each machine. But the reliability and availability characteristics, i.e. mean time between failures, mean time to repair, mean time between shutdowns, mean time between maintenance, failure rate and set up time are different for each machine in a single stage.

Each job has to be processed in every stage. The priority of the jobs could be appraised by the values of their processing times, profit over time, due dates, cost over time, critical ratio (defined as due date divided by processing time), level of inventory, completion times and processing complexity. In each stage, the identical machine's priority is determined based on the information of mean time between failure, mean time to repair, mean time between shutdowns, mean time between maintenance, failure rate and set up time. Figure 1 shows the typical flow shop structure in a manufacturing facility.

So this problem involves determining the mechanism of priority determination of the jobs and machines in an individual stage and how to manage grouping, sequencing and allocating the jobs in the machines at every stage in such a way that the total percentage of over utilization will be minimized and top priority jobs will be processed on top priority machines.

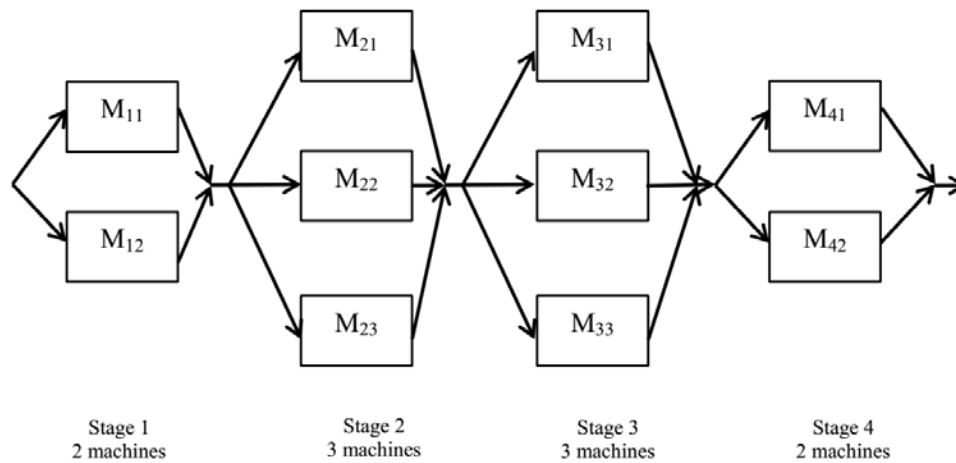


Fig.1: Typical scenario of hybrid flow shop

### III. METHODOLOGY

In this study, Mamdani type fuzzy inference method is used because it is intuitive and well suited to human input nonlinear system. Here all the variables are expressed as linguistic variables. In this model, 'minimum' is used for implication stage, 'maximum' is used for aggregation stage and 'centroid' is used for defuzzification. A fuzzy inference system (FIS) is used to identify priority of each job and machine for each individual stage of the hybrid flow shop, using MATLAB Fuzzy Logic Toolbox. To process the top priority job in the top priority machines and minimize the make span, an algorithm is developed for grouping, sequencing and allocating the jobs to the machines at every stage in such a way that the total percentage of over utilization is minimized. Proposed methodology has been summarized in Figure 2.

#### a) FIS for Job Priority Determination

To incorporate multi objective scheduling, fuzzy priority is calculated by developing a fuzzy inference system using MATLAB fuzzy logic toolbox. Six input variables: critical ratio, profit over time, cost over time, level of inventory, processing complexity and flow times are used in this FIS. The output of this FIS is job priority. In this research, triangular membership function is chosen for all variables, because of its simplicity and computational efficiency. Also there is no speed overshoot, with high steady state accuracy and fast response and recovery. Five membership functions for each input and output are used because higher the number of functions, the greater the number of rules required.

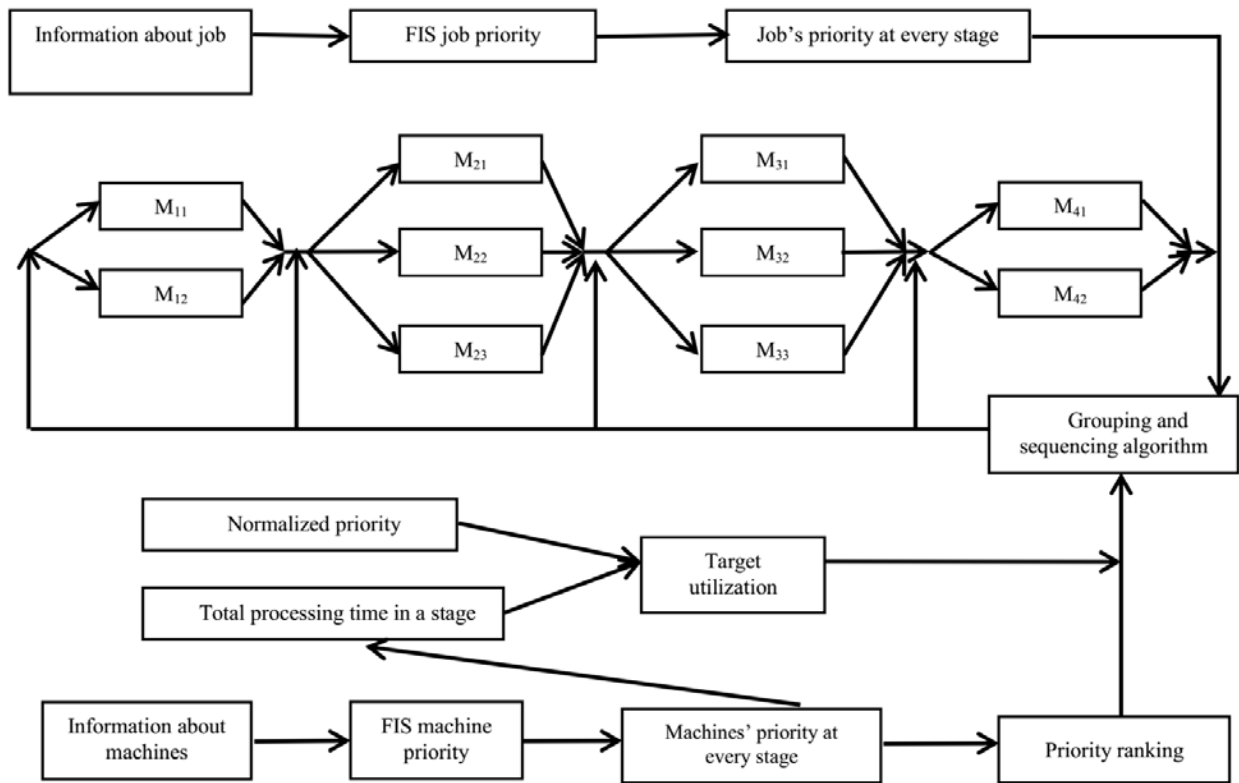


Fig. 2: Reliability and availability based multi objective scheduling framework

i. Job Priority in the First Stage

To determine the priority at the first stage, six above mentioned variables are considered. All the input variables have triangular membership function and all variables are divided into five zones: very low, low,

medium, high and very high. An output variable of first stage is job priority (value between 0 and 1). Output membership function is also triangular shaped, having five possible zones. The developed FIS model for job priority at first stage is shown in Figure 3.

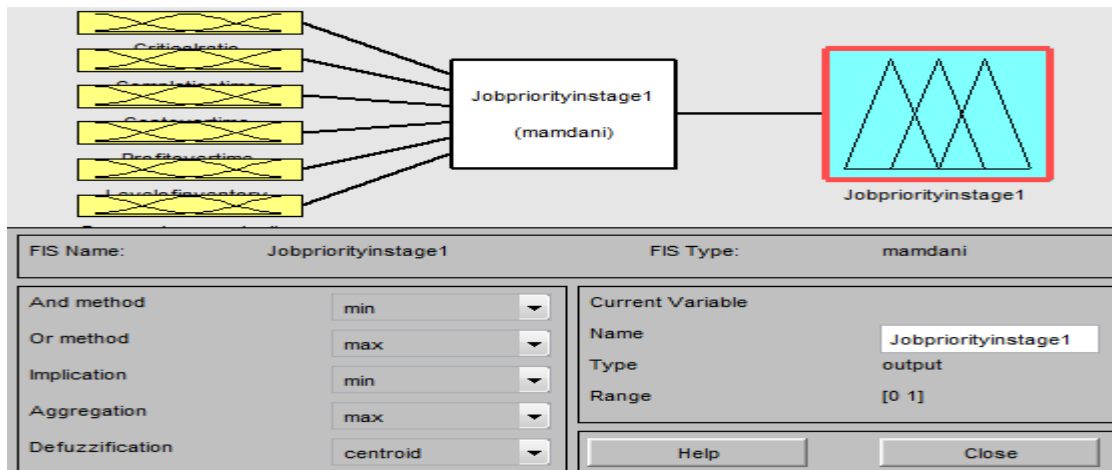


Fig. 3: FIS for job priority in stage 1

ii. If-Then Rules for the First Stage

The following 35 rules are constructed in the fuzzy inference system to determine the job priority in each machine at the first stage. The weights for each of the input variables are summarized in Table 1.

Table 1: Weights of Input Variables

Input Variables for Job	Weights	Input Variables for Machine	Weights
Critical Ratio	0.95	MTBF	1
Flow Time	0.8	MTTR	1
Cost over Time	1.0	MTBS	0.9
Profit over Time	0.9	MTBM	0.9
Level of Inventory	0.9	FR	1
Processing Complexity	0.5	ST	0.8

1. If (Critical Ratio is Very Low) then (Job Priority is Very High)
  2. If (Critical Ratio is Low) then (Job Priority is High)
  3. If (Critical Ratio is Medium) then (Job Priority is Medium)
  4. If (Critical Ratio is High) then (Job Priority is Low)
  5. If (Critical Ratio is Very High) then (Job Priority is Very Low)
  6. If (Completion Time is Very Low) then (Job Priority is Very High)
  7. If (Completion Time is Low) then (Job Priority is High)
  8. If (Completion Time is Medium) then (Job Priority is Medium)
  9. If (Completion Time is High) then (Job Priority is Low)
  10. If (Completion Time is Very High) then (Job Priority is Very Low)
  11. If (Cost over Time is Very Low) then (Job Priority is Very Low)
  12. If (Cost over Time is Low) then (Job Priority is Low)
  13. If (Cost over Time is Medium) then (Job Priority is Medium)
  14. If (Cost over Time is High) then (Job Priority is High)
  15. If (Cost over Time is Very High) then (Job Priority is Very High)
  16. If (Profit over Time is Very Low) then (Job Priority is Very Low)
  17. If (Profit over Time is Low) then (Job Priority is Low)
  18. If (Profit over Time is Medium) then (Job Priority is Medium)
  19. If (Profit over Time is High) then (Job Priority is High)
  20. If (Profit over Time is Very High) then (Job Priority is Very High)
  21. If (Level of Inventory is Very Low) then (Job Priority is Very Low)
  22. If (Level of Inventory is Low) then (Job Priority is Low)
  23. If (Level of Inventory is Medium) then (Job Priority is Medium)
  24. If (Level of Inventory is High) then (Job Priority is High)
  25. If (Level of Inventory is Very High) then (Job Priority is Very High)
  26. If (Processing Complexity is Very Low) then (Job Priority is Very High)
  27. If (Processing Complexity is Low) then (Job Priority is High)
  28. If (Processing Complexity is Medium) then (Job Priority is Medium)
  29. If (Processing Complexity is High) then (Job Priority is Low)
  30. If (Processing Complexity is Very High) then (Job Priority is Very Low)
  31. If (Critical Ratio is Very Low) and (Completion Time is Very Low) and (Cost over Time is Very High) and (Profit over Time is Very High) and (Level of Inventory is Very High) and (Processing Complexity is Very Low) then (Job Priority is Very High)
  32. If (Critical Ratio is Low) and (Completion Time is Low) and (Cost over Time is High) and (Profit over Time is High) and (Level of Inventory is High) and (Processing Complexity is Low) then (Job Priority is Very High)
  33. If (Critical Ratio is Medium) and (Completion Time is Medium) and (Cost over Time is Medium) and (Profit over Time is Medium) and (Level of Inventory is Medium) and (Processing Complexity is Medium) then (Job Priority is High)
  34. If (Critical Ratio is High) and (Completion Time is High) and (Cost over Time is Low) and (Profit over Time is Low) and (Level of Inventory is Low) and (Processing Complexity is High) then (Job Priority is Very Low)
  35. If (Critical Ratio is Very High) and (Completion Time is Very High) and (Cost over Time is Very Low) and (Profit over Time is Very Low) and (Level of Inventory is Very Low) and (Processing Complexity is Very High) then (Job Priority is Very Low)
- iii. Job Priority at Other Stages
- To find out the subsequent stages, five variables are considered: critical ratio, profit over time, cost over time, processing complexity and flow times. After completing the first stage, raw materials will be converted into work-in-process, which would be automatically available for the next stages. The input variables have triangular membership function and all variables are divided into five zones: very low, low, medium, high and very high. An output variable of first stage is job priority (value between 0 and 1). Output membership function is also triangular shaped, having five possible zones.



### b) FIS for Machine Priority Determination

In hybrid flow shop scheduling, machine priority is very important because the highly reliable and available machine should get the high priority during allocation of the top priority job. Reliability is a broad term that focuses on the ability of a product to perform its intended function. Reliability can be defined as the probability that an item will continue to perform its intended function without failure for a specified period of the time under the stated condition. To determine the priority of each machine in every stage, fuzzy inference system is developed which take MTBF, MTTR, MTBS, MTBM, FR and ST as input and machine priority as output. The weights of the input variables are shown in table-1. In this, FIS triangular membership is chosen for each input and output variables. Five membership functions for each input and five membership functions for output are used.

### c) Grouping and Sequencing Algorithm

After getting the priority of each job and machine for every stage using the two different FIS, the following measures are taken:

Job priority is determined based on their priority value. The job which has the highest priority value has ranked top, second highest priority has ranked second and so on. Similarly, machine priority is determined based on the reliability and availability values. Using this priority value and processing time of each job, the target utilization is calculated with the following equation:

Let us suppose the machines have priority  $R_1, R_2, R_3, \dots, R_n$

Normalized Priority (for machine  $j$ ),  $NR_j = (R_j) / (\sum_{j=1}^n R_j)$

Target Utilization (for machine  $j$ ),  $T_j = NR_j * TPT$

where, TPT = Total Processing Time

#### i. Grouping

Main principle of this grouping algorithm is to perform the top priority job in the top priority machine. So, the top priority jobs are assigned to the highest priority machine until it satisfies the target utilization.

When it does not satisfy the target utilization, the second highest priority machine is selected and the rest of the jobs are assigned until the target utilization of this machine is satisfied.

If it does not satisfy in the first assignment, the percentage of over utilization for that assignment ( $U_2\%$ ) is calculated. The percentage of over utilization ( $U_1\%$ ) is also deduced if it is assigned to the highest priority machine with previous assignment. The jobs are assigned to the machine in which percentage of over utilization is minimized and the rest of the jobs are assigned until it satisfies the target utilization of the second highest priority machine.

If it does not satisfy other than the first assignment, the third highest priority machine is

selected and the rest of the jobs are assigned to it until it satisfies its target utilization.

If it does not satisfy in the first assignment, the percentage of over utilization for that assignment is calculated. The percentage of over utilization is also deduced if it is assigned to the highest priority machine with previous assignment. The jobs are assigned to the machine in which percentage of over utilization is minimized and the rest of the jobs are assigned until it satisfies the target utilization of the third highest priority machine.

If it does not satisfy other than the first assignment, the fourth highest priority machine is selected and the rest of the jobs are assigned to it until it satisfies its target utilization.

Similarly grouping is performed in other stages.

#### ii. Sequencing

Sequencing is determined based on the priority of the job. Highest priority job in the group is assigned first, followed by the second, third and so on. Except for the first stage sequencing, other subsequent sequencing may need to be modified in order to minimize the make span, without hampering the main principle of grouping and sequencing. That is, the higher priority job does not need to wait for the job which has lower priority. It is modified in such a way that if the arrival time of the higher priority job is greater than the completion time of the less priority job in that stage for the same group, the lower priority job should be done first. The complete flow chart for grouping and sequencing algorithm is shown in Figure 4.

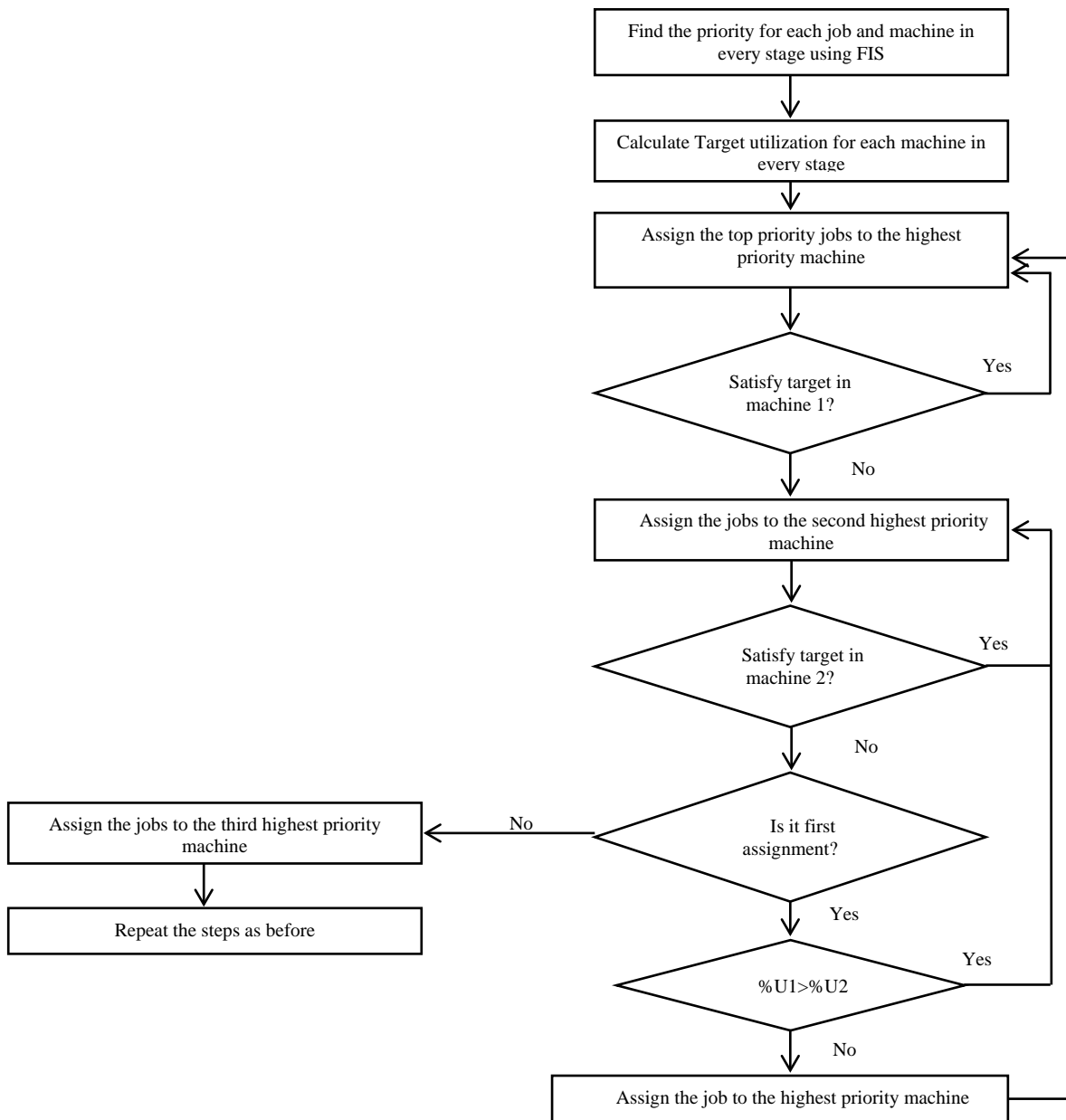


Fig. 4: Grouping and sequencing algorithm

#### IV. NUMERICAL ILLUSTRATION

The developed algorithm has been coded in C++ programming language with MATLAB fuzzy logic tool box to put the system into practice. For analyzing the performance of the developed algorithm, a case study has been presented. The case study depicted here uses the data collected from a local textile knit composite factory located at Gazipur, Bangladesh to clarify the proposed process. A four stage multi-processor flow shop is designed, having 2 machines in the first stage, 3 machines in the second and third, and in the final stage, 2 machines. Five jobs have been considered. Here  $M_{kj}$  indicates the machine  $j$  in stage  $k$ . So the jobs in the system pass through four different stages having ten machines. Figure 5 represents the

four stage hybrid flow shop diagram considered in this paper.

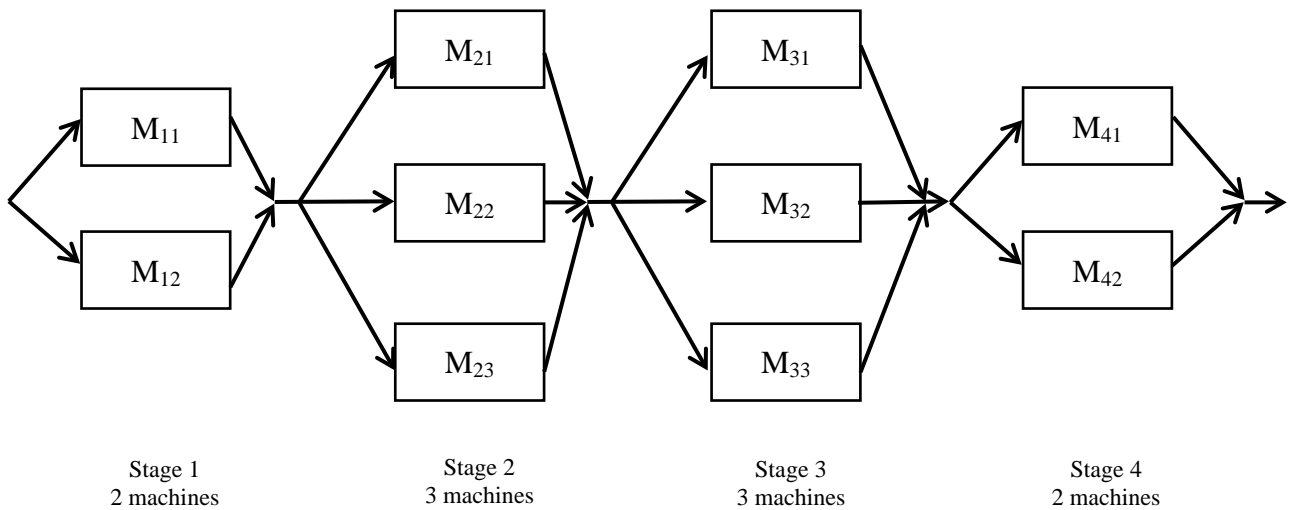


Fig. 5: Four stage hybrid flow shop

The critical ratio for all the machines in every stage is calculated using the processing times and the due date, based on customer requirements (see Table 2).

Table 2: Information about Processing Times, Due Date and Critical Ratio

Job Name	Processing time in Stage 1 (mins)	Processing time in Stage 2 (mins)	Processing time in Stage 3 (mins)	Processing time in Stage 4 (mins)	Due Date (Days)	Critical Ratio in Stage 1	Critical Ratio in Stage 2	Critical Ratio in Stage 3	Critical Ratio in Stage 4
A	96	87	137	151	4	0.042	0.046	0.029	0.026
B	79	125	102	61	1	0.013	0.008	0.0098	0.016
C	115	139	81	92	6	0.052	0.043	0.074	0.065
D	66	109	93	70	3	0.045	0.028	0.032	0.043
E	165	82	145	100	5	0.03	0.061	0.034	0.05
Total	521	542	558	474					

Table 3 shows the job completion time in each stage, as well as the profit over time and cost over time.

