



## **AN ASSESMENT OF THE IMPACT OF HUMAN RESOURCE FORECASTING IN POLYTECHNICS: EMPIRICAL STUDY OF NORTHEAST NIGERIA.**

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### **Abstract**

*Human Resource forecasting is the process of estimating the future human resource requirement in the right quality and right number. The main aim of this study was to examine the impact of Human resource forecasting in polytechnics of northeast Nigeria. The study was quantitative and explanatory in nature, where a cross-sectional survey of 257 Staff of 10 polytechnics in northeast Nigeria was carried out using simple random sampling and structured questionnaire were distributed personally and with the aid of field assistants to the randomly selected Staff. However, the data collected was analyzed using IBM SPSS software version 20. The reliability of the research instrument was assessed and based on the results obtained, all the constructs met the Cronbach's Alpha requirement of above 0.7 coefficients and the validity was tested using content and construct/face validities. The validity of the instrument was also measured through Exploratory Factor Analysis (EFA). The outcome of EFA revealed that the variables have satisfactory Kaiser Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity. Simple regression analyses of the variables (Replacement need, Understaffing, Overstaffing, and productivity of employees) show a positive and significant relationship with Human Resource Forecasting. But, the multiple regression analysis results show that the level of implementation of Human resource forecasting in the polytechnics of northeast Nigeria is negative but significant. It was recommended that the polytechnics should embrace human resources forecasting through the use of computer based systems as a trend in human resource management as it will not only enhance the capability of employees