Table 3: Shows the job completion time in each stage, as well as the profit over time and cost over time

Job Name	Completion Time in Stage 1 (mins)	Completion Time in Stage 2 (mins)	Completion Time in Stage 3 (mins)	Completion Time in Stage 4 (mins)	Cost over Time (Tk/hr)	Profit over Time (Tk/hr)
A	124	115	162	169	85	17
B	99	143	137	86	52	20
C	142	179	105	112	73	16
D	93	131	119	88	68	24
E	181	107	156	133	61	19

Table 4 depicts the processing complexity and level of inventory for each of the jobs in four stages.

Table 4: Information about Level of Inventory and Processing Complexity

Job Name	Level of Inventory (Kg)	Processing Complexity in Stage 1	Processing Complexity in Stage 2	Processing Complexity in Stage 3	Processing Complexity in Stage 4
A	2250	0.6	0.5	0.9	0.2
B	1780	0.3	0.5	0.4	0.8
C	1960	0.7	0.8	0.9	0.4
D	2520	0.6	0.6	0.7	0.9
E	2310	0.8	0.4	0.6	0.8

Table 5 provides information about the machines' reliability and availability in each of the four stages.

Table 5: Information about Machines in Different Stages

Stage No.	Machine No.	MTBF (mins)	MTRR (mins)	MTBS (days)	MTBM (days)	FR (times per week)	ST (mins)
1	1	1300	65	25	7	0.3	70
	2	1560	80	27	6	0.6	55
2	1	850	47	4	3	1.1	25
	2	900	61	4	2	0.7	35
	3	770	52	5	3	1.3	40
3	1	1300	75	6	5	0.6	45
	2	1160	59	5	4	0.9	38
	3	1190	62	7	4	1.1	28
4	1	1460	56	9	6	0.9	25
	2	1390	73	10	8	1.4	37

The calculated priority of the job using the Fuzzy Inference System is shown in Table 6. Based on this priority, the top priority job in stage 1 is B, followed by D, A, C and E. Similarly, the priority of the jobs in other stages is calculated.

Table 6: Priority of Jobs in Each Stage

Job Name	Priority (Stage 1)	Priority (Stage 2)	Priority (Stage 3)	Priority (Stage 4)
A	0.56	0.567	0.507	0.524
B	0.628	0.526	0.526	0.539
C	0.511	0.513	0.504	0.501
D	0.577	0.529	0.541	0.549
E	0.509	0.469	0.476	0.492

Priorities of machines are also determined based on the reliability and availability of the machines found from the FIS. The machine which has the highest priority is ranked as the top priority machine. The other machines follow the same pattern. Then, based on their normalized priority, the target utilization for each machine is determined in Table 7.

Table 7: Priority and Target Utilization of Machines at Different Stages

Stage No.	Machine No.	Priority	Normalized Priority	Target Utilization
1	1	0.523	0.49857	259.755
	2	0.526	0.50143	261.245
2	1	0.479	0.35040234	189.918
	2	0.458	0.33504	181.59168
	3	0.43	0.31456	170.49
3	1	0.479	0.3352	187.0416
	2	0.46	0.321903	179.622
	3	0.49	0.342897	191.337
4	1	0.508	0.52751872	250.04361
	2	0.455	0.47248188	223.95639

## V. RESULTS AND DISCUSSION

According to the developed algorithm, Table 8 provides the final grouping and sequencing of the jobs in the machines. Accordingly, the jobs should be allocated to ensure the priority of the jobs and machines.

It has been found that both machines should be used in stage 1 to perform the jobs, but in stage 2 only machine 1 is enough. Machine 3 and 1 are required in stage 3, while all the jobs should be performed in machine 1 in the last stage.

Table 8: Final Schedule

Stage No.	Machine No. (sequenced based on priority)	Job Name
1	2 (0.526)	B,C
	1 (0.523)	D,A,E
2	1 (0.479)	E,D,C,B,A
	2 (0.458)	-
	3 (0.43)	-
3	3 (0.49)	E
	1 (0.479)	D,C,B,A
	2 (0.46)	-
4	1 (0.508)	E, D,C,B,A
	2 (0.455)	-

## VI. CONCLUSION

Within an organization, scheduling pertains to establishing the timing of the use of specific resources of that organization. It relates to the use of equipment, facilities and human activities. Scheduling decisions are the final step in the transformation process before actual output occurs. Effective scheduling can yield cost savings and increase in productivity. The objectives of scheduling are to achieve trade-offs among conflicting goals, which include efficient utilization of stuff, equipment and facilities, and minimization of customer waiting time, inventories and process times.

In this research, a hybrid flow shop scheduling problem has been analyzed. The uncertainty about the parameters is incorporated by the Fuzzy Inference System. In order to determine the job priority, the parameters considered are critical ratio, profit over time, cost over time, level of inventory, completion time and processing complexity. Machine reliability and availability in each of the stages are characterized by mean time between failure, mean time to repair, mean time between shut down, mean time between maintenance, failure rate and set up time. The ultimate target has been to meet the customers' requirements in terms of meeting due dates and minimizing cost over time. An algorithm is then designed to schedule the grouping and sequencing of the jobs in the respective machines in each of the stages, considering their appropriate priorities, while integrating the production and maintenance planning schemes.

For further research, sensitivity analysis can be performed to enhance the results obtained in this research, and suitable adjustments can be made accordingly. For job priority, some other factors can also be taken into consideration, such as, penalty for not meeting the deadline and level of inventory in the intermediate stages of production. Similarly, for determining the machine priority, other aspects affecting machine reliability and availability can be incorporated to make the schedule more realistic. The model can also be tested by taking actual data from other production systems. For our scheduling purpose, triangular

membership function has been used. For other types of models, Gaussian, trapezoidal or sigmoidal membership functions can be used to test the validity of results.

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# The Impact of Effective Recruitment and Selection Practice on Organisational Performance (A Case Study at University of Ghana)

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**Abstract-** One of the most significant developments in the field of organizations in recent times is the increasing importance given to human resource. People are vital to organizations as they offer perspectives, values and attributes to organizational life; and when managed effectively, these human traits can be of considerable benefits to the organization. As revealed in Djabatey (2012) this scenario lends credence to the increasing attention being paid to the people aspect of organizational wealth. This is so because the development of people, their competencies, and the process development of the total organization are the fulcrum of human resource management (Mullins, 1999; Djabatey, 2012).

**Keywords:** *human resource management, recruitment, application blank initial, preliminary interview.*

**GJMBR-A Classification:** *JEL Code: L25*



THE IMPACT OF EFFECTIVE RECRUITMENT AND SELECTION PRACTICE ON ORGANISATIONAL PERFORMANCE: A CASE STUDY AT UNIVERSITY OF GHANA

*Strictly as per the compliance and regulations of:*



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# The Impact of Effective Recruitment and Selection Practice on Organisational Performance (A Case Study at University of Ghana)

Akuamoah Worlanyo Saviour<sup>α</sup>, Amedagbui Kofi<sup>σ</sup>, Buabasah Daniel Yao<sup>ρ</sup> & Letsa - Agbozoseph Kafui<sup>ω</sup>

**Abstract-** One of the most significant developments in the field of organizations in recent times is the increasing importance given to human resource. People are vital to organizations as they offer perspectives, values and attributes to organizational life; and when managed effectively, these human traits can be of considerable benefits to the organization. As revealed in Djabatey (2012) this scenario lends credence to the increasing attention being paid to the people aspect of organizational wealth. This is so because the development of people, their competencies, and the process development of the total organization are the fulcrum of human resource management (Mullins, 1999; Djabatey, 2012). Similar to this development is the contention in National University of Ireland (2006) that the continued growth of the enterprise depends on its ability to recruit and select high quality personnel at all levels.

This study investigates the current recruitment and selection practices and their impact at University of Ghana. The Kendall's Co-efficient of Concordance (W) for the rankings of HR choice attributes as shown in table 4.10 below is 0.040. This means that the degree of agreement on a zero to one scale is 0.040. The degree of unanimity as measured by the W-statistics is about 4% since the score is zero for random ranking and 1 for perfectly unanimous ranking. Thus, to a large extent, there is agreement among respondents with regards to the rankings provided. The asymptotic distribution gave a significance level value of 0.000, which is less than 0.05. Thus, the null hypothesis (the rankings disagree) is rejected and the alternative hypothesis (the rankings agree) is accepted.

**Keywords:** human resource management, recruitment, application blank initial, preliminary interview.

## 1. INTRODUCTION

Recruitment and selection is the process of attracting individuals on a timely basis, in sufficient numbers and with appropriate qualifications (Walker, 2009). Some of the processes in selection include screening applications and resumes, testing and reviewing work samples, interviewing, checking references and background. Organizations use these processes to increase the likelihood of hiring individuals who possess the right skills and abilities to be successful at their jobs (Walker, 2009).

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However, most recruitment and selection processes have elements of biased judgment inherent in them. But treating job applicants in a professional and positive manner is more likely to leave them, whether they are successful or not, with a positive view of the organization and how it has dealt with the applicants (National University of Ireland, 2006).

The challenge for many researchers then have been to demonstrate how scientifically derived recruitment and selecting practices add value to organization's performance. Recruitment and selecting staff is expensive both in terms of time and money, and it is therefore important that the process is carried out effectively and efficiently so that the results in the appointment of a person would fits the job being occupied. Djabatey (2012).

### a) Project research problem

Better recruitment and selection strategies result in improved organizational outcomes. The more effectively organizations recruit and select candidates, the more likely they are to employ and retain satisfied employees. In addition, the effectiveness of an organization's selection system can influence bottom-line business outcomes, such as productivity and financial performance.

In Ghana and other parts of the world, recruitment and selection processes are practiced to some extent even though job placements in both public and private organizations are more or less affiliated to networking and political inclinations. Another worrying problem in recruitment and selection process is sexual harassment of female applicants. It is vital that organizations select people with the quality essential for continued success in this competitive global village of today. The only means of achieving this success is through proper recruitment and selection practices. Recruitment and selection process is vitally important to any organization, eager of attracting and appointing qualified personnel. Getting the right people in the right place at the right time doing the right job is an essential element of recruitment and selection process which can affect the performance of the organization. The researcher has observed that, at University of Ghana,

many people with different qualifications, work experiences and culture background are those who normally apply when vacancies have been declared. Impression of biasness on the side of applicants who were not selected is then label against the management. Hence the need to ascertain the impact of effective recruitment and selection practices on performance at University of Ghana.

b) *Case Organization: University of Ghana*

The University was founded in 1948 as the University College of the Gold Coast on the recommendation of the Asquith Commission, on Higher Education in the then British colonies. The Asquith Commission, which was set up in 1943 to investigate Higher Education, recommended among other things, the setting up of University Colleges in association with the University of London. This was followed up by a number of separate Commissions in different regions. The West Africa Commission was under the Chairmanship of the Rt. Hon. Walter Elliot. The Elliot Commission published a majority report which recommended the establishment of two University Colleges in the Gold Coast (Ghana) and Nigeria, and a minority report which held that only one University College for the whole of British West Africa was feasible. The British Government at first accepted the minority report of the Elliot Commission and decided that a University College for the whole of British West Africa should be established at Ibadan in Nigeria. But the people of the Gold Coast could not accept this recommendation. Led by the scholar and politician, the late Dr. J.B. Danquah, they urged the Gold Coast Government to inform the British Government that the Gold Coast could support a University College. The British Government accordingly reviewed its decision and agreed to the establishment of the University College of the Gold Coast.

II. ORIENTATION

a) *Literature Review*

The literature review is a summary of subject field that support the identification of specific research questions (Rowley & Slack: 2004). It is the main body of the study that enabled the researcher to gain the detailed understanding of the topic and to develop the questionnaires that will aid data collection and analysis. This chapter provides a theoretical review of the literature on the impact of effective recruitment and selection practice on organizational performance and therefore justifies the need for this study.

i. *Recruitment*

Recruitment according to Wehrich and Koontz (1994), involves attracting of candidates to fill the positions in an organizational structure. Recruitment As explained by Opatha (2010) is the process of finding and attracting suitably qualified people to apply for job

vacancies in the organization. It is a set of activities an organization uses to attract job candidates who have the needed abilities and attitudes. Recruitment is the process of generating a group of qualified applicants for organizational job vacancies. However, Stonner, Freeman and Gilbert (2000) stated that the purpose of recruitment is to provide a group of candidate that is large enough to let managers select the employees they need. Before recruiting begins, the position's requirements which should relate to the task must be clearly identified.

ii. *Methods and Sources of Recruitment*

Flippo (1984) opined that the sources of employees can be classified into two types, internal and external.

The methods of recruiting will depend upon the source of recruitment the organization intends to utilize (Ejiofor 1989). Where an organization decides on a policy of recruitment from within, then the methods of recruitment will include job posting on public boards in order to inform all employees and so allow open competition; the secret review of the records of employees and giving the jobs to chosen employees; and finally, announcement to employees and unions that there are vacancies and that new hands will be welcome. Employees and unions are then in a position to inform friends, relations and colleagues. These methods of recruitment will work well for filling low-paid positions in the organization.

It is often argued that a policy of internal recruitment is superior to a policy which looks outside the boundaries of the organization because it allows individual development. Employees, it is said, have a right to advance in their jobs and therefore should be given first consideration when job occur. Filling a job opening from within the firm has the advantages of stimulating preparation for possible transfer or promotion, increasing the general level of morale, and providing more information about job candidates through analyses of work histories within the organization. An internal search of the computer personnel data bank can flag personnel within minimum qualifications for the job opening. Such system is more compatible with adapting the organization to the needs of individuals.

A job posting system has a number of advantages. From the view point of the employee, it provides flexibility and greater control over career progress. For the employer, it should result in better matches of employee and job, in addition to meeting requirements for equal opportunity for advancement of all employees (Flippo 1984).

While this argument is generally valid, it is well to remember that occasions often arise when existing employees do not possess the skills for the required tasks, or when giving them such skills will entail

considerable costs to the organization. It has been argued that, no matter how much a company may design its manpower requirements to take account of internal skill developments, it still becomes necessary to bring in new talents into the organization through external recruitment. Details of these sources are discussed below;

- a. *Advertisement*: is the most common form of external sources of recruitment. Organizations advertise vacant position on both electronic print and media to access a larger pool of applicants. As cited by Nel et al. (2009:226), an advertisement has communication as its basic underlying principle and it should be worded in a manner that triggers responses from job seekers. Recruiters should formulate the wording of advertisements in a manner that is not discriminatory.
- b. *E-Recruitment*: or online recruitment uses web-based tools such as a firm's public internet site or its own intranet to recruit staff. The processes of e-recruitment consist of attracting, screening and tracking applicants, selecting, and offering jobs or rejecting candidates. Cappelli (2001) has estimated it that it costs only about one-twentieth, as much to hire someone online.
- c. *Employment Agencies*: Employment agencies, sometimes referred to as labour brokers, even though they can face criticism from labour unions in Ghana, tend to be fast and efficient in recruiting applicants for specialized positions. For a fee collected from either the employee or the employer, usually the employer, these agencies do some preliminary screening for the organization and put that organization in touch with applicants. Private employment agencies differ considerably in the level of service, costs, policies, and types of applicants they provide. Employers can reduce the range of possible problems from these sources by giving a precise definition of the position to be filled (Sims, 2002).
- d. *Labour Offices*: are sources of certain types of workers. In some industries, such as construction, unions have traditionally supplied workers to employers. A labor pool is generally available through a union, and workers can be dispatched to particular jobs to meet the needs of the employers. In some instances, the union can control or influence recruiting and staffing needs. An organization with a strong union may have less flexibility than a nonunion company in deciding who will be hired and where that person will be placed. Unions also can work to an employer's advantage through cooperative staffing programs, as they do in the building and printing industries (Keshav, 2013).

- e. *Employee Referrals*: An employee referral program is a system where existing employees recommend prospective candidates for the job offered, and in some organizations if the suggested candidate is hired, the employee receives a cash bonus. Under this method, a candidate is appointed on the recommendation of some currently working employees. Hence, the HR managers of various companies depend on the present employees for reference of the candidates for various jobs. This source reduces the cost and time required for recruitment. Further, this source enhances the effectiveness of recruitment. HR managers offer various incentives/rewards including cash incentives to the current employees for referring the best candidates (Rajarao, 2010).

- f. *Educational and Training Establishments*: Managers of organizations may visit educational institutions such as universities and colleges to attract top students, especially during their final years of study to apply for vacant positions. This method of recruitment is also referred to as campus recruiting and is one of the cheapest methods of recruitment. It introduces final year students to the institution. The recruiter normally makes a presentation to final year students and invites desirable students to visit public institutions exposing them to different areas within the organization (Nel et al., 2009:227).

### iii. Selection

Stonner, Freeman and Gilbert (2000) see the selection process as the mutual process whereby the organization decides whether or not to make a job offer and the candidate decides whether or not to accept it. In the view of Ejiofor (1989), selection is the process of choosing from the pool of potential employees available those jobs in terms of qualified job and organization requirements. Mondy (2010: 136) refers to selection as 'the process of choosing from a group of applicants those individuals best suited for a particular position in an organization'. One thing that stands apparent from the above is that, selection is typically made from among many applicants that have applied for positions and meet the organization requisite.

### iv. The Process of Selection

Flippo (1984) sees selection process as hiring procedure. According to him, in the hiring procedure varying methods are used to discover significant information about an applicant, which can then be compared with the job specification. He is of the opinion that there is no standard procedure adopted by all firms, the following is an example of a popular method:

*Initial or preliminary interview*: This initial interview is usually quite short and has as its objective the elimination of the obviously unqualified. In many instances it is a standing interview conducted at a desk or railing.

The more obvious facts and impressions are the type generally obtained in an interview. Appearance and facilities in speech are evaluated. Applicants are often asked why they are applying for a job with this particular organization. Salary requirements are ascertained.

An idea of education and experience can be obtained by knowing the time applicants finished in school and the names of job previously held. Many firms do not bother to initiate any paper work at this early stage. If the applicant appears to have any chance of qualifying for existing job openings, he or she is given the application blank to complete.

*Application Blank*- One of the general principles of hiring procedures is to assign each step information objectives that can be best obtained by the methods of that particular step. Factual information should be obtained by means of an application blank. We should not automatically assume that all information written on the blank by the applicant is correct.

*References*: The purpose of the reference check is to obtain information about past behaviour of applicants and to verify the accuracy of information given on the application blank. Cole (2005) expressed that most public sector organization take up references before short listed candidates are called for interview; while private sector organization tend to take them up after the candidate has been interviewed and a provisional offer of appointment made. The most common method of checking was a combination of letters and telephone calls. Letters of reference carried by the applicant are of little value; one knows what is in them.

*Psychological Tests*: The next step in the procedure outlined above is that of testing. Most of the larger companies that can afford to have a more detailed and accurate selection procedure do utilize some form of employment testing. It is the smaller company that frequently does not bother with tests, but places great reliance upon the interview.

*Interviewing*: Interviewing is probably the most widely used single method of selection. A substantial amount of subjectivity, and therefore/ unreliability, is to be expected from interviewing when used as a tool of evaluation. One human being is evaluating another in somewhat strained and artificial circumstances. The specific sources of unreliability are several in numbers. First, the interview is allocated information objectives that cannot be obtained otherwise; this it deals with intangible goals such as assessing leadership role fit, and inner motivation. Secondly, much research of specific sources of subjectivity has demonstrated the following: (1) those interviewed immediately after the candidates are appraised more favourably; (2) excessive weight is given to unfavourable information, with only one negative item leading to rejection in about 90 percent of the cases in one study; (3) interviewer

stereotyping exists with more females recommended for such jobs as editorial assistant and more males for personal technician; (4) interviewers sometimes make a decision very early and conduct the rest of the interview searching for substantiating information; (5) when favourable information is received to unfavourable, the applicant fares better; (6) the greater the number of job vacancies the more favourable the applicant evaluation and, (7) interviewers are often affected by appearance and non-verbal clues having little to do with job performance.

*Approval by the Supervisor*: Following the outlined procedure, we should now be of the opinion that a candidate who has successfully completed all steps thus far should be hired. At this point in the process, a third interview is conducted. The information objectives of this interview may well overlap those of the preceding one. This overlap is not undesirable for at least two reasons. First, the organizational relationships often require that the supervisor be given the right to pass upon personnel; otherwise he or she cannot be held accountable for their performance. Secondly, the qualities that are generally appraised in an interview are highly intangible, such as personality, ability to get along with others and leadership potential. In such matters, it is helpful to have an appraisal by both the staff employment interviewer and the supervisor, who is better acquainted with the actual Job conditions and the type of personnel at present in the department.

*Physical Examination*: The physical examination is an employment step in most businesses. It can vary from a very comprehensive examination and matching of an applicant's physical capabilities to job requirements, to a simple check of general physical appearance and well-being. In the hiring procedure, the physical examination has at least three basic objectives. First it serves to ascertain the applicant's physical capabilities. Can the applicant work standing up? Is his or her eye sight sufficiently keen to meet the job requirement?

The second objective of the examination is to protect the company against unwarranted claims under workers' compensation laws, or against lawsuits for dangers.

#### v. Recruitment and Selection Practices and Performance

Recruitment, as a human resource management function, is one of the activities that impact most critically on the performance of an organization. While it is understood and accepted that poor recruitment decisions continue to affect organizational performance and limit goal achievement, it is best that much effort is put in the recruitment and selection practices (Randall, 1987).

Recruitment and selection also has an important role to play in ensuring worker performance and positive organizational outcomes. It is often claimed

that selection of workers occurs not just to replace departing employees or add to a workforce but rather aims to put in place workers who can perform at a high level and demonstrate commitment (Ballantyne, 2009). Recruitment and selection play a pivotally important role in shaping an organization's effectiveness and performance, if work organizations are able to acquire workers who already possess relevant knowledge, skills and aptitudes and are also able to make an accurate prediction regarding their future abilities, recruiting and selecting staff in an effective manner can both avoid undesirable costs for example those associated with high staff turnover, poor performance and dissatisfied customers and engender a mutually beneficial employment relationship characterized, wherever possible, by high commitment on both sides.

### III. METHODS AND ANALYTICAL TOOLS

The study employed descriptive, cross-sectional survey design. The target population was the human resource management. A total sample of 300 was taken from the target population. The study employed a non-probabilistic sampling technique, precisely purposive sampling. The study area is constituted by different locations within the study area. These locations of the various faculties were considered as strata in the population and respondents were

selected purposively. Data for the study was obtained by the administration of a questionnaire. The questionnaire had two sections. The first section consisted of demographic information such as age, and marital status of respondents. The second section dealt with satisfaction factors that predict workers who can perform at a high level and demonstrate commitment.

The study makes use of the logistic regression model. Logistic regression is based on binomial probability theory. It is a mathematical modeling approach used in describing the relationship of several independent variables to a dichotomous dependent variable or a limited dependent variable. Binary Logistic regression is a prognostic model that is fitted where there is a dichotomous/binary dependent variable like in this instance where the researcher is interested in whether human resource management is satisfied, or not. Usually, the categories are coded as "0" and "1" as it results in a straightforward interpretation. Normally the category of interest also affectionately referred to the case is typically coded as "1" and the other group is also known as a "non-case" as "0". In this work HR satisfaction, "case", will be denoted by 1 and if HR is dissatisfied "non-case" will be denoted by 0.

According to Harrell (2001), the formula for a logistic regression model is given by;

$$\pi(x_i) = P(y_i = 1: x_i) = [1 + \exp(-X^T \beta)]^{-1}$$

where,  $y_i = \begin{cases} 1, & \text{if HR is satisfied} \\ 0, & \text{if HR is not satisfied} \end{cases} \quad i = 1, 2, \dots, n$

$$X^T \beta = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_{p-1} x_{p-1}$$

$$\beta_{p \times 1} = \begin{bmatrix} \beta_0 \\ \beta_1 \\ \vdots \\ \beta_{p-1} \end{bmatrix}, \quad X_{p \times 1} = \begin{bmatrix} 1 \\ X_1 \\ \vdots \\ X_{p-1} \end{bmatrix}, \quad X_{ip \times 1} = \begin{bmatrix} 1 \\ X_{i1} \\ \vdots \\ X_{i,p-1} \end{bmatrix}$$

where  $x_1, x_2, \dots, x_k$  are independent variables

$\beta_0$  is the coefficient of the constant terms

$\beta_1, \beta_2, \dots, \beta_{p-1}$  are the coefficient of  $p$  independent variables

$\pi(x_i)$  is the probability of an event that depends on  $p$  – independent variables

Since  $\pi(x_i) = [1 + \exp(-X^T \beta)]^{-1}$

$$\begin{aligned} &= \frac{1}{1 + \exp(-X^T \beta)} \\ \Rightarrow 1 - \pi(x_i) &= \frac{1}{1 + \exp(-X\beta)} \\ &= \frac{[1 + \exp(-X^T \beta)] - 1}{1 + \exp(-X^T \beta)} \\ &= \frac{\exp(-X^T \beta)}{1 + \exp(-X^T \beta)} \end{aligned}$$

$$\Rightarrow \frac{\pi(x_i)}{1 - \pi(x_i)} = [\exp(-X^T \beta)]^{-1}$$

$$\text{Thus, } \ln\left(\frac{\pi(x_i)}{1 - \pi(x_i)}\right) = \text{logit}[\pi(x_i)]$$

$$= X^T \beta$$

Furthermore, Kutner, Nachtsheim, Neter, and Li (2005) stated that since the dependent variable is dependent and can take values 1 and 0 with probabilities  $\pi(x_i)$  and  $1 - \pi(x_i)$  respectively,  $Y$  follows a Bernoulli distribution with  $(Y) = \pi(x_i)$ .

$$\text{Thus, } Y_i = \pi(x_i) + \varepsilon_i$$

$$E(Y_i) = \pi(x_i)$$

$$= [1 + \exp(-X^T \beta)]^{-1}$$

$$= \frac{1}{1 + \exp(-X^T \beta)}$$

$$P(Y_i = 1) = \pi(x_i)$$

$$P(Y_i = 0) = 1 - \pi(x_i)$$

The probability density function can be presented as

$$f_i(Y_i) = \pi(x_i)^{Y_i} [1 - \pi(x_i)]^{1-Y_i}, \quad \text{for } Y_i = 0, 1, 2, \dots, n$$

The  $Y_i$ 's are assumed to be independent and thus, the joint probability function is given by

$$g(Y_1, \dots, Y_n) = l(\beta) = \prod_{i=1}^n f_1(Y_i)$$

$$= \prod_{i=1}^n \pi(x_i)^{Y_i} [1 - \pi(x_i)]^{1-Y_i}$$

Where  $\beta$  is a vector of unknown parameters

#### IV. RESULTS AND ANALYSIS

A total of 300 HR personnel completed the questionnaire on satisfaction factors that predict workers who can perform at a high level and demonstrate commitment.

Table 1 summarizes the socio-demographic information of the respondents. From the Table 1, 142 of the respondents representing 47.3% were males

whereas 158 representing 52.7% were females; in which majority of people who responded to this questionnaire are between 30 and 35, followed by 36 and 45. This means that close to 94% = (61.3 + 32.7) of the time, views leading to conclusions drawn from this research could be attributed largely to HR of that age group. The analysis further indicated that out of the total 300 respondents, majority of them which represent 24% were single whiles the rest 76% were married.

Table 1: Demographic information of the participants (n=300)

Variables	Frequency	Percentage
<b>Gender</b>		
Male	142	47.3
Female	158	52.7
<b>Age</b>		
30-35	184	61.3
36-45	98	32.7
46-56	18	6.0
<b>Marital Status</b>		
Never married	84	24.0
Married	266	76.0

Source: Field Data, 2016

Figure 1 below shows how satisfied HR's are with the services provided by workers who can perform at a high level and demonstrate commitment. About 50 of the respondents indicated that they are highly

satisfied, 122 were satisfied, 44 were neutral, 56 were dissatisfied and finally, 28 of them were highly dissatisfied.

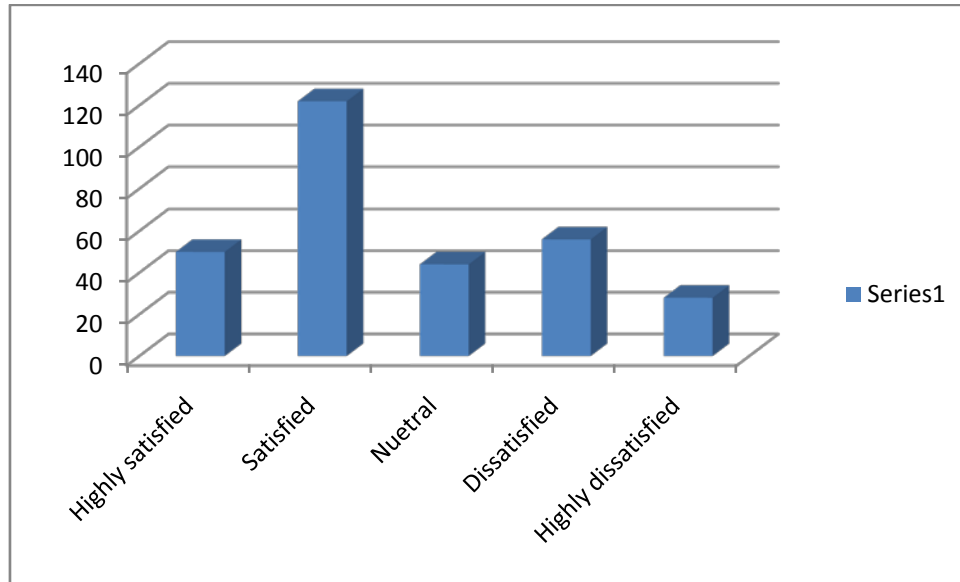


Figure 4.1: Respondents Satisfaction with HR and Services

Definition of Variables

- X1= Initial or preliminary interview
- X2= Application Blank
- X3= References
- X4= Psychological Tests

- X5= Interviewing
- X6= Approval by the Supervisor
- X7= Physical Examination

Table 4.4: Logistic Regression Estimates of Factors that Predict HR's Satisfaction

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
X1	-0.037	0.255	0.021	1	0.886	0.964	0.584	1.590
<b>X2</b>	<b>-0.737</b>	0.211	12.247	1	<b>0.000</b>	<b>0.795</b>	0.570	1.108
X3	-0.230	0.169	1.838	1	0.175	0.479	0.317	0.723
<b>X4</b>	<b>0.755</b>	0.258	8.542	1	<b>0.003</b>	<b>2.128</b>	1.282	3.531
<b>X5</b>	<b>-0.845</b>	0.197	18.348	1	<b>0.000</b>	<b>0.430</b>	0.292	0.632
<b>X6</b>	<b>-0.980</b>	0.255	14.735	1	<b>0.000</b>	<b>2.665</b>	1.616	4.396
X7	-0.107	0.205	0.274	1	0.600	1.981	1.093	3.588
Constant	5.033	2.499	4.055	1	0.044	0.007		

Source: Field Data, 2016

Table 4.4 gives the information about the contribution or importance of each predictor variables. The test that is used here is known as the Wald test and the test statistic for each predictor variable is shown in the column labeled Wald. The significance of the Wald statistic for each independent variable indicates the overall factors predicting HRs' satisfaction provided by workers who can perform at a high level and demonstrate commitment and services ( $P < 0.05$ ). The

significance of the variables is assessed by the p-value (represented in the table by "sig."), the Wald's statistic value or the odd ratios represented by  $Exp(\beta)$ .

From the table, the Wald statistics and the significance level shows that 4 out of the 7 independent variables namely; "X2 (Application Blank)", "X4 (Psychological Tests)", "X5 (Interviewing)" and "X6 (Approval by the Supervisor)" were significant to the

prediction of satisfaction. This is because they had p-values values of less than 0.05 (sig. in Table 4.6).

Thus the logistic function is given by the equation (1) below:

$$P(\text{Satisfaction}) = \frac{1}{1 + e^{-(5.033 - 0.737X_2 + 0.755X_4 - 0.845X_5 - 0.980X_6)}}$$

Furthermore, the odd ratio ( $Exp(\beta)$ ) for the significant factors, shows the increase (or decrease if the ratio is less than one) in odds of being in one outcome category (satisfied or not satisfied) when the value of the predictor increases by one unit. From table 4.6, the odds or risk of HR being satisfied, is 0.795 for X2. This indicates that, the risk of HR being satisfied is 0.795. For X4, the odd ratio of 2.128 indicates that the risk of HR having satisfaction with psychological tests

2.128 times more likely to derived satisfaction as compared with those not having psychological tests, all other factors being equal. For X5, the odd ratio of 0.430 indicates that the risk of HR satisfaction is 0.430 times higher for HR than for HR who does not have access to interviewing, all other factors being equal. Furthermore, for X6, the odd ratio of 2.665 indicated that the risk of HR deriving satisfaction is 2.665

The next output table seeks to rank five (4) attributes that influence HR's choice. The attributes were ranked by HR on a scale of 1 – 5, with 1 being the least important and 5 the most important. The order in which HR ranked the attributes came out as shown in Table 4.9 below. (Note: Mean importance is calculated with the values of 1 for least important and 5 for most important. Hence, a higher mean indicates a greater importance).

Table 4.9: Relative Importance Rankings by HR for Choice Attribute

	Mean Rank
Application Blank	3.15
Psychological Tests	3.07
Interviewing	2.66
Approval by the Supervisor	3.39

Source: Field Data, 2016

Table 4.9 above shows the various mean ranks of respondents on the factors that influence their choices It can be seen that “approval by the supervisor” recorded the highest mean, followed by “application

Blank”; “psychological tests” and “interviewing” in that order.

The next output table shows whether or not HR differentiates between these various choice attributes.

Table 4.10: Kendall's Coefficient of Concordance for HR Choice Attribute

Test Statistics	
Kendall's W	0.040
Chi-Square	55.329
Df	4
Asymp. Significance	0.000

Source: Field Data, 2016

The Kendall's Co-efficient of Concordance (W) for the rankings of HR choice attributes as shown in table 4.10 above is 0.040. This means that the degree of agreement on a zero to one scale is 0.040. The degree of unanimity as measured by the W-statistics is about 4% since the score is zero for random ranking and 1 for perfectly unanimous ranking. Thus, to a large extent, there is agreement among respondents with regards to the rankings provided. The asymptotic distribution gave a significance level value of 0.000, which is less than 0.05. Thus, the null hypothesis (the rankings disagree) is rejected and the alternative hypothesis (the rankings agree) is accepted.

## V. IMPLICATIONS AND RECOMMENDATIONS

In view of the research findings as well as one of the purposes of this work, the researcher made the following recommendations on the ways to improve recruitment and selection practices at University of Ghana:

- Since the analysis revealed that University of Ghana has policies and practices with regards to recruiting and selection of employees, the following were given to help improve upon such practices, the procedure for recruiting and selection should be strictly followed in order to ensure that the right employees are provided for the college. Procedures such as educational or academic qualification,



experience and interviews all help select the best of employees for the college.

- In addition, all applicants must be given equal opportunities; issues of favouritism should be avoided while giving the chance to all. Employee referrals though a good idea should be minimized since it gives room to favouritism and at times employment of individuals who might not contribute meaningfully to organizational output.
- Moreover, in the selection and recruitment procedure, complete qualifications should be stressed and should also be linked with the job to be done as most qualifications do not much the job to be done.
- Finally, to help the employees to give off their best, the human resource department should appraise them regularly since this will always keep them on their toes to give off their best and help improve performance.

## VI. CONCLUSION

In spite of few challenges realized with recruitment and selection practices at University of Ghana, these measures have been effective in the selection of employees for the University, even though much needs to be done to enhance it. Recruitment and selection of employees to a greater extent determines the performance of an organization and it is of great importance if organizations want to achieve their goals.

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# Micro Credit of Community Banks and Consumption of the Poor

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**Abstract-** This article investigates the influence of community banks' micro credit on consumption of the beneficiaries. A survey is conducted in tracing the loan beneficiaries and estimating the pattern of change in their consumption in Bauchi State. Various items for consumption of the poor were identified and logged side by side with the OLS equation with a view to see the credit influence over a period of time. The result shows that micro credit and consumption of the poor are positively related. However, the outcome depends on many socio- economic characteristics of the borrowers.

*GJMBR-A Classification: JEL Code: E58*



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# Micro Credit of Community Banks and Consumption of the Poor

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**Abstract-** This article investigates the influence of community banks' micro credit on consumption of the beneficiaries. A survey is conducted in tracing the loan beneficiaries and estimating the pattern of change in their consumption in Bauchi State. Various items for consumption of the poor were identified and logged side by side with the OLS equation with a view to see the credit influence over a period of time. The result shows that micro credit and consumption of the poor are positively related. However, the outcome depends on many socio-economic characteristics of the borrowers.

## I. INTRODUCTION

Micro-credit means small size of loan mainly for small-scale investment granted by the lender based on trust as opposed to collateral security. Many studies revealed that micro credit policy through financial institutions is capable of increasing the productive capacity of the poor, raising the return to assets, and promoting wage employment (World Bank, 1990; Zaman, 1999; Wydick, 1999; Udry, 1994; and Pitt and Khandker, 1998).<sup>1</sup>

The subject of accessing-credit to the poor has constantly secured attention all over the World, and the World wide economic recession has brought attention on the poor as a potent means of revamping the economics of the developing nations in sub-Saharan Africa and Asian countries. Attention is particularly paid on micro credit of financial sector.

The self-help efforts by poor people to promote their welfare through self-employment are ignored by the Nigerian financial sector. This is because traditionally the very poor have not been recognised as credit-worthy since they do not have collateral securities. Thus using traditional commercial banking methods, lending to the poor is not believed to be cost-effective.

Since 1977, the Federal Government's attention was centered on developing the Nigerian financial sector as a whole in order to achieve free flow of funds from the surplus sector to the deficit sector. To achieve this, the government identified the most poverty stricken areas, the rural areas, and embarked on rural banking programmes by directing the commercial banks to open rural branches. While this was achieved, the goal of poverty alleviation is yet to be achieved. This was because the accumulated savings particularly of rural

areas were not used for rural investments due to difficulties involved in borrowing by the rural dwellers. In order to ensure access to credit by the poor rural dwellers and to achieve grassroots development a Community type of banking was introduced in 1990. Community Bank makes use of credit character as the prime principle of lending over collateral securities. The World Bank's World Development Report (1998) conducted extensive studies on micro credit institutions-across the World. The study revealed the suitability of these institutions in providing credit for non-corporate business, small farmers, rural producers, trade groups and other micro enterprises across the World. Pulley (1989) also made an extensive study of the strategy for making the poor credit-worthy as a major effort at alleviating poverty in the World. Yaron (1992) reviewed some rural finance institutions in some developing countries. The institutions succeeded in achieving the aims and objectives for which they were established and the environment in which they operate. The Community banks have the same basic characteristics as the traditional commercial banks except that the institution and their operations are not strictly in line with orthodox banking principles. To achieve credit access to the poor in Nigeria the Community bank and peoples bank are designed to have access to land, credit and technological know how by the poor (Mabogunje 1993). Although it has been proved that micro credit is a good instrument of poverty alleviation (Halin and Ganuzza 1996, and Odejide, 1997), even after the establishment of Community banks in 1990 the poverty level has been on the increase in Nigeria in general and in Bauchi State in particular (FOS 1999).

With classification of Nigeria being among the twenty five poorest countries of the World, Bauchi State is among the top two poorest states in Nigeria second only to Sokoto State (FOS, 1999). The poverty profile-of Bauchi State has been on the increase since 1980. For instance, the percentage of those below the poverty line was 46 in 1980 but this percentage increased to 83.5 in 1999.

The question is are Community banks assisting in increasing consumption of community banks' loan beneficiaries in the State? And how can we improve their performance over time? This needs investigation and there for the object of this article is to provide answers to these questions.

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## II. LITERATURE REVIEW

### a) *Conceptual issues*

Poverty is a multidimensional phenomenon that affects the physical, moral and psychological conditions of man (World Bank. 2000). It is multifaceted and differently perceived from society to society, making it difficult to give a generally acceptable definition of it. Many scholars view poverty with respect to the extent of their exposure to and perception of the poor in their own society. On the basis of income and consumption, Rowntree (1901), whose approach is frequently used by World Bank (2000), use monetary income or consumption to identify poverty. This perception has become the workhouse of quantitative poverty analysis, which is emulated by different writers holding similar opinions. These include Czukas, et al (1998), Deacon (1998), and Morduch (1990), suggesting that the low levels of income force the poorer households to enter low return activities. On the basis of consumption, Glewwe and Hall (1998) specifically considered poverty on the vulnerability of households to declining consumption following economic shocks. Townsend (1996), Moser (1998), Attanasio and Rios Rull (1999), Behrman and Deolalikar (1990), Chaudhuri and Paxson (1994). Morduch (1995): and Rosenzweig and Stark (1989) also hold this view. On broader basis, poverty is perceived from the point of deprivation. Sen (1999) defined poor people as those who live without fundamental freedoms of action and choice that the better off take for granted. Mc Connell (1969) also holds this view. Townsend (1997) sees poverty as a situation where "individuals or families- are in command of resources which overtime, fall seriously short of the resources commanded by the average family". This definition shows the dynamism of poverty in such a way that as the average standards of the relevant communities increase, the relative poverty line also increases as well. Njoku (1998) defined poverty as a kind of deprivation from something, which every human being has a natural right to have. This includes poverty of loneliness, the unloved, and the unwanted. Salient as this definition is, it managed to summarise the psychological effect of poverty such as bearing children on the streets, lack of privacy, dignity, and security, and lack of opportunity to participate in the formulation of decisions that affect the life of the poor.

In the CBN's (1999) typology, although poverty is considered as one of the symptoms or manifestations of underdevelopment, its multidimensionality is better seen from its attributes'. According to UNDP Human Development Report (1997), poverty means more than a lack of what is necessary for material well-being. It also means the denial of opportunities and choices basic to human development. Hence there is the concept of human poverty, or poverty of lives and opportunities which is also multidimensional. It includes denial of

choice and opportunities to lead a long, healthy and creative life, and to enjoy a decent standard of living, freedom, dignity, self-esteem and the respect of others.

### b) *Theoretical causes of poverty*

Johnson (1974), cited in Galadi (2000), developed two conceptual sources of poverty: the factors which make the number of individuals in the consuming unit large relative to the amount of productive services the unit is able to supply; and those which make the value of productive services the household can supply low relative to the household need. He mentioned excessive family size in relation to income under his first factor, while under the second factor he listed chronic obsolescence of acquired human skill, mental or physical incapacity, and discrimination in terms of age, colour, race or sex.

As observed by Abdullahi (1993), and analysed by Njoku (1998) poverty may be structural or conjunctural. The structural poverty is long term or persistent and is normally caused by limited productive resources, lack of skills for gainful employment, location disadvantages, or endemic sociopolitical and cultural factors. On the other hand, the conjunctural poverty is temporary or short term and possibly reversible. It is caused by natural disasters like drought, earthquake, volcanic eruption, and flood, or man-made disasters like wars, environmental degradation, structural adjustment program, and so on. However, conjunctural poverty may lead to structural poverty where for example, the natural and man-made disasters are prolonged.

Telia (1997) ably postulated two theories namely, the corruption theory and the element of luck theory. The corruption theory is rooted in poverty itself. "It is a situation where everybody that seeks political power does so with the intention to acquire property that will not only last the lifetime of that individual, but also sustain the family after he is long dead" (Telia 1997:76). The attribute of this theory is already emphasised in power theory. With regard to the element of luck theory, it hinges on the accident of birth. "Some people are born into societies that value and cherish general development; societies where the older generation have built an enviable structure based on hard work, honesty, self-service, good values, and pride which the younger generation cannot build upon for the benefit of present and future generations. In such societies, poverty exists mainly within the context of individual attributes". (Telia, 1997:76).

Telia's observation typically explained why Africa in general is poor relative to Western countries as a result of superior infrastructures the formers have long ago.

Galbraith (1971) making reference to Africa observes that for sub-Saharan Africa poverty is caused by absence of opportunity rather than absence of aptitude. He emphasised that the countries in this region

have had only few years of independence to face the task of economic development. In his earlier work, Galbraith (1958) identified two broad categories of poverty, namely, case poverty and insular poverty. According to him the case poverty is due to some characteristics of the individual poor or his family, such as mental deficiency, bad health, inability to adopt to the discipline of modern economic life, excessive procreation, alcohol, insufficient education or a combination of these handicaps. With regard to the insular poverty, it manifests itself as an island of poverty within a country. In the Poverty Island, everyone is, or at least majority are poor.

c) *Micro Credit and Consumption: empirical evidence*

The relationship between micro-credit and poverty has occupied an important place in the quest for understanding the influence of credit on major variables indexing poverty. Theoretical and empirical research on the relation between micro-credit and poverty is a recent phenomenon. The attention of World scholars on micro credit and poverty is perhaps after the establishment of some successful micro credit institutions in Asia. These include the Badan Kredit Kecamatan (Bkk) established 1970 in Indonesia and the Grameen Bank (GB) in Bangladesh established 1976. There are theoretical and empirical evidences on the influence of micro credit on the poor based on change in their income. However the results are-not unanimous. Earlier theories show that micro finance provides financial resources to the poor segment of the society, and leads to creation of self-employment opportunity and improved economic condition (Hussain, 1988 and Yaron, 1992). These observations serve as a watershed in investigating the relationship between micro credit and poverty. Hence in the 1990s a number of researches were made based on the influence of credit on the major determinants of poverty. The works of Zaman (1999), Morduch (1998), Pitt and Khandker (1998), and Khandker (1998) investigate the impact of micro-credit on consumption. These evidences are discussed in turn. Zaman (1999) explores the relationship between micro-credit and the reduction of poverty and vulnerability by focusing on Bangladesh Rural Advancement Committee (BRAC), one of the largest micro-credit providers in Bangladesh. Zaman analysed survey data collected in Bangladesh in 1995 from which he drew his consumption data of 1072 households. He argued that there are a number of ways by which micro-credit can reduce poverty and vulnerability, namely, consumption, crisis coping mechanisms, building assets, and empowering women using Ordinary Least Squares (OLS) regression.

Zaman's results (heteroscedasticity-corrected) for BRAC variables and Lamda term shows that the BRAC members who have more than ten decimals of land and have borrowed more than 10,000 taka is positive and significant at 10% level. However, the

interpretation of this coefficient is unambiguous. Given Zaman's mean loan size for the 10,000 plus category as 13,090 taka, the result shows that borrowing more than 10,000 taka varies a moderate poor households' consumption per adult equivalent by 18.8% relative to an identical non-borrowing BRAC member. By using eligible non-member as against non-borrowing member, the result however, varies significantly. "For instance, BRVO coefficient is significantly negative and a household borrowing more than 10,000 taka is 48% worse off compared to an eligible non BRAC member" on the other hand, the result of the OLS shows that a household with more than 10,000 taka loans is 13.8% better off than an eligible non-member.

Zaman also assesses the other non-BRAC determinants of poverty He accepts that aside from BRAC variables age, education and occupation of the household, the dependency ratio, the wealth endowment of the household, and village condition significantly determine poverty. He concludes that the impact of micro-credit on income poverty is a function of borrowing a certain loan threshold, and to a certain extent contingent on how poor is the household. Perhaps Zaman regards income and consumption poverty to mean the same.

The results of Morduch (1998) and Khandker (1998) both cited in a review article of Morduch (1999) are however, not unanimous. Morduch (1999) analysed a World Bank survey of 1,800 household conducted in 1992 in Bangladesh but found that access to credit programs yields no appreciable increase in average consumption level in the short run. For those with access however, the volatility of consumption over the three main cropping seasons in the area is roughly half that of control group. He found that variability is 47 percent lower for eligible Grameen households, 54 percent lower for eligible BRAC households, and 51 percent lower for eligible Bangladesh Rural Development Board (BRDB) households compared to a control group. Morduch concludes that program participation does not benefit in terms of greater consumption levels but they participate because they benefit from risk reduction.

Morduch's finding is a direct attack on Khandker's work in the sense that the same data analysed by Khandker was analysed by Morduch. Khandker analyses the impact of male and female borrowing on different outcome variables per capital spending, net worth, school enrolment, fertility, and height for age, and contraceptive. He found that moderate poverty falls by around 15 percent and that micro finance has a positive effect on household consumption.

Although there is mixed result on the effect of micro credit on consumption, the argument that micro credit increases consumption of borrower carries more weight.

### III. METHODOLOGY

This research is conducted in Bauchi State covering four local government areas of Bauchi, Darazo, Misau, and Katagum with surviving Community banks. Ten settlements are selected from these local government areas. Namely, Akuyam, Azare, Bingi/Bulamari Darazo, Yelvva, Kafin Kuka, Bakin Kura. Tashar Danasabe and Fadamar Mada. These local government areas are selected because agriculture is the main occupation in the area. Local government areas in the far north of the state are semi desert and therefore their inhabitants rely mainly on commerce. The far north area also has the problem of seasonal migration to the southern part of the country. As for southern part of the state, the rocky nature of the area and the availability of mineral resource mean that agriculture and mining are the two key occupations. To determine the influence of any credit on the main occupation agriculture is therefore a problem in southern part of the state.

According to Human Development Report (HDR) 1998, Bauchi State poverty profile (on the basis of Economic status index (ESI), nutritional Index (NI), Educational Index (EI), and Housing Quality Index (HQI) shows that the state has an aggregate of 0.53 meaning that more than half of the population are poverty stricken. The EI in particular shows that the state has weak index of 0.30. According to the same HDR (1998), the state has Income Poverty Index (IPI) of 0.25 and Human Poverty Index (HPI) of 0.30. Of this Bauchi Local Government exceed the state averages for both HPI and IPI, but Katagum exceeds only HPI average, and Misau only IPI average while Darazo fail to meet both the state HPT and TPT averages. The report also shows that women are about 17 percent poorer than men in the area.

The study covered the period 1998 - 2002. It was during this period that the bank became fully established and operational in the area. Our choice of Bauchi state is because it is one of the poverty state in Nigeria, second only to Sokoto (FOS, 1997) and we have good knowledge of the area in term of culture, geography, economy, and politics that will help us in tins research. The loan beneficiaries covering these periods were consulted in order to examine the influence of the loans on the borrowers consumption, income, assets etc.

The study is carried out by means of primary data. The data is obtained by means of questionnaire. The questionnaire is limited to straight dichotomy questions, which allow for 'Yes' or 'No' answer. However, fill the blank column is provided where necessary to allow the respondent to agree or disagree to a given statement or fill according to what is in his or her mind. This method of questioning is necessary because of the level of education of the people in the area is low. However, the primary method of data collection is

supplemented with secondary one collected from the bank. These include the size of the loans disbursed, beneficiaries, and location.

The data is collected from the eligible credit users and the eligible non-credit users of the bank. The four Community banks -of Azare, Akuyam, Bauchi and Darazo are chosen because this banks are the only Community banks recognized as viable in Bauchi State as at 1998.

Our questionnaires were administered to a sample of 30 percent of the loan beneficiaries for the major occupation - agriculture in the study areas. This gives us 170 in Azare, 50 in Garu, 52 in Darazo and 60 in Akuyam. We applied a stratified random sampling technique through which every Kth borrower was selected. The population was stratified into borrowers for different agricultural practice, from which 30 percent sample was selected, 19 percent of the sample size are women because they constituted 19 percent of the population size. For each bank 30 percent of its borrowers are selected. And 30 percent is, believed, a fair representation. We administered a total of 313 questionnaires. According to CBN (1999), a poor is one who lacks physical necessities, assets, and income, or one whose condition includes social inferiority, isolation, physical weakness, vulnerability, seasonality, powerlessness and humiliation. In the approach of World Bank (1990), a poor is one who survives on less than one US dollar per day, and a moderate poor is one who live on less than two US dollar per day. A control group introduced in our work helps to indicate how poor are the loan beneficiaries by determining their average households consumption per adult equivalent. This enables to ascertain that the respondents were from poor family who were enjoying credit or would have been eligible to enjoy credit of the Community banks. This is further evidenced from the size of loans demanded by them ranging from 10,000 to 100,000.

A structured questionnaire was developed to collect detail information on social and economic activities of the sample households. This information is contained in our questionnaire in appendix 4 include sex, occupation, age, family size, educational qualification, credit, consumption, and so on..

Motlet specification

To estimate the influence of credit on consumption, we have:

$$Q = P_0 + P_i W_i + P_a Y_i + P_{au} + B_i \quad 1$$

Where  $P_i > 0$

$C_j$  = log of total consumption per adult equivalent.

$W_i$  = a vector of individual household and village characteristics.

$Y_j = P_j + P_t X_j + T_j$ ; and is a latent (unobserved) continuous variable or the participation equation.

$x$  = Mill ratio.

$x_i$  = the vector of individual household and village characteristics that affect the probability of participation.

$lgc_{ade} = f(agm1760, agf1760, adeqhrs, aghhh, aghhhsq, rehhs, hhhlr, lglaqo, obli, hhhps, hhhss, hhhxs, vill, vil2, vil3, vil4, vil5, vil6, vil7, vil8, vil9, vil10, bmva, mloadum1, mloadum2, mloadum3, uoadum1, uoadum2, uoadum3, memlen1, memlen2, memlen3, memlen4)$ .

OLS with village dummies:

$corns = f(agm1760, agf1760, adeqhrs, aghhh, aghhhsq, rehhs, hhhlr, lglaqo, obli, hhhpr, hhhss, hhhxs, vill, vil2, vil3, vil4, vil5, vil6, vil7, vil8, vil9, vil10, bmva, mloadum1, mloadum2, mloadum3, uoadum1, uoadum2, uoadum3, memlen1, memlen2, memlen3, memlen4)$ .

The definition of our equation is given in Appendix 1

#### IV. DATA PRESENTATION AND RESULT

Table 1 shows the economic characteristics of the respondents according to the size of loan they have enjoyed. About 23 percent of the respondents have not enjoyed loan from the Community banks yet. This group serves as a control group. 23 percent falls within the N10, 000 loan threshold and about 20 percent enjoyed between N1,000 to N20,000, while 14 percent enjoyed between N21,000-30,000. Those who obtained between W31,000 to M40,000 constitutes about 6 percent while those who enjoyed N50,000 loan threshold are about 5 percent. The last groups of N60, 000 loan thresholds have about 9 percent.

Table 1: Respondents based on the size of loan enjoyed

Loan threshold in Naira	Number of respondents	Percentage
0	71	22.61
10000	73	23.25
20000	63	20.06
30000	45	14.33
40000	18	5.73
50000	15	4.78
60000	29	9.24
Total	314	100

Source: Author's survey 2002.

Table 2 shows the consumption in relation to the credit borrowed. It shows that households with access to credits of £410, 000 thresholds spend the average of 2863.49 on nutrition per month for the household. The table shows that as credit increases up to \$430, 000 threshold consumption also increases. However, borrowing £440, 000 credit threshold leads to a reduction of household consumption relative to £430, 000 threshold borrowers. This might be as a result of relatively limited sample size of the respondents within the £440, 000 credit threshold. It might also be as a

result of influence of other socio economic characteristics of the borrowers. These characteristics include education, health, period of exposure to the credit, etc. However, borrowing £450, 000 and £460, 000 Naira raises consumption significantly relative to £410, 000 credit threshold borrowers. This shows that credit raises income and an increase in income in turn increases consumption. The table also shows that about 42 percent of the Community bank's borrowers are core poor while about 58 percent are moderate poor.

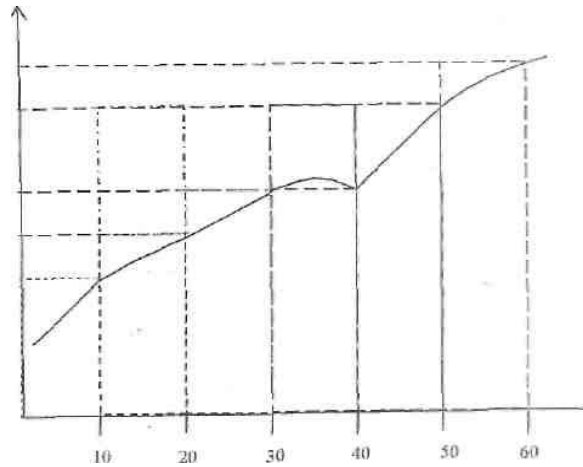
Table 2: Credit consumption relations

Observation	Credit threshold £4' 000	Consumption W
70	10	2863.49
64	20	4047.92
43	30	5142.64
19	40	4861.00
16	50	7060.67
29	60	8325.93

Source: Author's survey 2002. By looking at figure 4.4 we can see that the credit consumption curve is not linear. It is rather an inverse S -shape. To linearise it we take the log of consumption of households. In addition, many factors affect consumption, even though credit is our reference variable. Hence a number of coefficients of other socio economic variables are needed in the consumption function. Appendix 1 shows a matrix for poverty model with consumption as dependent variables and from the matrix we can estimate the coefficients of other variables.



Consumotion N'000



Credit consumption Curve > Credit =£4'000

Figure 1: Credit consumption Curve

Table 3: Detailed regression result for consumption

Variable	Coefficient eqn 3.41	Standard deviation 3.41	Coefficient Equ 3.61	Standard deviation eqn 3.61
Ahhh	0.02444*	0.01348	345.6**	133.3
Aghhsq	-.00023	0.0001703	-3.703**	1.684
Agml760	0.01918	0.01672	42.0	164.6
Agfl760	0.02196	0.03097	192.6	306.5
Otbli	0.13992**	0.06681	947.7	668.7
Hhht	0.11967*	0.07258	501.9	728.0
Hhhps	-0.07411*	0.04312	-585.6	424.1
Hhhss	-0.05719	0.03928	-670.1*	388.2
IIMISX	-0.07014	0.04486	-507.0	447.8
Hhhr	-0.00474	0.03705	-214.4	364.3
Rehhs	-0.05545	0.06729	81.3	665.0
Loglag	0.03056	0.02052	0.5974***	0.1366
Bmra	0.41002***	0.06222	2141.3***	617.0
Mload 1	-0.09296*	0.05314	-1489.1***	527.5
Mload 2	0.03543	0.05221	22.0	519.8
Mload 3	0.02448	0.05980	-427.9	596.5
Mload 4	0.17041**	0.08192	152.1	822.1
Mload 5	0.14867**	0.07074	1052.2	705.9
Mload 6	0.21371	0.05920	1827.3***	585.7
Mien 1	0.00638*	0.05025	-300.3	505.9
Mien 2	0.1338/**	0.05441	680.9	544.5
Mien 3	0.05813	0.05056	417.9	510.4
Mien 4	0.12394**	0.05278	1509.6***	522.7
Vil 1	-0.00181	0.07052	288.17	755.4
Vil2	0.08843*	0.04738	588.7	574.6
Vil 3	0.0484	0.1024	1158	1101
Vil 4	0.21263***	0.05934	3076.8***	677.4
Vil 5	-0.00246**	0.07036	-565.1	728.4
Vil 6	0.10690*	0.06140	780	647.9
Vil 7	-0.07110	0.1008	-1355	1005
Vil 8	0.08432***	0.07761	309.3	806.8
Vil 9	0.00927	0.7965	-334.9	834.2
Vil 10	0.004282	0.002944	31.19	29.52
Lamda	0.4800.			
Square	0.4540		0.4230	

\*\*\* Significant at 1 percent \*\* significant at 5 percent, \* significant at 1 percent Sources: Basic statistics of the regression result (appendix 5.13)

Our result shows that borrowing N10, 000 and using it for 2 - 4 years raises consumption by about 17.9 percent (significance at 10 percent level) relative to identical non-borrowing members. The Ols results show increase in consumption by about 32.3 percent (significance at 5 percent level). Borrowing N40, 000 and using it for 2-4 years, raises consumption by about 57.65 percent (significance at 5 percent level) relative to an identical non borrowing member. And borrowing N50, 000 and N60, 000 raises consumption by about 56.78 percent (significance at 5 percent level) and about 59.36 percent (significance at 10 percent) respectively. The Ols estimates give 3.75 times rise in consumption for a borrower of N60, 000 (at 5 percent significance level) relation to an identical non-borrowing member.

## V. CONCLUSION

From our findings we can conclude that micro credit of the Community Bank is a good poverty vaccine, which improve the consumption the poor. The result confirm the works of many other scholars in the area of micro finance and poverty especially Zaman (1999), and Dunford (2001). It further justified the earlier theories that poverty is a result of self-perpetuating, social, cultural and economic deficiencies, which are beyond the capacity of individuals to remedy through their own efforts. The results also show that, once the poor people are opportune they can set themselves free from poverty by particularly improving their consumption.

## APPENDIX 1

variable definition for poverty model

lgcade = log of total consumption per adult equivalent

lglaqo = log of quantity of land owed

ahhh = age of the household head in years

aghhhsq = age of the household head squared

agml760 = number of adult males in the household aged 17 - 60

agml760 = number of adult females in the household aged 17-60

otbli = 1 if household member of other lending institutions, 0 if not

nothhhlr = 1 if household head is a manual labourer, 0 if not

adeqhsr = ratio of the number of adult equivalents to household size

depend = number aged under 17 plus those over 60

rehhs = ratio of earners to household size

lihliht = 1 if household head is in good health, 0 if not

hhhps = 1 if house hold head attend primary school, 0 if not

hhhss = 1 if household head attend secondary school, 0 if not

hhhas = 1 if household head attend advance secondary school, 0 if not

hhhuni = 1 if household head attend university, 0 if not

hhhsx = 1 if household head is male, 0 if not

bmva = 1 if household head is the bank's member, 0 if not

Mloadum = 1 if household has equivalent of 100 acre of land and has borrowed less than 5000 Naira, 0 if not.

mloadum2 = 1 if household has more than equivalent of 100 acre of land and has borrowed between 5000 to

10,000, 0 if not. moladum3 = 1 if household has more than equivalent of 100 acre of land and has borrowed more

than 10,000 Naira, 0 if not. uloaduml = 1 if household has less than equivalent of 100 acre of land and has borrowed

## VI. RECOMMENDATION

Having seen the influence of Community banks micro credit on poverty alleviation, the coverage of Community banks is grossly inadequate for the impact to be felt on the general populace. There is therefore, the need to ensure the spread of the banks to each of local government headquarters and District headquarters in the country.

A general reform needs to be made on the social responsibility of the Community Banks. The responsibility should not be in term of low cost of borrowing but in term of given entrepreneurial training especially for women as a condition of getting the loans. Credit with education is effective in poverty alleviation in Ghana and Bangladesh (Dunford 2001, Zaman 1999).

The Community banking system should be a member of the clearing system. The National Board for Community Banks (NBCB) can be empowered to open and equip state offices and be the agent in the clearing system for the Community banks in order to quicken service to their customers. The bank suffers from lack of patronage by many people as a result of delay in executing services. The Community banking micro credit should be seen a measure against for poverty and hence the attention of international institutions and bodies, the National Policies on Poverty Eradication and the Local Support Programs should invest in Community Banking.

less than 5000 Naira, 0 if not.  $uoadum2 = 1$  if household has less than equivalent of 100 acre of land and borrowed between 5000-10,000 Naira, 0 if not.  $uoadum3 = 1$  if household has less than equivalent of 100 acre of land and has borrowed more than 10,000 Naira, 0 if not.

$memlen1 = 1$  if membership length between 1-12 month, 0 if not.

$memlen2 = 1$  if membership length between 12-24 month, 0 if not.

$memlen3 = 1$  if membership length between 24-36 month, 0 if not.

$memlen4 = 1$  if membership length more than 36 month, 0 if not.

If village is inside a valley or embankment, 0 if not. distance from market in kilometer, number of eligible households in the village in 1998.

Akuyam

Azare

Bingi/Bulamari

Darazo

Yelwa

Kafm kuka

Bakin kura

Tashar danasable

Fadamar mada

Sarma

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## Assessing the Factors behind Choosing Universities for Higher Education: A Case of Bangladesh

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**Abstract-** Choosing the right university for higher education is a crucial issue in Bangladesh. There are some factors that play vital role in choosing the right university for higher study. Students like to evaluate those factors prior to choosing their universities. Such factors which are mostly evaluated by the students are reputation, tuition fees, location, permanent campus, teachers' quality, online service, IT facility, advertisement, and environment. Current exploratory study has identified reputation and online service as the most vital factors that play the most significant role in choosing university for higher education. Both primary and secondary data were used for the study. Primary data were collected from 60 students of public and private universities in Dhaka city. Multiple regression equation is used to identify dependent and independent variables, their relationship and impact on this research. Based on research questions, hypotheses were developed and tested accordingly.

**Keywords:** *higher education; university; students; multiple regression equation; exploratory.*

**GJMBR-A Classification:** *JEL Code: I20*



*Strictly as per the compliance and regulations of:*



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# Assessing the Factors behind Choosing Universities for Higher Education: A Case of Bangladesh

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**Abstract-** Choosing the right university for higher education is a crucial issue in Bangladesh. There are some factors that play vital role in choosing the right university for higher study. Students like to evaluate those factors prior to choosing their universities. Such factors which are mostly evaluated by the students are reputation, tuition fees, location, permanent campus, teachers' quality, online service, IT facility, advertisement, and environment. Current exploratory study has identified reputation and online service as the most vital factors that play the most significant role in choosing university for higher education. Both primary and secondary data were used for the study. Primary data were collected from 60 students of public and private universities in Dhaka city. Multiple regression equation is used to identify dependent and independent variables, their relationship and impact on this research. Based on research questions, hypotheses were developed and tested accordingly.

**Keywords:** higher education; university; students; multiple regression equation; exploratory.

## I. INTRODUCTION

The population of Bangladesh is increasing very rapidly. Compare to the number of universities available, number of students is huge. So to get an admission in reputed university is getting tougher day by day. The public universities in Bangladesh can accommodate a very scanty number of students. So a good number of students have to choose private university as their center for higher education. This particular study will help to find out which are the factors that students consider or evaluate for choosing a university for higher education in Bangladesh.

## II. OBJECTIVES OF THE STUDY

- To find out the factors that students evaluate before admitting for higher education in university level
- To identify the most significant factor(s) that attract students for choosing university

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## III. METHODOLOGY OF THE STUDY

Once the research objectives are set the next logical step to achieve those objectives is to decide the methodology to be followed. This study has been done based on primary and secondary sources of data and information. Structured questionnaire and interview method were used to collect the primary data. Secondary data were collected from different local and international articles and journals, books, and websites.

### a) Research Design

The study has made an endeavor to find out the factors contributing towards the choice of universities by the students in Bangladesh. A specifically designed questionnaire was used as a tool and the survey covered a sample of 60 participants who were the students of various universities in Bangladesh. The five-point Likert scale ranging from 1 - strongly disagree to 5 - strongly agree was used for the questions to indicate the degree of agreement or disagreement with each of a series of statements related to the stimulus objects of the study. Statistical Package for Social Sciences (SPSS) 21 was used as a statistical analysis tool.

The questionnaire was self-administered and distributed among the sixty respondents. Before giving the questionnaires, all the questions were explained to the participants so that they can easily complete the whole questionnaire. It was difficult to distribute the questionnaire to a large number of respondents due to time constraints, lack of resources, and budget. Therefore, convenient sampling method was used.

### b) Research Questions

The research questions that were used to construct investigative questions in order to satisfactorily arrive at a conclusion about the study are:

- What are the factors that students consider for choosing university?
- Does Reputation have influence on choosing university?
- Does Tuition Fees have influence on choosing university?
- Does Location have influence on choosing university?
- Does Permanent Campus have influence on choosing university?

- Does Teachers' Quality have influence on choosing university?
- Does Online Service have influence on choosing university?
- Does IT Facility have influence on choosing university?
- Does Advertisement have influence on choosing university?
- Does Environment have influence on choosing university?

Based on the research questions, the following hypotheses have been articulated.

*H1:* Reputation is the most important factor for choosing a university.

*H2:* Tuition Fees is the most important factor for choosing a university.

*H3:* Location is the most important factor for choosing a university.

*H4:* Permanent Campus is the most important factor for choosing a university.

*H5:* Teachers' Quality is the most important factor for choosing a university.

*H6:* Online Service is the most important factor for choosing a university.

*H7:* IT Facility is the most important factor for choosing a university.

*H8:* Advertisement is the most important factor for choosing a university.

*H9:* Environment is the most important factor for choosing a university.

Multiple regression equation is used to identify dependent and independent variables, their relationships and impact on this research. The multiple regression analysis model is given below-

$$Y \text{ (Choosing of university)} = x_1(\text{reputation}) + x_2(\text{Tuition Fees}) + x_3(\text{Location}) + x_4(\text{Permanent campus}) + x_5(\text{Teachers' Quality}) + x_6(\text{Online service}) + x_7(\text{IT facility}) + x_8(\text{Advertisement}) + x_9(\text{Environment})$$

#### IV. LITERATURE REVIEW

Choosing a higher education institute is very important decision for a student because higher study has the potential to change a person's life (Kusumawati, Yanamandram and Perera, 2010). Choosing a particular university is important factor by respondents for higher education (Shahid, Shafique and Bodla, 2012). Several researchers developed many models in this respect. Most studies that have tried to understand the university choice process could be included in one of the following categories: economic models, status-attainment models and combined models (Hossler, Schmidt and Vesper, 1999). The economic model can also refer as the human capital investment model. It assumes that students will

choose a particular institute because of greater benefits compared to others. The sociological model covers various individual and social factors (Calhoun, 1982). In the combined model, the factors in both economic and sociological factors are taken into considerations when explaining students' choice of higher education institution.

A lot of criteria can work in choosing higher education institutions. Some researches show the importance of parents' decision on students' choice (Moogan and Baron, 2003; Domino, Libraire, Lutwiller et al., 2006; Yamamoto, 2006; Raposo and Alves, 2007; Al-Yousef, 2009). It is also found that a student's choice can be affected by their siblings, friends, peers, relatives, teachers and other influential people (Ceja, 2004; Ceja, 2006; Yamamoto, 2006; Pimpa and Suwannapirom, 2008; Wagner and Fard, 2009). Some researchers consider geographic location as an important factor as well as institutional characteristics include teaching quality, prestige, infrastructure, library, computer facilities, location, quality of the curricula, scientific research quality, administrative support, extracurricular factors (sports, leisure, canteens etc.) and the availability of exchanging programs with foreign universities (Veloutsou, Lewis and Paton, 2004; Wagner and Fard, 2009; Beneke and Human, 2010; Tavares, Tavares, Justino et al., 2008). Near to home factor plays critical role in choosing higher education institutions (Paulsen 1990, Raposo and Alves, 2007, and Dawes and Brown, 2005). It means location can be an important factor. Reputation of the institution is also a critical factor here (Moogan and Baron, 2003; Briggs, 2006; Ancheh, Krishnan and Nurtjahja, 2007; Wiese, van Heerden, Jordaan et al., 2009; Afful-Broni and Noi-Okwei, 2010). Along with all factors, students consider job prospect with much importance while choosing institutions (Dorel and Alexandra-Maria, 2006; Wiese, Van Heerden, Jordaan et al., 2009). However, cost of education is the most important factor from parents' point of view rather than a student's (Domino, Libraire, Lutwiller's et al., 2006). Financial aid or packages that include scholarships and grants increase the acceptability of a higher education institution (Kim, 2004; Govan et al., 2006; Hoyt and Brown, 2003). Future studies should take the limitations of this research paper into consideration at the design stage, so that research can be improved and accuracy further increased.



## V. DATA ANALYSIS AND FINDINGS

### a) Reliability Test

Table 1: Reliability Statistics

Cronbach's Alpha (a)	No. of Items
-.185	4

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions.

Table 2: Reliability Statistics

Cronbach's Alpha	No. of Items
.317	2

#### Interpretation

4 items were selected for measuring the dependent variable and after conducting the reliability analysis for these items, the Alpha value was found -.185, which means that, there is an internal inconsistency of -18.5% among the 4 items. But after deleting the weak two factors, internal consistency was found 31.7% among the 4 items.

were developed for measuring the dependent variable and rest of the 18 items were developed for measuring independent variable. 9 independent variables were used in the research. The number of independent variables and the respective items to measure them is given below-

### b) Reliability Test for Measuring Independent Variable

To measure the dependent and independent variable, 22 items were used. Among those, 4 items

Table 3

Independent Variables	No. of Items
Reputation	2
Tuition Fees	2
Location	2
Permanent campus	2
Teachers Quality	2
Online service	2
IT facility	2
Advertisement	2
Environment	2

After conducting the reliability test for the independent variables, the alpha values that were found for each of the independent variable is provided below in another table-

Table 4

Independent Variables	Alpha Values
Reputation	.516
Tuition Fees	.096
Location	.919
Permanent campus	.663
Teachers Quality	.656
Online service	.755
IT facility	.744
Advertisement	.210
Environment	.628

Alpha value of lower than 0.50 is not good but there are some variables that have higher alpha values which are good. So, there is mixed variables.

and independent variables were identified. Then, the regression analysis was conducted by taking the mean values of the dependent variable and 9 independent variables. The result of regression analysis is placed below.

### c) Regression Analysis

Before conducting the regression analysis, mean values for the consistent items of the dependent

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	0.881 <sup>a</sup>	0.761	0.755	3.5339

a. Predictors: (Constant), env, pc, ad, os, tf, tq, loca, rep, it

The value of R<sup>2</sup> indicates 76.1% of variation can be explained by these studied factors. Remaining 23.9% of variance is explained by the variables other than studied variables.

Table 6: Regression Equation Initiation

Coefficients(a)	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.630	.749		3.510	.001
rep	.164	.128	.215	1.283	.206
tf	.010	.071	.022	.135	.893
loca	-.022	.052	-.072	-.430	.669
pc	-.082	.127	-.141	-.647	.520
tq	.056	.097	.098	.581	.564
os	.129	.076	.309	1.702	.095
it	-.093	.110	-.197	-.843	.403
ad	.034	.096	.055	.350	.728
env	-.061	.089	-.127	-.680	.500

a. Dependent Variable: depvar

$$Y = 2.630 + .164x_1 + .010x_2 + (-.022x_3) + (-.082x_4) + .056x_5 + .129x_6 + (-.093x_7) + .034x_8 + (-.061x_9)$$

Here,  
 Y= Assessing the Factors behind Choosing Universities for Higher Education  
 X1=Reputation  
 X2=Tuition Fees  
 X3=Location  
 X4=Permanent campus  
 X5=Teachers' Quality  
 X6=Online service  
 X7=IT facility

X8=Advertisement  
 X9=Environment

d) Hypothesis Testing

1. H<sub>0</sub>: Reputation is not the most important factor for choosing a university.  
 H<sub>1</sub>: Reputation is the most important factor for choosing a university.

Table 7

Independent Variables	Standardized Regression Coefficient (β)	P
Reputation	.215	.206

From the table, it is seen that Reputation has a positive effect on factors behind choosing universities for higher education in Bangladesh. Since the beta value is positive (.215) and the effect of Reputation is significant as the P value is .206, the null hypothesis is rejected.

2. H<sub>0</sub>: Tuition Fees is not the most important factor for choosing a university.  
 H<sub>1</sub>: Tuition Fees is the most important factor for choosing a university.

Table 8

Independent Variables	Standardized Regression Coefficient (β)	P
Tuition Fees	.022	.893

It is seen that Tuition Fees has a positive impact on factors behind choosing universities for higher education in Bangladesh. Since the beta value is

positive (.022) and the effect of Tuition Fees doesn't have significance as the P value is .324, the null hypothesis is accepted.

3. *H0*: Location is not the most important factor for choosing a university.

*H1*: Location is the most important factor for choosing a university.

Table 9

Independent Variables	Standardized Regression Coefficient ( $\beta$ )	P
Location	-.072	.669

From the table, it is revealed that Location has a negative effect on factors behind choosing universities for higher education in Bangladesh. Since the beta value is negative (-.072) and the effect of Location doesn't have significant impact as the P value is .669, the null hypothesis is accepted. It means Location is not the most important factor for choosing a university.

4. *H0*: Permanent campus is not the most important factor for choosing a university.

*H1*: Permanent campus is the most important factor for choosing a university.

Table 10

Independent Variables	Standardized Regression Coefficient ( $\beta$ )	P
Permanent campus	-.141	.520

From the above table, it is seen that Permanent campus has a negative effect on Factors behind choosing universities for higher education in Bangladesh. Since the beta value is negative (-.141) and P value is .520, the null hypothesis is accepted. So, Permanent campus is not the most important factor for choosing a university.

5. *H0*: Teachers' Quality is not the most important factor for choosing a university.

*H1*: Teachers' Quality is the most important factor for choosing a university.

Table 11

Independent Variables	Standardized Regression Coefficient ( $\beta$ )	P
Teachers' Quality	.098	.564

It is seen that Teachers' Quality has a positive effect on Factors behind choosing universities for higher education in Bangladesh. Since the beta value is positive (.098) the P value is .564, null hypothesis is accepted. It means Teachers' Quality is not the most important factor for choosing a university.

6. *H0*: Online service is not the most important factor for choosing a university.

*H1*: Online service is the most important factor for choosing a university.

Table 12

Independent Variables	Standardized Regression Coefficient ( $\beta$ )	P
Online service	.309	.095

It is seen that online service has a positive effect on factors behind choosing universities for higher education in Bangladesh. As the beta value is positive (.309) and P value is .095, the null hypothesis is rejected. It means online service is the most important factor for choosing a university.

7. *H0*: IT facility is not the most important factor for choosing a university.

*H1*: IT facility is the most important factor for choosing a university.

Table 13

Independent Variables	Standardized Regression Coefficient ( $\beta$ )	P
IT facility	-.197	.403

It is seen that IT facility has a negative effect on factors behind choosing universities for higher education in Bangladesh. Since the beta value is negative (-.197) and P value is .403, the null hypothesis is accepted. It means IT facility is not the most important factor for choosing a university.

8. *H0*: Advertisement is not the most important factor for choosing a university.

*H1*: Advertisement is the most important factor for choosing a university.

Table 14

Independent Variables	Standardized Regression Coefficient ( $\beta$ )	P
Advertisement	.055	.728

It is seen that Advertisement has a positive impact on factors behind choosing universities for higher education in Bangladesh. As the beta value is positive (.055) and P value is .728, the null hypothesis is accepted. It means Advertisement is not the most important factor for choosing a university.

9.  $H_0$ : Environment is not the most important factor for choosing a university.  
 $H_1$ : Environment is the most important factor for choosing a university.

Table 15

Independent Variables	Standardized Regression Coefficient ( $\beta$ )	P
Environment	-.127	.500

It is seen that Environment has a negative effect on factors behind choosing universities for higher education in Bangladesh. Since the beta value is negative (-.197) and P value is .403, the null hypothesis is accepted. Hence, Environment is not the most important factor for choosing a university.

## VI. RESULTS AND DISCUSSION

The  $R^2$  value is 76.1% which states that the independent variables explain the dependent variable in a high manner. After conducting the regression analysis, it is found that Reputation and Online Service are the most important factors behind choosing universities for higher education in Bangladesh. There are also some extraneous factors which affect the students' choice of universities for higher education in Bangladesh.

## VII. CONCLUSION AND RECOMMENDATION

Universities are playing a pivotal role in the educational process of Bangladesh. The university selection criteria may vary among the students. But reputation of the university and available online service are the two main influencing factors that play the most vital role in choosing universities for higher education.

It is recommended that universities should focus more on their reputation and online service to enhance students' preference.

## VIII. LIMITATIONS AND FUTURE RESEARCH

It is acknowledged that the work here is exploratory study because previously no study was done in this context in Bangladesh. The present study is conducted among the students at various universities in Dhaka city. So, the sample size was small. The survey took some time due to personal visits. Time constraints and costs are also the limitations of this study. The current study directs future researchers to increase sample size and conduct longitudinal study that could provide a better insight by identifying and testing the significance of extraneous factors.

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## Marketing Communication Strategies and Voters Behaviour in Electioneering Process in Cross River State, Nigeria

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**Abstract-** The study investigated the relationship between marketing communication strategies and voters' behaviour in electioneering process, in Southern senatorial district of Cross River State, Nigeria. The purpose was to determine the effect and relationship of marketing communication strategies such as advertising, personal selling and relationship marketing in electioneering process. The survey research design was employed for the study. The sample for the study was 400 which was derived using the Taro Yamane's formula of from a total number of 971, 470 Population from four local government areas (Calabar municipal, Calabar south, Akpabuyo and Odukpani). The stratified and systematic sampling was then used to select 100 respondents from each of the four Local Government Areas, in the following Political parties All Progressive Congress (APC), Peoples Democratic Party (PDP), and Labour Party (LP).

**Keywords:** *marketing communication strategies; advertising, personal selling, relationship marketing, voters' behaviour, and electioneering process.*

**GJMBR-A Classification:** *JEL Code: M10*



*Strictly as per the compliance and regulations of:*



# Marketing Communication Strategies and Voters Behaviour in Electioneering Process in Cross River State, Nigeria

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**Abstract-** The study investigated the relationship between marketing communication strategies and voters' behaviour in electioneering process, in Southern senatorial district of Cross River State, Nigeria. The purpose was to determine the effect and relationship of marketing communication strategies such as advertising, personal selling and relationship marketing in electioneering process. The survey research design was employed for the study. The sample for the study was 400 which was derived using the Taro Yamane's formula of from a total number of 971, 470 Population from four local government areas (Calabar municipal, Calabar south, Akpabuyo and Odukpani). The stratified and systematic sampling was then used to select 100 respondents from each of the four Local Government Areas, in the following Political parties All Progressive Congress (APC), Peoples Democratic Party (PDP), and Labour Party (LP). Four hypotheses were formulated and tested using the correlation and regression analytical tool of SPSS (version 20) at 0.05percent significance. The results showed that marketing communication strategies have high correlation with voters behaviour in electioneering and the multiple regressions showed the following effect advertising 32.2%, personal selling 22.1% and relationship marketing 0.6%. The results showed that marketing communication strategies is significant in enhancing voters' behaviour. Therefore, it was recommended that political candidates/ parties should employ intense advertising, personal selling and relationship marketing, in order to achieve success in electioneering process.

**Keywords:** *marketing communication strategies; advertising, personal selling, relationship marketing, voters' behaviour, and electioneering process.*

## I. INTRODUCTION

Election is the hallmark of democracy and without the popular consent of the people the principles of democracy are not being practiced (Ebegbulem, 2010). This is the reason why political parties are at logger-heads with one another to ensure they have the highest number of voters (Basil & Bassey, 2016). Political parties use various marketing communication strategies to inform the people, but the strategy that produces the best outcome has always been a problem. During the election conducted in the 1979 to usher in the second republic, virtually all political parties employ

marketing communication strategies such as personal selling, direct marketing, sales promotion, advertising and so on (Worlu, 2010). Adam, Kirsch and Weils (1943) as cited in Staff (2014) observe that the problem with political candidates is that they delegate their conscience to the party they belong, and unconsciously promised the people what they will not do, this has caused supporters to lose interest during electioneering, discouraged voters in the various political parties, and have made the marketing communication strategies somewhat ineffective. For instance, in the 2015 general presidential election in Nigeria, the total numbers of registered voters were 44 percent, compared to previous years, which was higher, for example in (2011) 54 percent, (2007) 57 percent, (2003) 69 percent, and in (1999) 52 percent (Fagunwa, 2015). As a result Political parties who are known to be election oriented people with primary motives to get their various candidates into office Wayne, Mackenzie, O'Brien, and Cole (1997), ensure that they know the what, how, and when to use the various blend of the marketing communication strategies (Basil et al 2016) and the effectiveness of each, in order to increase and encourage voters behaviour.

Marketing communication is the process of employing all strategies, tactics, and activities involved in getting the desired marketing messages to intended target markets, regardless of the media used (McCormick 2007) as cited in (Potluri, 2008). In other words, marketing communication plays a major role in every sector of the economy and the political environment is no exception. The introduction of classical methods of marketing communication tools such as advertising, personal selling and relationship marketing have marked the dawn of a new day in electioneering process. Voters need information about the features of the product (candidate) or service, its price and how they can access it, to make informed purchase decision (Potluri 2008). Hence the aim of this study was to determine the relationship and the effect of marketing communication strategies and voters behaviour in electioneering process.

### a) Statement of problem

Since the formation of the Nigerian state, there have been series of elections, with dwindling numbers of

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voters, as a result of inadequate use of marketing communication strategies. Nzeribe (1992) as cited in (Worlu, 2010) opined that before the 1960 colonial administration organized a couple of general election without systematic and adequate use of political marketing communication. The reason for this is because the person feels it is none of their business, that is, coming out to vote does not determine a means of their livelihood. Wrong notion, isn't it? Also, there has been misuse or wrong combination of the marketing communication strategies. Other factors include dissatisfaction with past government, electoral processes and some people feels that coming out will make no difference in their lives (McCormick, 2007).

Governments have had the problem of involving the masses of the ordinary citizens in coming out to vote during elections. The various political parties are also without this problem, they cannot easily get people out to the polls, and so how to reap this particular advantage overtime has posed a bit of a problem. This then begs the question; how can the voters be mobilized to get out and vote motivated this study?

b) *Objectives of the study*

The broad objective is to determine the impact of marketing communication strategies and voters behaviour in electioneering process in Cross River State. The specific objectives are to:

- i. Examine the relationship between Advertising and voters behaviour in electioneering process;
- ii. Determine the relationship between personal selling and voters behaviour in electioneering process;
- iii. Investigate the relationship between relationship marketing and voters behaviour in electioneering process;
- iv. Determine the effect of marketing communication strategies on voters' behaviour in electioneering process.

c) *Hypotheses*

$H_{0_1}$ : There is no significant relationship between advertising and voters behavior in electioneering process.

$H_{0_2}$ : Personal selling does not have a significant relationship on voters' behaviour in electioneering process.

$H_{0_3}$ : Relationship marketing does not significantly relate with voters behaviour in electioneering process.

$H_{0_4}$ : Marketing communication strategies are not significantly effective in voters behaviour in electioneering process;

## II. REVIEW OF RELATED LITERATURE

a) *Theoretical Framework*

This study is premised on the following theories:

- Theory of persuasion

- Empirical political theory

*Theory of persuasion: Greek Philosophers 6<sup>th</sup> Century*

Theory of persuasion was developed in the 6<sup>th</sup> century by the Greeks philosophers. It assumes that persuasion can be used as an attempt to change or influence perception, behaviour, cognition, motivations, and beliefs of the public. It explains that there should be credibility and reputation in electioneering process.

The theory is relevant to the study because it serves as a motivating factor for political candidates/ parties to actualize their campaign goals and objectives.

*Empirical political theory: Heineman 1996*

Heineman, (1996) postulates that all political theorizing is empirical in that in order to be useful it must have some relationship to actual political behaviour and beliefs. A major problem with empirical theory is its tendency to treat political life too narrowly.

This theory is applicable to the study because it utilizes and tends to rely on assumptions of individual self-interest and rational behaviour of voters and it defines rational behaviour of voters in present logical terms. In other words, when carefully formulated it contributes a great deal to our understanding of political behaviour.

b) *The concept of marketing communication*

Every aspect of human endeavors involves communication. There are various means a political party can use to influence voters' behaviour, but for the purpose of this study emphasis was on marketing communication strategies such as advertising, personal selling and relationship marketing. Many factors tend to influence the choice of a particular communication tool. One of such factors is the nature of the product or the nature of the target audience or the degree of competition (Agbonifoh et al 2007). Kotler and Armstrong (2010) referred to marketing communication as the specific blend of advertising, personal selling, sales promotion, direct marketing and so on that an organization or institution uses to persuasively communicate customer value and to build customer relationship. In order to achieve political and electoral objective in contemporary election one or a combination of the marketing communication strategies is required for the desired result.

- Advertising

The importance of advertising cannot be over emphasized. It is one of the most commonly used communication tool that does not require the personal (individual) presence of the communicator to achieve desired response. Advertising as a communication tool is effective in electioneering process, for the simplest reason that its message could easily be understood using songs through medium such as radio and television, bill boards, newspaper and so on. No matter the nature of the product, level of education, social

status or other related factors, advertising is most effective for wider reach. Advertising does not only create awareness or provide information it also adds value to a product (political candidate) by influencing the perception of the consumers (voters) about the political candidate (Ebitu 2002).

Worlu (2010) observes that advertising gain prominence in 1963 after independence when Chief Obafemi Awolowo of Action Group used it to send messages to the publics. It is a paid form of non-personal presentation and promotion of ideas, goods or services by identified sponsors (Agbonifoh et al 2007). The key distinguishing feature or unique feature of advertising as opposed to other marketing communication tool is its nature or ability to be paid for example radio, television, and newspaper unlike personal selling, relationship marketing and so on which are not instantly paid for. Kotler (2010) observe that although advertising is used mostly by business firms, a wide range of non-profit organization (government, political parties, churches) also employ the use of advertising. Ebitu (2002) is of the view that advertising is a non-personal communication which is openly paid for and meant to affect a company or individual's target audience and/or market positively in order to elicit acceptance of ideas, goods and services, individuals or institutions.

Adetayo (2002) gave two basic types of advertising to include (1) product advertising (2) institutional advertising.

*Product advertising* is the process of that focuses on selling specially identified goods and services examples include cooperative and comparative advertising. *Institutional advertising* on the other hand, is a form of advertising that lays emphasis on the image or personality of a product category rather than a brand(physical product), example a political campaign program or a political candidate. Kotler and Armstrong (2010) and Agbonifoh et al (2007) gave some important decisions that involve advertising campaign programs for an effective electoral outcome;

- i. *Situation and market analysis*- organization current market problems, strength, weaknesses of its product and organization resources.
- ii. *Selling advertising objectives*- specific communication task to be accomplished with a specific target audience during a specific period of time.
- iii. *Advertising budget*- ability to be able to allocate funds judiciously and fairly.
- iv. *Developing advertising strategy*- organizational ability to be able to create advertising messages that the people will accept without doubt and selecting the best media {e.g. electronic media or print media}.
- v. *Evaluation*- the most difficult process, it is the ability of the advertiser to be able to determine the

audience, the effect of the advertising objective and also able to take corrective measures.

- Personal selling

Just the way voters require information to know the right candidate; candidates also need information to give voters positive impression about themselves. People hold many stereotypes of sales people including unfavorable ones (Kotler et al 2010) just like voters hold different views of political candidates in every electioneering process. Adetayo (2002) defined personal selling as a direct seller and a potential customer. It is a tool that helps a political candidate communicates with voters in order to get more attention. In other words, personal selling is the interpersonal, face-to-face interaction for the purpose of creating, modifying, exploiting or maintaining a mutually beneficial exchange relationship (Agbonifoh, Ogwo, Nnolim, Nkamnebe, 2007). Similarly, Adetayo (2002) opine that, personally selling is quite unique more than other marketing communication strategies because of its ability to adjust and stay in touch with the prospects, voters, supporters, citizens as the case maybe. It requires an individual to be involved in the selling process personally or hire the services of a salesman who can take up the responsibilities/ activities of the personal selling process effectively. Ebitu (2002) point out that it is now a common feature of most businesses (individual or group) to use sales person in marketing their product and services for example; for example, recently in the U.S political campaign Beyoncé and the husband Jay Z who are popular international musicians took the position of the sales forces of Hilary Clinton wore T-shirts with an inscription" I am with her" to communicate Clinton to the world to attract voters' support. Similarly, Kellyanne Conway Donald Trump's campaign manager also played the role of Trumps sales person, in an interview with CNBC she noted that Trump won the peoples election because "He's a game player", she also added "Trump is a problem-solver. He's a builder", Conway said. Author Robert Louis Stevenson (n.d) as cited in Kotler (2010) notes that "everyone lives by selling something" either they use sale forces or sell it themselves, it should be noted that when applying personal selling in electioneering process, the right words should be by sales force in order to portray a positive image to the voters. Dennisw (2008) has it in the New York Times, April, 1, 2007 that Axelrod was known to be useful to assist Rahm Emanuel the present Mayor of Chicago in the 2006 election to take over the house of representative from the republicans. He also used this success to help Deval Patrick become governor of Massachusetts, in the United States. What Axelrod did basically was not just to sell policies but also personalities and leadership (Basil & Bassej 2016).

- Relationship marketing

For any political party to exhibit anew a dimension in the electioneering process, relationship marketing is a strategic weapon that can aid and make people have listening ears or interest. Because of the competitive nature of political parties, relationship marketing helps in increasing the awareness of each party and also handles complex factors such as competition of the other parties in determining their relationship with the masses (voters). Imagine a political candidate who go all the way to hug, shake hands and carry little children in order to achieve campaign objectives, for example Hilary Clinton of the Democratic party, and Donald Trump a Republican in the United States. Kotler, (2010) referred to relationship marketing as managing detailed information about the individual customers (voters) touch point, in order to maximize customer loyalty. The idea behind relationship politics as suggested by (Olotu & Ogunro, 2013) is geared towards building mutually satisfying long-term relationships with key players in the political arena, and not just the candidates and voters. Berkowitz, et al (1994) suggests that relationship marketing is revolutionized in today's market because of the complex factors influencing political party leaders. Sodaro, et al (2001) points out that political power is relational in nature and therefore, involves either bargaining or coercion. Irrespective of the type of power both can be at work in relationship marketing in order to be able to exert influence.

Political parties need to acknowledge the importance of nurturing and developing a variety of relationships as a long-term strategic imperative in the election process, if they must build a stronger and long lasting relationship (Banon, 2008). With relationship marketing it is easier to reach specific household (Sodaro, et al 2001). Also, satisfying marketing opportunities means that political parties should have a cordial one-to-one relationship with its audience. Thus it enables the political candidates/ parties to have understanding of the market place, needs of the target audience. It serves as a guiding factor between the campaign parties and the citizens. Pate, Nwabueze, & Odiong (2013) as cited in (Basil & Bassey 2016) opines that political parties pays little attention to marketing communication strategies, that the notable period that saw effective relationship marketing play in politics was in 1993 election of June 12 between M.K.O Abiola and Bashir Tofa. Abiola was able to build good relations with the then citizens of Nigeria. Relationship marketing seeks to establish long-term, committed, trusting and co-operative relationship between political candidates and the voters. In other words, it helps to build trust and ensures that promises are kept (Agbonifoh et al, 2007).

c) *Electioneering process and political parties*

Political party is a group of officials or would be officials who are linked with a sizeable group of citizens

into an organization with the aim of ensuring that its officials attain or maintain power (Shelves, 2005). The first modern electoral democracy was the United States of America and it was here that the first party was developed in the 1820s and the oldest in the world. Notable political parties in USA are the Democrat and Republican. Political Parties have been widely copied and are found in many countries, for example in Nigeria we have; The People's Democratic Party (PDP), All Progressive Congress (APC), Egypt; National Democratic Party and so on. Shelves is of the opinion that the main effect of holding elections was to involve the masses of ordinary citizens in acting out their support and by so doing strengthening that support. He says that for this to happen millions of voters must be stimulated to go out and take the trouble to vote and achieving this means utilizing the various blend of the political marketing communication strategies.

In electioneering process there must one or more forms of political parties, who aspire to have a large numbers of voters. This is important in today's contemporary environment because government power directly and fundamentally affects the lives of most people in the world (Heineman, 1996). In the rudimentary sense parties have existed almost as long as forms of government, but without marketing communications strategies the people will not be informed correctly about the activities of government, neither will they know the political parties to vote for or carry out political activities of the nation. By definition, politics is a practical activity, the discourse and the struggle over the organization of human possibilities (Held, 1989). It involves the use of power by one person or a group of people to affect the behaviour of another person or a group (Shelves 2005). Politics creates and conditions all aspects of our lives and it is at the core of the development of collective problems and the modes of their resolution (Held, 1989). Political transformation (social or physical) requires that political parties campaign should have a vast knowledge and know how marketing communication strategies such as advertising, personal selling and relationship marketing to enable voters support in electioneering process.

d) *Bases of voters' electoral choices*

Electoral choices are determined solely by how the various political parties have been able to communicate their candidates to the publics (voters). Shelves (2005) have it that voters' electoral choice can be distinguished using factors as short and long-term factors. *Short-term factors* are things about a particular election that may lead a person to vote one way or another. For example, if times are bad, a number of people will vote against whomever, is in the office as a way of showing their unhappiness. *Long term factors* on the other hand, is the commitment of various social groups to a particular political party over time. These

two factors have been seen to be practiced by voters in recent times. Contemporary voters may likely not be moved by the aforementioned unless and only if political

candidates can deliver on campaign promises by employing the marketing communication strategies efficiently and effectively.

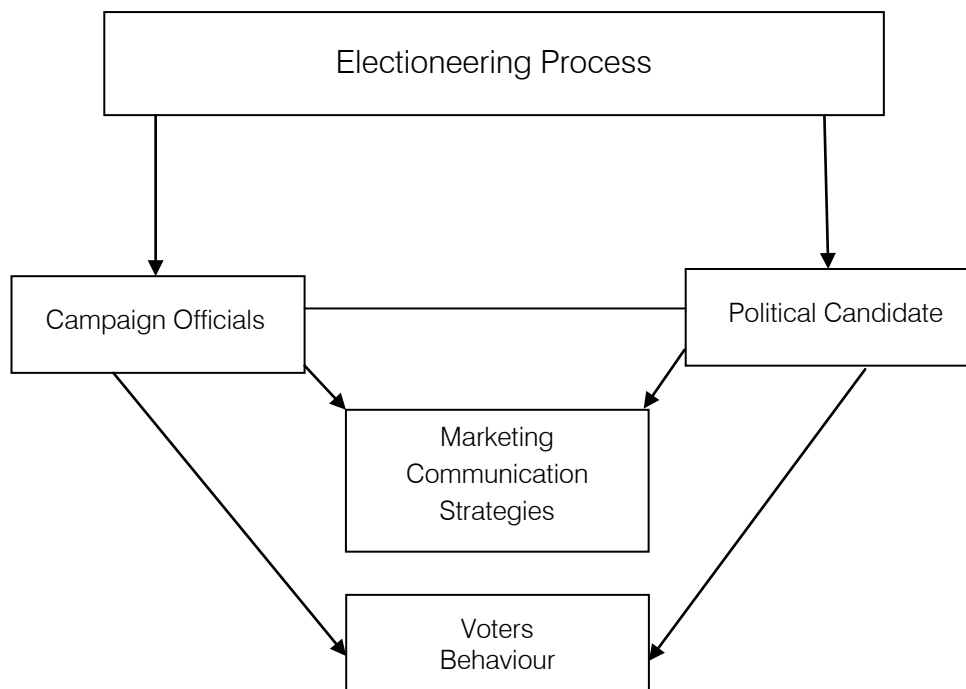


Figure 1: Political Marketing Communication Model

Source: Frank, J.S and Paul, A.B (1992) as cited in Wayne, S.J. Mackenzie, G.C, O'Brien, D.M and Cole, R.I (1997)

Extended by: the researcher (2016)

The diagram reveals that when electioneering process is centered on marketing communication strategies it will influence voters' behaviour, which will in turn yield adequate campaign effectiveness. It shows that campaign officials, political candidate and voters' all have need for up to date information, which can be achieved through a carefully blend of marketing communications strategies.

Party(LP). Three hypotheses were formulated and tested with the Pearson's Product Moment Correlation Coefficient while the fourth hypothesis was tested using the multiple linear regression analytical tools on SPSS/PASW (version 20) at 0.05percent significance. A five Likert type was employed, (strongly agreed, agreed, undecided, disagreed, and strongly disagreed).

### III. METHODOLOGY

The study adopted a survey research, which explores the use of both primary and secondary data; primary data were gotten from questionnaire instruments and secondary data from related literature. In 2011, Cross River was estimated to have a population 3.338 million by the National Population Commission, but for the area of study we have;222,980 in Odukpani, 221,400 Calabar south, 212,340 Calabar municipal and 314,750 in Akpabuyo respectively and the addition of these four Local Government Areas formed the population of the study as 971, 470. The Taro Yamane's formula was thereafter used to determine the sample, which amounted to 400 .It was then divided into four strata based on the Local Government Areas, after which the systematic sampling was used to select100 respondents from each of the Local Government Areas in three political parties APC, PDP, and Labour

#### IV. ANALYSIS AND PRESENTATION OF DATA

##### a) Demographic distribution of respondents

Table 1

Option	Frequency	Percentage (%)
Sex:		
Male	204	51.0
Female	196	49.0
Age:		
18-28 years	117	29.3
29-38 years	192	48.0
39-48 years	55	13.8
Above 49 years	36	9.0
Education:		
Tertiary	230	57.5
Secondary	135	33.8
Primary	35	8.8
Total	400	100

Source: field survey, 2016

The table shows that out of the 400 respondents surveyed 204 representing 51.0 percent were male; and 196 representing 49.0 were females. It shows that, 117 representing 29.3 percent were between the ages of 18-28 years; 192 representing 48.0 were between 29-38 years; 55 representing 13.8 percent

were 39-48 years; and 36 representing 9.0 percent were 49 years and above. It also shows that 230 respondents representing 57.5 percent attended tertiary education; 135 representing 33.8 percent were secondary school certificate holders; and 35 representing 8.8 percent attended primary education.

##### b) Respondents views on marketing communication strategies and voters behaviour in Electioneering process

Table 2

ITEMS	SA	A	UND	D	SD
During campaign, I got to know more about my favorite political candidates/ party through :					
1. Advertising	233	155	-	12	-
2. Personal selling	135	159	37	56	13
3. Relationship marketing	118	141	64	21	56
4. Political parties/candidates that employ the use of marketing communication strategies will easily influence voters' behaviour.	167	210	5	18	-

Source: field survey, 2016

The table shows the respondents perception of the impact of marketing communication strategies on voters' behaviour in electioneering process.

Pearson's Product Moment Correlation Co-efficient analysis of the relationship between advertising and voters behaviour in electioneering process in Cross River State.

##### c) Test of hypotheses

###### Hypothesis one

$H_{01}$ : There is no significant relationship between advertising and voters behaviour in electioneering process in Cross River State.

Table 3

Variables	X	S.D	r
Advertising	13.04	2.26	0.487**
Voters Behaviour	12.76	1.66	

Significant at 0.05; DF= 398; critical r = 0.098

Statistical analysis showed that, the calculated r- value of 0.487 is greater than the critical r- value of 0.098 at 0.05 level of significance with 398 degrees of

freedom. This means that, there is a significant relationship between advertising and voters behaviour in electioneering process in Cross River State. To support

this finding, interaction with some of the campaign officials and people living in Calabar municipality area attest that advertising is the most commonly used marketing communication strategy. Apospori et al, (2010) as cited in (Gbadeyan, 2010) agreed that with advertising tools such as newspaper, radio campaign messages will be easily disseminated, even to an average Nigerian. They strongly agreed that, advertising is the fastest form of strategy in electioneering process which has a wider reach. According to Daignault, Soroka, & Giasson (2013) it was discovered that positive advertising generate positive judgments, that television advertising is critical for any modern electioneering

process. A study by Ojekwe (2015) revealed that political advertising plays some role in voting behaviour, it suggest that radio and television are very strong advertising tools to employed.

*Hypothesis Two*

*H0<sub>2</sub>*: Personal selling does not have a significant relationship on voters' behaviour in in electioneering process

Pearson's Product Moment Correlation Co-efficient analysis of the relationship between personal selling and voters' behaviour in electioneering process in Cross River State.

Table 4

Variables	X	S.D	r
Personal Selling	12.76	1.66	.279**
Voters Behaviour	12.67	1.27	

Significant at 0.05; DF= 398; critical r = 0.098

Statistical analysis showed a positive significant relationship between personal selling and voters support in electioneering process in Cross River State, where r-value of .279 is greater than r- critical of 0.098at 0.05 level of significance with 398 degrees of freedom. A finding by (Mearain, Sherlock, & Hogan, 2013) suggest that political candidates/ parties are looking to and adopting the traits of those in the sales profession in order to influence voters behaviour in electioneering process. That is, modern politicians must possess the sales person traits in order to get and remain elected. To support this findings, a study by (Kenyatta & Muchina, 2016) suggest that for effective voters behaviour in electioneering process, adequate and timely personal

selling should be encourage in order to increase performance. They were of the opinion that enhances communications through personal selling influences voters' behaviour.

*Hypothesis Three*

*H0<sub>3</sub>*: Relationship marketing does not significantly relate to voters behaviour in electioneering process in Cross River State.

Pearson's Product Moment Correlation Co-efficient analysis of the relationship between relationship marketing and voters behaviour in electioneering process in Cross River State.

Table 5

Variables	X	S.D	r
Relationship Marketing	12.48	1.62	.191**
Voters Behaviour	12.76	1.66	

Significant at 0.05; DF= 398; critical r = 0.098

From the analysis above it could be observe that calculated r-value of .191 is greater than the critical r- value of 0.098 at 0.05 level of significance with 398 degrees of freedom. It follows that, there is positive relationship between relationship marketing and voters behaviour in electioneering. To support this, Gbadeyan (2010), Olotu and Ogunro (2013) reveals that relational political marketing would engender economic, technical, and social ties between voters, parties and electorates through trust, bonding, communication, empathy, reciprocity, shared value, and sociality, if properly utilized. In addition, Ngwoke (2011) supports this finding by adding, that political parties give out things like cap,

diaries, and key holders and so on to ensure a mutual relation with their supporters .Also, Political parties should constitute an effective committee to monitor and evaluate the effect of their relationship with the publics.

*Hypothesis Four*

*H0<sub>4</sub>*: Marketing communication strategies does not have any significant effect on voters' behavior in electioneering process in Cross River State.

Multiple linear regression analysis is used for the test of marketing communications strategies and voters behaviour in electioneering process.

Table 6

SV	SS	DF	MS	t	Sign
Regression	291.007	3	97.002	47.631	.000*
Residual	806.470	396	2.037		
Total	1097.477	399			

Table 7

Model	B	STD Error	BETA	t	Sign
(Constant)	5.623	.775		7.256	.000
Advertising	0.327	.033	.446	10.006	.000
P.Selling	0.221	.069	.169	3.207	.001
Relationship	.006	.054	.005	.105	.917

$R = .515$ ;  $R^2 = .265$ ;  $Adjusted R^2 = .260$ ;  $S.E = 1.427$   
 Significant at 0.05; critical  $t = 1.966$ ; critical  $F = 2.62$

Result of table four shows the composite success of marketing communication strategies on voters' behaviour in electioneering process. The analysis indicates that, the calculated f- ratio of 47.631 at 0.05 level of significance using 3 and 396 degrees of freedom. The implication of this is that, when advertising, personal selling, and relationship marketing are taken together, they can significantly predict voters behaviour in electioneering process. The coefficient of advertising (0.327), shows that, a percentage change in the use of advertising while other variables are held constant would lead to 32.7 percent increase in voters support. The coefficients of personal selling (.221), shows that, a percentage change in the use of personal selling while other variables are held constant would lead to 22.1 percent increase in voters support. The coefficients of relationship marketing (.006) shows that, a percentage change in the use of relationship marketing while other variables are held constant would lead to 6 percent increase voters support.

The  $R^2$  of the multiple regression measures the degree of association between marketing communications strategies (advertising, personal selling and relationship marketing) and voters' behaviour. It shows that 26.5 percent of the variation in voters' behavior is explained by the variation of marketing communications strategies, while 73.5% of the variation in the electioneering process is explained by other variables which are extraneous to the study. The t statistics in the table shows that, the calculated t value for advertising (10.006), personal selling (3.207), are all greater than the critical t value of 1.966 except for relationship marketing (.105) at 0.05 level of significance using 398 degrees of freedom. This means that, there is a significant relationship between marketing communication strategies in terms of advertising, personal selling, and relationship marketing and performance and success of electioneering process in Cross River State Nigeria.

## V. CONCLUSION

The relationship between marketing communication strategies in election has shown that advertising, personal selling, and relationship marketing are abstemiously effective in creating awareness and apprising voters about an election. Studies have shown that marketing communication is all embracing and the political environment is not an exception (Basil et al.,

2016). On this note, political parties should endeavor to know how marketing strategies works in electioneering and how best it can be applied in order to achieve electoral objectives. Political parties campaign effectiveness is not achieved through common value systems, or general respect for the authority of the state, or brute force and so on (Held, 1989), but by how well the various political marketing communication tool is used to convince voters, because the precariousness of todays government is a link between the citizens of a country through effective communications.

## VI. POLICY IMPLICATION/RECOMMENDATIONS

The study strongly recommends the followings;

- i. A research should be carried out prior to election in order to know the most effective marketing communication strategy for a particular target audience.
- ii. Political parties should rely more on the use of advertising, since it yielded high percentage of voters support.
- iii. Political parties should also adopt the use of personal selling and relationship marketing in every electioneering process.
- iv. Political candidates should be made to face voters/ relate with voters formally and informally for them to be objectively assessed.

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## Equipe De Enfermagem: Análise Do Clima Organizacional No Centro Cirúrgico Deum Hospital Público

By Maria da Glória Vitório Guimarães

*Campus Universitário*

**Resumo-** A qualidade do ambiente organizacional influencia cada vez mais o comportamento dos colaboradores, interferindo na *performance* e nos resultados, por conseguinte, objetiva-se conhecer os fatores favoráveis a um bom clima organizacional no âmbito da equipe de enfermagem do centro cirúrgico de um hospital público. Buscou-se examinar a opinião dos enfermeiros, técnicos e auxiliares de enfermagem num total de 46, a respeito das dez dimensões consideradas relevantes a um ambiente saudável. Para tanto foi aplicado um questionário auto administrado contendo 60 questões. As análises foram quantitativas, desenvolvidas a partir do *software* SPSS. Os resultados demonstraram que os servidores não estão satisfeitos com a segurança e as condições do trabalho, indicaram que os treinamentos são escassos, além disso, não existe reconhecimento quando o trabalho é bem feito, no entanto o salário recebido não tem acarretado insatisfação.

**Palavras-chave:** *clima organizacional; comportamento humano; equipe de enfermagem; hospital público.*

**GJMBR-A Classification:** JEL Code: M19



EQUIPE DE ENFERMAGEM ANÁLISE DO CLIMA ORGANIZACIONAL NO CENTRO CIRÚRGICO DE UM HOSPITAL PÚBLICO

*Strictly as per the compliance and regulations of:*



RESEARCH | DIVERSITY | ETHICS

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Maria da Glória Vitório Guimarães

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**Palavras-chave:** clima organizacional; comportamento humano; equipe de enfermagem; hospital público.

## I. INTRODUÇÃO

Observa-se que nos serviços da maioria das instituições de saúde, está presente a assistência de enfermagem ao paciente, uma vez que, a enfermagem trabalha com o paciente desde os primeiros sintomas da doença. Os serviços de saúde implica em contato e interação entre o profissional, o paciente e a instituição, sendo estes fatores fundamentais para a prática de uma boa assistência, pois ambos participam mutuamente no estabelecimento do quadro clínico do paciente. “O trabalho hospitalar envolve, essencialmente, o trabalho de equipe” (BACKES; LUNARDIFILHO, 2006, p.1060), por conseguinte, uma estrutura física adequada, equipamentos de proteção, treinamentos constantes e boas relações de trabalho são bastante importantes.

Para Srour (1998, p. 86), o clima é uma das variáveis que influencia o desempenho organizacional no processo de alcance dos objetivos propostos. Nas unidades de saúde é primordial um ambiente propício à integração das equipes multifuncionais, bem como promoção da qualidade de vida no trabalho, motivação, satisfação e possibilidades de desenvolvimento. Portanto, torna-se prioritário uma análise do clima organizacional que possa identificar a percepção e

opinião dos servidores sobre o clima existente. A pesquisa de clima organizacional deve ser considerada como uma estratégia para identificar oportunidades de melhorias contínuas no ambiente de trabalho e na produtividade.

Entende-se que a administração do clima é uma responsabilidade de todos, mais principalmente dos gestores, pois as inadequações ao trabalho, desajustes comportamentais e estresse são aspectos que interferem na vitalidade e na ação das pessoas, desse modo, objetiva-se avaliar e conhecer o Clima Organizacional no âmbito do ambiente da equipe de enfermagem do centro cirúrgico de um hospital público, a fim de apresentar sugestões que possam melhorar o desempenho da equipe e a assistência ao paciente.

## II. DESENVOLVIMENTO

Administrar o clima no âmbito organizacional é uma ação estratégica que deve ser observada por todos os membros da organização, contudo muitas ações são intervenções superficiais, voltadas para resolver problemas imediatos, como resultado, não proporcionam condições de desenvolvimento e equilíbrio psicológico. Acrescenta-se a isso, as limitações de análise organizacional para diagnosticar situações que exigem uma compreensão mais abrangente da natureza do trabalho humano (STONER; FREEMAN, 1999, p. 17).

Desse modo, “o clima representa o ambiente psicológico e social que existe em uma organização e que condiciona o comportamento dos seus membros” (CHIAVENATO, 2005, p. 123). “O clima pode se referir ao ambiente dentro de um departamento, de uma fábrica ou de uma empresa” (CHIAVENATO, 2005, p. 124).

Logo, a origem da palavra organização que deriva do grego *organon*, significa uma ferramenta ou instrumento, na perspectiva mais conhecida se entende organização “como um ente social criado intencionalmente para se conseguir determinados objetivos mediante o trabalho humano e uso de recursos materiais” (DIAS, 2003, p. 22).

Para Drucker, “organização é um grupo humano, composto por especialistas que trabalham em conjunto em uma tarefa comum” (1999, p. 61). Em

virtude disso, o elemento humano separado dos grupos e das organizações não constitui uma célula social. Assim, também, as instituições sem o elemento humano não constitui uma empresa. A empresa é o conjunto do homem e do patrimônio, estas afirmativas são verdades que têm evidência, por si mesmas, não necessitando de demonstração, são axiomáticas (SÁ; LEMOINE, 1999, p. 45).

Portanto, a estrutura organizacional juntamente com a cultura existente e a organização do trabalho estabelecida resultará no clima organizacional da instituição. A cultura organizacional representa as normas informais e não escritas que orientam o comportamento dos membros da instituição no dia a dia e que direcionam suas ações para a realização dos objetivos organizacionais (CHIAVENATO, 2005, p. 35).

No que diz respeito, ao Clima Organizacional entende-se como a expressão dos sentimentos dos colaboradores diante dos valores, das políticas, das práticas de gestão das pessoas, da forma de relacionamento com os colegas, da postura da empresa ao estabelecer e retribuir pelo alcance das metas, além da situação econômica (BOOG, 2002, p. 10).

Conforme a concepção de Dias (2003, p. 67) pode-se dizer que na composição do Clima Organizacional, é importante observar:

- Clima de intimidade: favorece a integridade do grupo e relações sociais amistosas. Estas relações devem satisfazer as necessidades sociais de relacionamento e não estão necessariamente ligadas a tarefa desenvolvida no local de trabalho;
- Clima de espírito de equipe: sentimento de pertencimento, ademais percebem que suas necessidades sociais são atendidas,;
- Clima com ênfase na produção: os integrantes sentem que seu comportamento no trabalho é bastante supervisionado, ademais recebe pressão por resultados. A administração é fortemente direcionada ao seu objetivo principal (metas e produção) e muitas vezes insensível aos problemas e opiniões;
- Clima burocrático: há uma atmosfera fechada e formal. Insiste-se na papelada e canais formais. Nas discussões de trabalho, predominam referências as regras, regulamentos e procedimentos;
- Clima de cordialidade: ocorre um sentimento geral de camaradagem que prevalece na atmosfera do grupo de trabalho, havendo maior ênfase nas pessoas e uma predominância de grupos sociais amistosos e cordiais;
- Clima de tolerância: deriva para um comportamento organizacional onde os erros são tratados como forma de apoio e aprendizagem, todavia pode

existir uma atmosfera ameaçadora ou inclinada a colocar a culpa em alguém.

Partindo deste contexto, foram analisadas determinadas dimensões sobre clima organizacional, sempre com foco em uma unidade hospitalar pública.

### III. DIMENSÕES DE CLIMA ORGANIZACIONAL

#### a) *Cooperação e adesão*

“O homem enfrenta continuamente dificuldades na convivência com o outro, o que gera conflitos nas situações práticas do cotidiano” (KANAAANE, 2012, p. 113). As pessoas se apoiam mutuamente quando há concordância autêntica e discordam entre si em caso contrário. A cooperação pode ser funcional ou disfuncional para o sistema organizacional, se as reflexões e as concordâncias são autênticos esforços de integração e aprendizagem, tem-se um processo funcional, ao contrário disso, se as pessoas encobrem discordâncias que precisam ser expostas para se chegar a decisões equilibradas, a cooperação é disfuncional (COHEN, 2003, p. 28). Desse modo, pode-se observar que quanto maior for o grau de interação entre os grupos ou entre as pessoas de um dado setor de trabalho, maior será a tendência à cooperação mútua, simultaneamente, tem-se um clima propício ao aumento da eficácia.

#### b) *Segurança no trabalho*

Segurança no trabalho é o conjunto de medidas que visam a prevenir acidentes. Constitui, pois, um dos fatores decisivos para o aumento da produtividade, na medida em que reduz o número de faltas decorrentes de condições de trabalho inadequadas (TACHIZAWA; FERREIRA; FORTUNA, 2001, p. 102).

Ainda segundo os autores, o primeiro passo para prevenir os acidentes de trabalho é identificar as suas causas. As principais causas de acidentes são: características pessoais inadequadas; comportamentos disfuncionais, como desatenção, esquecimento, negligência e imprudência; degradação do ambiente de trabalho, devido a fatores potencialmente causadores de acidentes, como equipamentos mal projetados ou em precário estado de conservação e arranjo físico mal definido.

#### c) *Condições no trabalho*

Conforme Kanaane (2012, p. 34), o trabalho é uma ação humana exercida num contexto social, que sofre influências oriundas de distintas fontes, o que resulta numa ação recíproca entre o colaborador e os meios de trabalho. As condições no trabalho deve possibilitar o surgimento de possibilidades facilitadoras para a adaptação e ajustamento do indivíduo, quer como pessoa, quer como profissional, com um incremento efetivo à produtividade. Isto implica, necessariamente, em conhecer e redefinir o sistema de

trabalho através da flexibilização das relações de poder, autoridade e comunicação.

d) *Habilidade de supervisão*

As unidades hospitalares para serem efetivas, precisam de supervisores ágeis, adaptáveis, flexíveis as necessidades, que detenham as novas técnicas de liderança. Há uma expectativa de que os enfermeiros de todas as clínicas deleguem e supervisionem o trabalho de diferentes profissionais da saúde: auxiliares e técnicos de enfermagem, técnicos de nutrição, lavanderia, manutenção e os serviços prestados durante a residência médica. Para que esses profissionais desempenhem o papel de supervisores e gerentes precisam de preparo para assumir tais tarefas de liderança (MARQUIS; HUSTON, 2005, p. 30).

e) *Gestão de pessoas*

A gestão de pessoas deve se preocupar em treinar, avaliar, reter talentos e gerenciar os recursos humanos de forma eficiente e eficaz, buscando os melhores resultados.

Poucas instituições contam com a variedade de profissões, encargos, diversidade de tarefas, pressões e riscos pessoais de um hospital. Também são poucas as instituições nas quais o trabalho é permanente e intenso, durante as vinte e quatro horas do dia, com atividades inesperadas a cada dia e cujas situações de emergência surgem com frequência e comportam risco (LONDOÑO; MORERA; LAVERDE, 2003, p. 32). O universo de profissionais existentes para a execução das atividades dentro de um hospital é muito amplo, são realizados trabalhos, médico-cirúrgico, assistência de enfermagem, serviços de laboratório, exames, lavanderia, alimentação, almoxarifado, informática, e outros. Enfim, o quadro de pessoal inclui o corpo assistencial, os funcionários da área administrativa e de suporte operacional (ZANON, 2001, p. 94). Os quais apresentam carências de preparo profissional, necessitando de acompanhamento e treinamento constante.

f) *Ambiente de trabalho*

As instituições bem sucedidas incentivam cada vez mais as discussões em grupo, o trabalho em equipe e a cooperação, buscando impulsionar um bom clima organizacional e reduzir ruídos de comunicação. As instituições e os profissionais são responsáveis pelo ambiente de trabalho, todavia, estresse, mau humor, chefes mal preparados são ocorrências recorrentes no mundo moderno em razão da hiperatividade e do individualismo exacerbado. Estes processos além de prejudicarem a *performance* profissional, eles refletem diretamente na vida pessoal, portanto, o profissional poderá contribuir positiva ou negativamente nesse processo de trabalho. Para se ter um ambiente de trabalho equilibrado, é fundamental que o espaço hospitalar seja estimulante, descontraído e justo, onde

exista respeito e os colaboradores possam se dedicar as atividades, sem prejudicar a sua saúde física e mental.

g) *Valorização e reconhecimento*

Em todo hospital, há uma variedade de chefes, muitos autocráticos e outros democráticos, bem como, descompassos entre o que deveria acontecer e o realmente acontece. As enfermeiras possuem chefes distintos, acarretando conflitos e pressões constantes. Superiores autoritários geram desequilíbrio, medo e erros ao passo que os democráticos buscam descobrir o que há de melhor em cada funcionário, facilitam o alcance das metas, além disso utilizam sua influência para melhorar a motivação que beneficia trabalhadores e pacientes.

h) *Gestão*

A administração de um hospital envolve uma complexa associação de recursos humanos, materiais e serviços diversificados. Os hospitais públicos são organizações tradicionais, que apresentam forte resistência a mudanças, porque estas quase sempre implicam em alterações na distribuição de poder na instituição (ZANON, 2001, p. 88). O sucesso de um bom chefe pode ser medido pelo desempenho e pelo resultado do setor, em suma, a soma da produtividade de cada pessoa mede a do seu chefe.

Segundo Motta e Vasconcelos (2008, p. 34), a gestão de pessoas tem, assim, o seguinte papel: avaliar as necessidades e os recursos dos grupos organizacionais; descrever os cargos e provê-los segundo um recenseamento sistemático dos candidatos, por meio de procedimentos de seleção; avaliar os cargos e desempenho dos empregados, remunerando-os equitativamente para motivá-los e treinar os indivíduos, melhorar as condições de trabalho, informar, comunicar e assegurar relações sociais satisfatórias.

i) *Comunicação*

Comunicação é o ato de comunicar, de transmitir, de participar (ZANON, 2001, p. 83). Consiste na troca de mensagens entre indivíduos através de símbolos e sinais que constituem a linguagem falada ou escrita. Para todo profissional de saúde, a comunicação com seus semelhantes é uma necessidade imperiosa (LONDOÑO; MORERA; LAVERDE, 2003, p. 75). Dessa forma, a comunicação facilita o trabalho por esclarecer aos funcionários o que deve ser feito, qual a qualidade do seu desempenho e o que fazer para melhorá-lo (ROBBINS, 2005, p. 103). É importante analisar que a comunicação em qualquer instituição está sempre sujeita a distorções e mal-entendimentos muito embora, é crucial a comunicação entre as pessoas.

Há um clima interno e um externo na comunicação. O clima interno inclui valores, sentimentos, temperamento e níveis de estresse do

emissor e do receptor. Os desentendimentos podem bloquear o desenvolvimento de uma relação e criar tensões em um relacionamento. Já as condições atmosféricas, temperatura, momento certo e ambiente da organização são partes do clima externo (MARQUIS; HUSTON, 2005, p. 87).

#### j) *Parceria*

A organização pode manter um clima de distanciamento e negativo, como pode criar solidariedade, boa camaradagem e apoio à iniciativa pessoal e grupal. Quanto mais harmoniosa, tanto melhor o clima e as parcerias internas. “As boas ou más relações humanas no ambiente hospitalar são facilmente percebidas e decodificadas pelos pacientes, familiares e comunidade em geral” (BACKES; LUNARDIFILHO2006, p.1061). Sendo assim, é necessário que exista um bom relacionamento entre os membros da equipe de enfermagem, proporcionando assim crescimento, bem estar e aumento das contribuições, resultando em parceria no decorrer das atividades realizadas.

Dejours, Abdouchele e Jayet (2007, p. 69) advertem: se um trabalho permite a diminuição da carga psíquica, ele é equilibrante, por outro lado se ele se opõe a essa diminuição, ele é fatigante. Paralelamente o clima organizacional que não possibilita parceria e solidariedade a energia psíquica se acumula, tornando-se fonte de tensão e desprazer.

Desse modo, em um ambiente no qual várias pessoas participam diariamente para promover assistência e recuperação da saúde, faz-se necessário parceria. Segundo Baggio (2007, p. 78), no dia a dia da equipe de enfermagem, observa-se um clima de insatisfação, frequentes desentendimentos e ressentimentos entre os profissionais.

## IV. METODOLOGIA

Todos os respondentes assinaram o termo de consentimento livre e esclarecido, aprovado pelo Comitê de Ética em Pesquisa da Universidade Federal do Amazonas (UFAM), que informava sobre os objetivos da pesquisa e o uso dos dados, garantindo-se assim o anonimato e o caráter voluntário da participação, de igual forma, o projeto foi analisado e aprovado pela Comissão de Ensino e Pesquisa do Hospital Universitário Getúlio Vargas.

Estetralho está fundamentado em pesquisa de campo, do tipo interpretativo com método de

abordagem quantitativa, cujo cenário de estudo foi o centro cirúrgico de um hospital público da cidade de Manaus. Foram distribuídos 46 questionário aos servidores técnico-administrativos da equipe de enfermagem do centro cirúrgico, constituída de enfermeiros, técnicos e auxiliares de enfermagem. Destes, 37 pessoas devolveram o instrumento devidamente respondido.

Primeiramente, foi realizado um levantamento bibliográfico com base em livros e artigos, em seguida o material coletado foi utilizado como instrumento para construção de um questionário autoadministrado com 60 questões envolvendo a temática em análise. O tema foi dividido em 10 dimensões consideradas importantes para análise do clima. O instrumento de pesquisa apresenta ainda espaço para comentários e observações por parte dos participantes, pois Vergara (2005, p.13) enfatiza “os questionários estruturados e escalas são os principais instrumentos de coletas de dados”. Posteriormente, os dados coletados foram interpretados estatisticamente através da análise das frequências e percentuais, gerados no *Software SPSS (Statistical Package for the Social Sciences) versão 16for Windows*, dessa forma, a pesquisadora seguiu as recomendações para obtenção dos resultados da pesquisa, com base na experiência vivenciada neste caso prático.

Tal sistemática consta de quatro fases básicas: construção do instrumento de medição; cálculo e construção gráfica das frequências e percentuais, verificação das correlações; e análise dos resultados obtidos.

Sendo assim, o instrumento construído foi do tipo escala atitudinal (LIKERT, 1967, p.47) oferecendo um universo de respostas que abrangeu as possíveis percepções dos servidores frente às práticas administrativas adotadas pela organização estudada.

## V. RESULTADOS

Verificou-se que, as 60 questões distribuídas em dez dimensões, bem como, a amostra mostrou-se adequada para se alcançar os objetivos do estudo, uma vez que atendiam aos critérios propostos. A insatisfação dos participantes relacionados à segurança e condições no trabalho, foi um fator evidenciado, conforme tabela a seguir.

*Tabela 1:* Existe a preocupação da instituição com a segurança no trabalho.

		<i>Frequência</i>	<i>Percentual</i>
Escala de Respondentes	Concordo Plenamente (CP)	3	8,1
	Inclinado a Concordar (IC)	7	18,9
	Inclinado a Discordar (ID)	7	18,9

	Discordo Plenamente (DP)	20	54,1
	Total de Participantes	37	100,0

Os dados da Tabela 1 apontaram que 54,1% preocupação da instituição com a segurança no dos participantes discordaram plenamente da trabalho.

**Tabela 2:** Percepção quanto à existência das condições necessárias para desenvolver o trabalho com segurança.

		<i>Frequência</i>	<i>Percentual</i>
Escala de Respondentes	Concordo Plenamente (CP)	3	8,1
	Inclinado a Concordar (IC)	4	10,8
	Inclinado a Discordar (ID)	17	45,9
	Discordo Plenamente (DP)	13	35,1
Total de Participantes		37	100,0

Os dados da Tabela 2 mostraram que 81% dos participantes somados percentuais de inclinado a discordar e discordo plenamente observaram que a instituição não oferece as condições necessárias para os servidores trabalharem com segurança. Outro ponto analisado que exige uma maior atenção é a questão relacionada às condições de trabalho, pois, 50% dos servidores se sentem mal equipados durante as rotinas de trabalho no hospital.

**Tabela 3:** Análise da conformidade das condições de trabalho como ruído, iluminação, temperatura e poluição.

		<i>Frequência</i>	<i>Percentual</i>
Escala de Respondentes	Inclinado a Concordar (IC)	3	8,3
	Inclinado a Discordar (ID)	12	33,3
	Discordo Plenamente (DP)	21	58,3
	Total de Respondentes	36	100,0
	Perdas	1	
Total de Participantes		37	

Na Tabela 3 observa-se que 58,3% dos participantes discordaram plenamente da existência de conformidade nos itens ruído, iluminação, temperatura e poluição.

**Tabela 4:** Percepção quanto à existência de materiais e equipamentos adequados à execução dos serviços

		<i>Frequência</i>	<i>Percentual</i>
Escala de Respondentes	Concordo Plenamente (CP)	3	8,1
	Inclinado a Concordar (IC)	10	27,0
	Inclinado a Discordar (ID)	14	37,8
	Discordo Plenamente (DP)	10	27,0
Total de Participantes		37	100,0

Verifica-se na Tabela 4 que 64,8% dos participantes, somatório de inclinado a discordar e discordo plenamente observaram a inexistência de materiais hospitalar e equipamentos adequados à execução dos serviços diários.

**Tabela 5:** O salário recebido na instituição satisfaz as necessidades básicas.

		<i>Frequência</i>	<i>Percentual</i>
Escala de Respondentes	Concordo Plenamente (CP)	20	54,1
	Inclinado a Concordar (IC)	13	35,1
	Inclinado a Discordar (ID)	2	5,4
	Discordo Plenamente (DP)	2	5,4
Total de Participantes		37	100,0

A Tabela 5 mostra que, 54,1% dos participantes concordaram plenamente que o salário oferecido na instituição satisfaz as necessidades básicas, somente 10,8% indicaram as assertivas inclinados a discordar e discordo plenamente deste item.

## VI. CONSIDERAÇÕES FINAIS

As escalas concordo plenamente e inclinado a concordar, denotam percepções positivas dos participantes em relação a certas questões que avaliaram o clima organizacional no Hospital Universitário, entre as quais destaca-se: o respondente indicaria o Hospital para um amigo trabalhar; existe satisfação quanto a remuneração recebida; muitos apontaram que trabalham com prazer; entendem que são respeitados na profissão e observaram que o paciente quando bem acompanhado pela enfermagem restabelece a saúde em tempo hábil. Os achados apontam uma ruptura com a mentalidade predominante, a remuneração deixa de ser vista como um problema, considerando que o salário recebido mostra-se apropriado para a maior parte dos servidores que participaram da pesquisa.

Por outro lado, as escalas inclinado a discordar e discordo plenamente, indicam percepções negativas, entre elas: insatisfação quanto as condições de trabalho e em relação a segurança no trabalho; escassez de treinamentos e de reuniões dentro do setor, bem como, falta de reconhecimento quando o trabalho é bem realizado.

Em adição, foi possível observar que os materiais hospitalares e equipamentos estão disponíveis para as rotinas de enfermagem dentro do centro cirúrgico, em níveis mínimos para atender às reais necessidades do referido centro. Além disso, foi indicado pelos participantes a falta de materiais médico-cirúrgico adequados, bem como a escassez de equipamento de proteção individual e a existência de equipamentos ultrapassados, podendo gerar algum tipo de acidente de trabalho, e dificuldades nos momentos das cirurgias.

Analisando o nível de satisfação da equipe de enfermagem do centro cirúrgico, foi possível detectar que os colaboradores realizam com prazer os serviços escalados, uma vez que, demonstraram gostar do que fazem, por conseguinte, motivam-se para o trabalho, todavia, há uma insatisfação dos funcionários relacionada à escassez de treinamentos oferecidos à equipe do centro cirúrgico; percebem que não há reconhecimento por parte da chefia quando as atividades são bem realizadas; nem consideração em relação ao esforço de não parar as cirurgias quando falta material e não existe abertura para tratar com o chefe imediato uma decisão tomada.

Em suma, qualquer tentativa de melhoria do clima organizacional no Hospital Universitário, requer

avanços, revisões nos processos, investimentos em equipamentos, novas posturas e recompreender o próprio papel de um hospital-escola. Os fatores em discordância evidenciados nesta pesquisa favorecem um desempenho desestruturado e desmotivação, gerando prejuízos a todos que direta ou indiretamente necessitam de um Hospital Público. A importância do tema pesquisado é fundamental para a instituição, poder traçar estratégias que melhorem a estrutura, os equipamentos e, as relações de trabalho.

Espera-se que os resultados apresentados neste trabalho possam contribuir para reflexão sobre a qualidade de vida nos hospitais escolas e a importância de um bom clima organizacional no âmbito das unidades hospitalares públicas. Além disso, deve servir como um alerta ao poder público para que alguma atitude, seja tomada, em relação a escassez dos equipamentos de proteção individual, a falta de treinamentos, bem como, de medicamentos. Como temas para futuras pesquisas, sugerem-se a ampliação da amostra de análise, incluindo outros segmentos profissionais, bem como outros hospitais públicos.

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## A Comparison Study: Employment Fulfillment of Public and Private University Staffs in Bangladesh

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**Abstract-** The relationship between representative occupation fulfillment and worker authoritative duty is direct and huge. The motivation behind this study is to investigate and think about the levels of employment fulfillment among staff of public and private universities in Bangladesh and how they contrast in their fulfillment levels with respect to pay, workplace, and others. The standard survey was utilized to gather information from randomly picked university staff in arbitrarily chosen universities in Bangladesh. Five-point Likert-sort scales were utilized to quantify respondents' recognitions. Expressive and inferential measurements and calculation of thing means and rankings showed members' reactions. "t" tests for free means uncovered significantly distinctive employment fulfillment (  $p < .05$  ) amongst public and private staff. Direct Regression was utilized to dissect whether there is any occupation component that effects on staff's employment fulfillment.

**Keywords:** *employment fulfillment, organizational commitment, conduct investigation, staff administration, institution conduct, private university, public university, bangladesh.*

**GJMBR-A Classification:** JEL Code: E24



*Strictly as per the compliance and regulations of:*



# A Comparison Study: Employment Fulfillment of Public and Private University Staffs in Bangladesh

Mohammed Kamruzzaman<sup>α</sup> & Safayet Ahammad Bhuyan<sup>σ</sup>

**Abstract-** The relationship between representative occupation fulfillment and worker authoritative duty is direct and huge. The motivation behind this study is to investigate and think about the levels of employment fulfillment among staff of public and private universities in Bangladesh and how they contrast in their fulfillment levels with respect to pay, workplace, and others. The standard survey was utilized to gather information from randomly picked university staff in arbitrarily chosen universities in Bangladesh. Five-point Likert-sort scales were utilized to quantify respondents' recognitions. Expressive and inferential measurements and calculation of thing means and rankings showed members' reactions. "t" tests for free means uncovered significantly distinctive employment fulfillment ( $p < .05$ ) amongst public and private staff. Direct Regression was utilized to dissect whether there is any occupation component that effects on staff's employment fulfillment. General occupation satisfaction and Self-worth were most fulfilled by the public university staff; Organizational basic leadership and compensation welfare of employment fulfillments were fulfilled slightest by the public university staff. The private university staffs were most fulfilled by interpersonal relationship and self-esteem. Public university staff demonstrated an altogether higher employment fulfillment than private staff for compensation welfare and general occupation fulfillment, and by and large, they demonstrated a higher employment fulfillment than private staff.

**Keywords:** *employment fulfillment, organizational commitment, conduct investigation, staff administration, institution conduct, private university, public university, bangladesh.*

## I. INTRODUCTION

Work fulfillment or representative fulfillment has been characterized in a wide range of ways. Some trust it is just how content an individual is with his or her occupation, at the end of the day, regardless of whether they like the employment or individual viewpoints or aspects of employments, for example, nature of work or supervision. Work fulfillment, maintenance and responsibility to the association are exceptionally fundamental for the achievement and improvement of any instructive organization. Plainly the

higher scholastic personnel satisfied with their occupation the more beneficial and constructive atmosphere will be of a foundation. Positive atmosphere of a scholarly organization brings about higher employment fulfillment which thusly expands the general execution and efficiency of the foundation. Positive and sound atmosphere of an organization likewise puts a beneficial outcome on the execution and enthusiasm of understudies of that specific establishment.

## II. LITERATURE REVIEW

Work satisfaction is said to be a crucial component of proficiency at work (Lin, 2012). Business related parts, pay, restricted time open entryways, supervision, relationship with partners, proficient strength and some demographic request could be used to evaluate the occupation satisfaction levels of scholastic staff (Khalid, 2012). Educational establishments are proficient administration associations and contribute administrations through their association's individuals regardless. The relationship between worker work fulfillment and representative hierarchical responsibility is existing and huge (Daneshfard and Ekvanian, 2012). In 2011 Ahmed, Usman, and Rana expressed, work fulfillment additionally intercedes (mediates) the relationship between realities of employment and citizenship conduct. In this manner, expanding the employment fulfillment of the authoritative individuals is the best way to truly improve the administration nature of the instructive foundations (Tzeng, 1997). In 1992 Lin likewise expressed that Taiwan's local and outside specialists affirmed that individual occupation fulfillment of the association individuals has assumed a vital part in advancing the whole execution (Lin, 1992). Maslow (1970) brought five Need's Hierarchy up in self-satisfaction; regard, love, belongingness, security, and physiological needs; while, Alderfer (1972) kept up those necessities between levels which are not totally unrelated but rather could be conductible all the while and isolated the Maslow's hypothesis into Existence, Relatedness, and Growth (purported ERG). Vroom's (1964) Expectation Theory is 1. Esteem: the level that the individual trusts endeavors will bring trust's prizes; 2. Devices: the procedure of the individual's own particular

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endeavors; 3. desires: notice to the convictions of people in the likelihood of future execution through individual certain endeavors. Wernimont (1972) expressed that the variables that affected employment fulfillment are the individual intrapersonal elements, and outside natural factors. In 1975 Seashore and Taber expressed that the elements of occupation fulfillment can be outlined in two components: Personal elements: demographic attributes, identity qualities, capacities, logical, perceptual, subjective, and desire. Ecological variables: including political and monetary environment, proficient nature, hierarchical environment, and workplace. Farrell (1978) assumed that there are two sorts of employment fulfillment elements: Worker related elements: instructive foundation, work experience, unique preparing and work inspiration; and occupation attributes, i.e., finance, peripheral additions, traditional, support, reconciliation, correspondence, open door for progression. Herzberg (1966) held human inspiration and fulfillment were controlled by two arrangements of components, instead of the customary conviction that there is one and only arrangement of variables. He characterized the opposite of the fulfillment to be "no fulfillment"; and the inverse of disappointment was characterized as "no disappointment". Natural inspiring variables comprise of a feeling of achievement, a feeling of prize and acclaim, work it-self, obligation, development, and advancement improvement; outside upkeep components incorporate the compensation, composed arrangement and administration, assessing abilities, pay, interpersonal connections, workplace, individual life, status and employer stability. Fulfilled representatives produce higher occupation execution as de-bated by the majority of early scientists and researchers. Herzberg's "wellbeing variable" of his two-component hypothesis just brings down the work disappointment and can't build work execution; yet "propelling element" can move an eagerness to work and raise work execution. Organ (1977) additionally called attention to that in a few conditions; work fulfillment will influence specialist's execution to be great or awful. Rinehart and Short (1993) showed that instructors' occupation fulfillment is identified with workplace, work contribution, assurance, inspiration to work, and school structure. "Work fulfillment is the individual degrees of a positive full of feeling introduction, negative emotional situated are not fulfilled by a positive emotional work introduction (Chen, 2008). As indicated by Chen (2008), work fulfillment connected in this study incorporates fulfillment with compensation welfare, workplace, work attributes, hierarchical basic leadership, administration care, interpersonal relationship, self-esteem, and general occupation fulfillment. The above demonstrates that affecting elements of employment fulfillment of staff, instructors, and a great many people comprises of individual qualities and attributes of the workplace, and their co-

operations. It is that the elements of employment fulfillment are an enthusiastic or behavioral response affected by individual inside and outer natural variables. Thusly, this paper concentrates on the occupation fulfillment of the colleges' staff by method for investigating the individual and natural components.

### III. SCOPE OF THE STUDY

The reason for this study was to look at and think about the employment fulfillment of public staff and the occupation fulfillment of private staff of universities and to investigate if any relationship existing between the employment fulfillment components and general employment fulfillment.

### IV. MOTIVATION BEHIND THE STUDY

As indicated by Rashid and Rashid (2011), fulfillment has been widely contemplated in the administration writing because of its significance to the physical and mental prosperity of the worker. We know it is a subject of significant sympathy toward numerous specialists and an essential hierarchical variable that ought to be comprehended and continually dissected for productive working of any association. Zeinabadi in 2010 expressed that occupation fulfillment and hierarchical responsibilities are forerunners (root) of Organizational Citizen-ship Behavior (OCB) of scholastic staff. It is perceived that instruction requires determination as well as responsibility, so it is more essential to have mental duty and dependability than just physical nearness. University staff is the principal line of contact with understudies and requires complex work in an inexorably requesting environment. The reason for this study was to give experimental confirmation with regards to the employment fulfillment levels of staff in both open and in addition private colleges and to figure out what work variables are solid indicators of their occupation fulfillment.

### V. SUSPICIONS OF THE STUDY

The accompanying suspicions were made with the end goal of this study.

1. All staff who reacted to the polls plainly comprehended the inquiries.
2. All respondents addressed all inquiries displayed in the review in a fair way and to the best of their capacities.
3. The irregular determination and inspecting techniques utilized grant the scientist to make generalizations with respect to staff in the chose higher instructive establishments in focal Bangladesh.

## VI. SIGNIFICANCE OF THE STUDY

In 2010, Machado-Taylor, Meira Soares and Gouveia called attention to that scholarly staff work fulfillment and inspiration assume a vital part adding to positive results to the nature of the foundation and to understudies' learning. Minimal distributed exploration has been found that spotlights on looking at the levels of employment fulfillment among staff in either open or private colleges in Taiwan. In addition, no exploration has been found that looks at the levels of occupation fulfillment among staff amongst open and private colleges. In total, the fundamental goal to be achieved for the study is to make work fulfillment, duty, association, inspiration, and, in this way, the best results for Bangladeshi as well as worldwide universities and for the understudies.

## VII. IMPACT OF THE STUDY

The Job Satisfaction of University Staff Questionnaire connected to be the base for the exploration is randomly conveyed to the populace. It is intended to comprehend if the variables of age, sexual orientation, conjugal status, instruction history, working situations/assets, obligations, hierarchical choices, pioneer's concern, social relations, work position, affect general employment fulfillment. Through this exploration, we expect a superior administration quality or a general increment in execution of the instructive foundations.

## VIII. THEORETICAL FRAMEWORK AND THEORY

The general structure that encompasses this paper incorporates investigating separately the employment fulfillment components of public and private universities' staff and looking at the distinction in occupation fulfillment between staff of open versus private universities. The composite means and standard deviations for open and private colleges staff work fulfillment components were utilized. An autonomous specimen's t test was led to analyze open and private university's staff for every employment fulfillment estimation. As indicated by Rashid and Rashid (2011), fulfillment has been widely concentrated on in the administration writing because of its significance to the physical and mental prosperity of the worker. We know it is a subject of significant sympathy toward numerous specialists and a vital hierarchical variable that ought to be comprehended and always broke down for the productive working of any association. It is perceived that training requires steadiness as well as duty, so it is more imperative to have mental responsibility and unwaveringness than just physical nearness. College staff is the principal line of contact with understudies and requires complex work in an undeniably requesting environment. The reason for this study was to give exact

proof with regards to the employment fulfillment levels of staff in both open and private colleges and to figure out what work components are dependable indicators of their occupation fulfillment. As said, Rashid and Rashid (2011) proposed fulfillment has been broadly examined in the administration writing because of its significance to the physical and mental prosperity of the representative. Zeinabadi in 2010 additionally expressed that occupation fulfillment and hierarchical duty are forerunners (intercedes) of Organizational Citizenship Behavior (OCB) of scholastic staff. It is perceived that it is more essential to have mental duty and dependability than just physical nearness; university staff is the primary line of contact with understudies and requires complex work in an inexorably requesting environment. Job fulfillment was firstly proposed by Hoppock in 1935, so far the occupation fulfillment hypothesis has aggregated a considerable amount; the majority of them are persuading models and the normal and imperative connected by the survey are as taking after:

- A. Need Hierarchy Theory Maslow (1954) expressed that man is a creature having needs, and the necessities must be addressed; generally the requirements would control individuals' conduct if neglected to address the issues.
  - B. Two-Factor Theory This was raised by analyst Herzberg (1959) that staff demeanors have an unequivocal part in occupation execution.
  - C. Three Needs Theory by McClelland et. al. (1961), who proposed a "three needs hypothesis," which there are three primary thought processes or needs with regards to the work.
  - D. Equity Theory Adams (1963) recommended that the staff would look at his/her "contribution" with "yield."
  - E. Expectancy Theory Vroom (1964) recommended that a propensity force of a specific conduct for individuals to take is resolved on the desire power that a known result would come after a few practices, and on regardless of whether this outcome is alluring to the person.
  - F. Discrepancy Theory Locke (1969) expressed that whether a specific working quality for a worker to fulfill/meet with or not is as indicated by the hole between the two, "really got" and "wish to acquire" the fundamental attributes found from the work "; if the hole is zero, the staff will be fulfilled. G. ERG Theory Alderfer (1972) created and amended Maslow's five Need's Hierarchy into Existence, Relatedness and Growth Needs.
1. Existence requirements: This is the most minimal level of need and physiology related, for example, nourishment, water, physiological security, working compensation, welfare, working conditions, and different needs. It is like Maslow's physiological and wellbeing needs of pecking order hypothesis.

2. **Relatedness Needs:** It alludes to the requirement for social relationship of associating with others, including partners, bosses, subordinates, companions, relatives and others, for shared appreciation, the feeling of self-insistence, and certifies sense. It resembles Maslow's in respect, love and licensed to require.
3. **Growth Needs:** It is identified with the individual's own particular needs, for example, work could give development open doors and improvement needs, and incorporates testing, independence, inventiveness the work ought to have.

The Following Research Questions and Hypotheses Guided the Study as in Fig 1.

**H3-0:** There are no contrasts between the apparent Job Satisfaction Elements of Public University Staff and the apparent Job Satisfaction Elements of Private University Staff in Bangladesh.

**H3-1:** There are contrasts between the apparent Job Satisfaction Elements of Public University Staff and the apparent Job Satisfaction Elements of Private University Staff in Bangladesh.

**H4-0:** There is no relationship between the apparent Job Satisfaction Elements of Public University Staff and their Overall Job Satisfaction in Bangladesh?

**H4-1:** There is a relationship between the apparent Job Satisfaction Elements of Public University Staff and their Overall Job Satisfaction in Bangladesh?

**H5-0:** There is no relationship between the apparent Job Satisfaction Elements of Private University Staff and their Overall Job Satisfaction in Bangladesh?

**H5-1:** There is a relationship between the apparent Job Satisfaction Elements of Private University Staff and their Overall Job Satisfaction in Bangladesh?

**RQ 1.** What are the work fulfillment components of public university staff?

**RQ 2.** What are the employment fulfillment components of private university staff in Bangladesh?

**RQ 3.** What contrasts exist between the occupation fulfillment components of public staff and the private staff of universities in Bangladesh?

**RQ 4.** Is there any relationship existing between the apparent Job Satisfaction Elements of Public University Staff and their Overall Job Satisfaction?

**RQ 5.** Is there any relationship existing between the apparent Job Satisfaction Elements of Private University Staff and their Overall Job Satisfaction in Bangladesh?

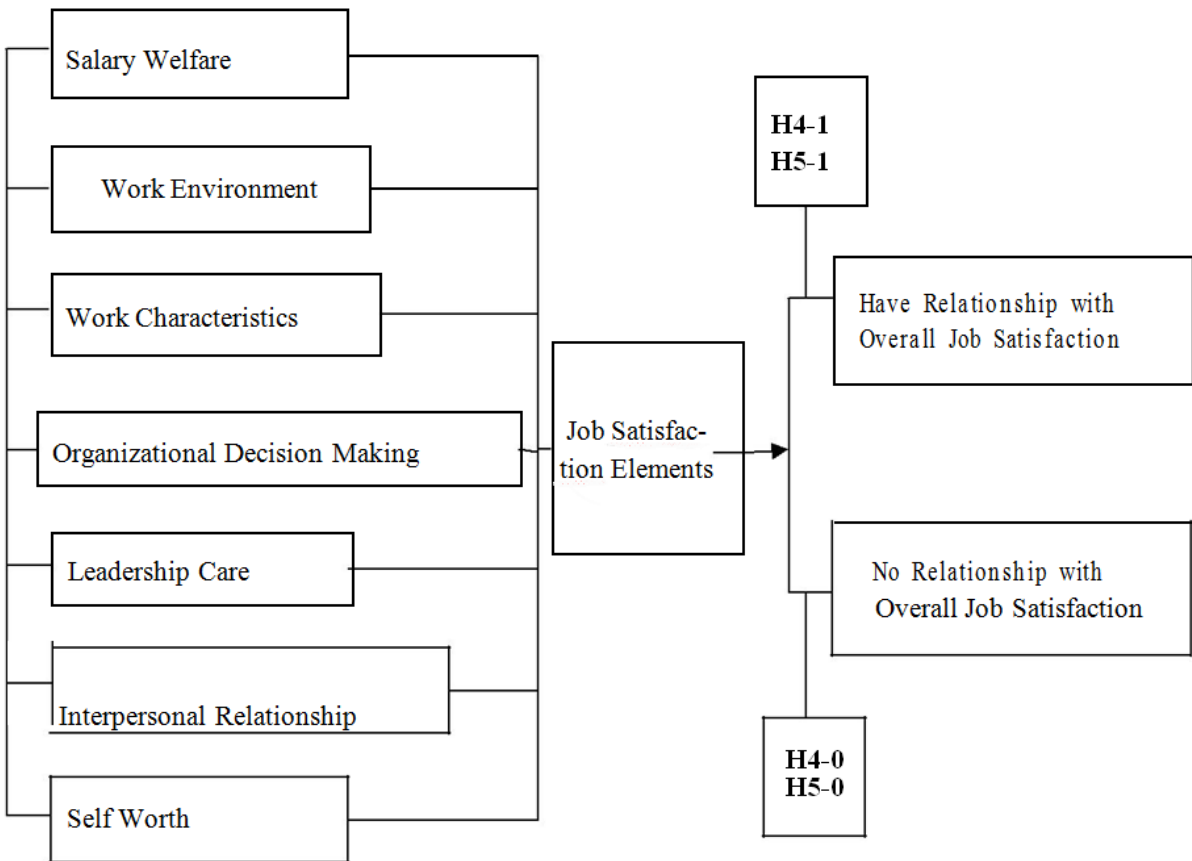


Figure 1: Framework of this Survey

## IX. RESEARCH AND DESIGN

There was no single however different looks into and outlines incorporating the general structure of the paper. Legitimacy was guaranteed through the writing survey and a basic audit of the instrument. Cronbach's No. of things was additionally utilized for unwavering quality measurements. The examination was executed at open and private universities in Bangladesh.

- a) *Respondents*: Forty arbitrarily chose full time staff at two haphazardly picked state funded colleges and forty arbitrarily picked full time staff at two arbitrarily chose private colleges took part this exploration.
- b) *Materials and Procedure*: The overview instrument entitled, "The Job Satisfaction of University Staff Questionnaire", comprising of two sections: Part 1 identifies with college staff' demographic qualities and incorporates things concerning staff' age, sex, training level, years of administration, and conjugal status; and Part 2 comprises of forty-five things inside eight altered occupation fulfillment components, i.e., pay welfare, and other employment fulfillments (see the encased English and Chinese versions) that were utilized to gather information they said test by reaching the Department Head. Authorization was allowed from every college to co-channel the learn at their area of expertise ahead of time of the study. The instrument was fundamentally adjusted from Ms. Chen, P. Y (2008). The general reaction rate was 100 percent. Reactions are on a five-point Likert scale running from (1) = unequivocally differ to (5) = emphatically concur. The compensation welfare fulfillment incorporates things 1-6. The workplace fulfillment incorporates things 7-13. The work qualities fulfillment incorporates things 14-20. Authoritative basic leadership fulfillment incorporates things 21-27. Authority care fulfillment incorporates things 28-33. Interpersonal relationship fulfillment incorporates things 34-38. The self-esteem fulfillment incorporates things 39-42. The general employment fulfillment incorporates things 43-45. To dissect the

outcomes, mean, standard deviation, calculation of thing means and rankings demonstrated what respondents considered imperative. t tests for autonomous means uncovered altogether diverse employment fulfillment (  $p < .05$  ) between open staff and private staff. An autonomous variable is a variable that is required to affect the needy variable (Zikmund, 2003). Free variables utilized as a part of the study are fulfillment with, compensation welfare, workplace, work qualities, hierarchical basic leadership, authority care, interpersonal connections, self-esteem, and general occupation fulfillment. The writing audit demonstrated that these free variables are real determinants of employment fulfillment.

## X. RESULTS

Cronbach's No. of items was used for reliability statistics. Within various aspects of eight job satisfaction measurements the Cronbach's Alpha is  $.783 > 0.5$ . The study has high reliability. The purpose of this paper was to examine and determine the job satisfaction of public staff and the job satisfaction of private staff of universities in Bangladesh. Another purpose was to compare if similarities or differences exist in most satisfied job elements of public staff and the private staff in Bangladesh. The third purpose was to explore if there is any relationship existing between the perceived Job Satisfaction Elements of Public/Private University Staff and their Overall Job Satisfaction in Bangladesh?

- a) *Work Satisfaction Elements of Public University Staff in Bangladesh*

The composite means and standard deviations for state funded college staff work fulfillment components are introduced in Table 1. Of the eight employment fulfillment components, the state funded college staff are most fulfilled in Overall Job Satisfaction ( $M = 4.05$ ) and Self-Worth ( $M = 3.84$ ). Authoritative Decision-Making ( $M = 3.17$ ) and Salary Welfare ( $M = 3.26$ ) of employment fulfillment's were fulfilled minimum by the public university staff.

*Table 1: Job Satisfaction Elements of Public University Staff*

Job Satisfaction	Mean	S. D.	Rank
Salary Welfare	3.26	.56	7
Work Environment	3.37	.77	5
Work Characteristics	3.46	.54	4
Organizational Decision-Making	3.17	.57	8
Leadership Care	3.28	.78	6
Interpersonal Relationship	3.69	.55	3
Self-Worth	3.84	.59	2
Overall Job Satisfaction	4.05	.54	1

$N = 40$



b) *Work Satisfaction Elements of Private University Staff in Bangladesh*

The composite means and standard deviations for private college staff work fulfillment components are exhibited in Table 2. Of the eight employment fulfillment components, the private college staff are most satisfied

in Interpersonal Relationships (M = 3.78) and Self-Worth (M = 3.76). Compensation Welfare (M = 2.91) and Organizational Decision-Making (M = 2.96) of occupation fulfillment were fulfilled minimum by the private college staff.

Table 2: Job Satisfaction Elements of Private University Staff

Job Satisfaction	Mean	S. D.	Rank
Salary Welfare	2.91	.88	8
Work Environment	3.25	.54	5
Work Characteristics	3.69	.56	4
Organizational Decision-Making	2.96	.67	7
Leadership Care	3.22	.84	6
Interpersonal Relationship	3.78	.54	1
Self-Worth	3.76	.78	2
Overall Job Satisfaction	3.70	.83	3

N = 40

c) *Contrasts in Job Satisfaction Elements amongst Public and Private University Staff*

A free examples t test was directed to look at open and private university staff for every occupation fulfillment estimation. The contrasts among public and private university staff for occupation fulfillment components are exhibited in Table 3. Public staff demonstrated an altogether higher employment fulfillment than private staff for two of the occupation

satisfaction components. These incorporated the Salary Welfare component,  $t(78) = 2.11, p = .000$ , and Overall Job Satisfaction component,  $t(78) = 2.23, p = .034$ . There were no significant contrasts amongst open and private college staff work fulfillment for workplace, work qualities, authoritative basic leadership, administration care, interpersonal connections, and self-esteem fulfillment components.

Table 3: Differences in Job Satisfaction Elements between Public and Private University Staff

Styles	Mean Public Staff (N = 40)	Mean Private Staff (N = 40)	t	p
Salary Welfare	3.26	2.91	2.11	.000*
Work Environment	3.37	3.25	.82	.134
Work Characteristics	3.46	3.69	-1.86	.366
Organizational Decision-Making	3.17	2.95	1.54	.296
Leadership Care	3.28	3.22	.35	.524

d) *Relationship in Perceived Job Satisfaction Elements of Public University Staff and their Overall Job Satisfaction*

Straight Regression examination was utilized as a part of this exploration question. It was found that the

R-squared went from 52.2 to 81%, demonstrating the percent variability in the reliant variable clarified by every free variable as appeared in Table 4. Compensation Welfare was not noteworthy, but rather all different components were.

Table 4: Analysis of Job Satisfaction Elements of Public University Staff and their Overall Job Satisfaction

	Standardized Coefficients $\beta$	t	Sig.	Adjusted R Square	F
Self-Worth	.731	6.60	.000**	.522	.000
Organizational Decision-Making	.277	2.70	.010*	.590	.010
Leadership Care	-.755	-3.26	.002**	.675	.002
Work Environment	-.522	-4.83	.000**	.768	.000
Work Characteristics	.288	2.75	.010*	.805	.010
Interpersonal Relationship	-.186	-1.15	.004**	.810	.004
Salary Welfare	.162	1.48	.147	.810	.147

\*\* Correlation is significant at the 0.01 level (2-tailed).

H4-0. The invalid speculation expressed that there were no connections between the apparent Job Satisfaction group Elements of Public University Staff and their Overall Job Satisfaction. In any case, the outcomes from the Table 4 appeared, with the exception of Salary Welfare, that the various Job Satisfaction elements were significant, and therefore the invalid speculation was halfway rejected.

e) *Relationship in Perceived Job Satisfaction Elements of Private University Staff and their Overall Job Satisfaction*

Straight Regression investigation was utilized as a part of this examination question. It was found that the

R-squared ran from 60.2 to 78%, demonstrating the percent variability in the reliant variable clarified by every autonomous variable as appeared in Table 5. Interpersonal Relationship was not huge, but rather all different components were.

Table 5: Analysis of Job Satisfaction Elements of Private University Staff and their Overall Job Satisfaction

	Standardized Coefficients $\beta$	t	Sig.	Adjusted R Square	F
Self-Worth	.674	6.33	.000**	.602	59.940
Organizational Decision-Making	.320	1.71	.000**	.780	20.772
Leadership Care	.320	2.22	.000**	.751	23.683
Work Environment	-.162	-1.52	.013*	.780	20.772
Work Characteristics	.022	.17	.008**	.751	59.701
Interpersonal Relationship	.002	.02	.118	.780	20.772
Salary Welfare	-.190	-1.22	.007**	.780	20.772

\*\* Correlation is significant at the 0.01 level (2-tailed)

H5-0: The invalid theory expressed that there were no connections between the apparent Job Satisfaction Elements of Private University Staff and their Overall Job Satisfaction in Bangladesh. Be that as it may, the

outcomes from Table 5 appeared, with the exception of Interpersonal Relationship, that the various Job Satisfaction Elements were noteworthy, and hence the invalid theory was somewhat dismisses.

f) *The aftereffects of examination of gathered information and discoveries of the study are accounted for in unthinkable and narrative structure as takes after Table 6*

Table 6: Summary of the Hypotheses Findings

Hypotheses	Content	Statistics Method	Result
H3-0	H3-0: There is no difference between the perceived Job Satisfaction Elements of Public University Staff and the perceived Job Satisfaction Elements of Private University Staff.	t Test	Rejected
H4-0	H4-0: There is no relationship between the perceived Job Satisfaction Elements of Public University Staff and their Overall Job Satisfaction.	Linear Regression	Partly Rejected
H5-0	H5-0: There is no relationship between the perceived Job Satisfaction Elements of Private University Staff and their Overall Job Satisfaction	Linear Regression	Partly Rejected

XI. DISCUSSION AND CONCLUSION

1. Of the eight occupation fulfillment components, the state funded college staffs were most fulfilled by Overall Job Satisfaction and Self-Worth.
2. Organizational Decision-Making and Salary Welfare of employment fulfillments were fulfilled minimum by the state funded college staff.
3. Of the eight employment fulfillment components, the private university staffs were most fulfilled by Interpersonal Relationship and Self-Worth.

4. Self-Worth got the same fulfilled level by both the public and private university staff inside the occupation fulfillment component.
5. Organizational Decision-Making and Salary Welfare of employment fulfillments were fulfilled slightest by the private college staff and which are additionally the same as the minimum fulfilled occupation fulfillment by public university staff in Bangladesh.
6. In general, state funded college staff indicated higher employment fulfillment than private staff for the occupation fulfillment.

7. Public university staff demonstrated an essentially higher occupation fulfillment than private staff for two of the employment fulfillment components; they are the Salary Welfare and Overall Job Satisfaction component.
8. There were no noteworthy contrasts amongst open and private university staff work fulfillment for workplace, work attributes, authoritative basic leadership, administration care, interpersonal connections, and self-esteem fulfillment components. Notwithstanding, in for the most part, government funded university staff demonstrated a higher employment fulfillment than private staff in Bangladesh.
9. Except for Salary Welfare, there were noteworthy connections between the apparent Job Satisfaction Elements of Public University Staff and their Overall Job Satisfaction.
10. The saw Job Satisfaction Elements of Public University Staff clarified 52.2 - 81% of the variable capacity in Overall Job Satisfaction in Bangladesh.
11. Except for Interpersonal Relationship, there were noteworthy connections between the apparent Job Satisfaction Elements of Private University Staff and their Overall Job Satisfaction in Bangladesh.
12. The saw Job Satisfaction Elements of Public University Staff clarified 60.2 - 78% of the variable capacity in Overall Job Satisfaction.

## XII. COMMITMENTS AND PRACTICAL IMPLICATIONS OF THE FINDINGS

It is a subject of significant sympathy toward numerous scientists and a critical authoritative variable that ought to be comprehended and always dissected for the effective working of any association. Thusly, this study gives exact confirmation with regards to the job satisfaction levels of staff in both public and private universities and to figure out what work components are solid indicators of their occupation fulfillment. Most university staff in Bangladesh has high instructive levels and finished control. They are glad for being university staff and they likewise gain the admiration and backing from their family and the vast majority. Subsequently, clearly Self Worth got the same fulfillment levels in both the public university and private university staff inside the employment fulfillment component in universities of Bangladesh.

Likewise public universities are allowed the money related backing and showing assets from the represents and implies that it is characteristic that state public university staff demonstrated an altogether higher occupation fulfillment than private staff for the two Salary Welfare and Overall Job Satisfaction components in Bangladesh. The outcomes exhibited here are critical and anticipate conveying out to make affectability to scholastics distractions and disappointment with

respect to their employments, and conditions under which they work. The structure was investigated from staff's viewpoints and the significance was put after discovering regardless of whether the relations existing between employment fulfillment components and staff's general occupation fulfillment. University staff is the primary line of confronting with understudies, we anticipate managing a superior administration quality or a general increment in performance of the instructive establishments or making down to earth suggestions to different business enterprises worldwide nations by method for this examination.

### a) Suggestions

The accompanying suggestions for further study are made.

1. Further studies ought to be led to figure out whether years of administration, or level of training thus on effect university staff job satisfaction.
2. Further studies ought to be broadly led to different nations other than territories of Bangladesh or led to personnel of university identified with their occupation fulfillment.

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# GLOBAL JOURNALS INC. (US) GUIDELINES HANDBOOK 2016

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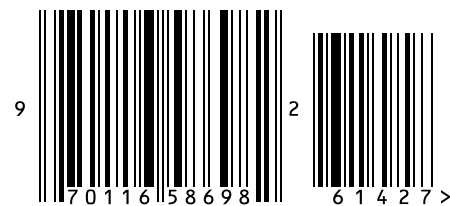
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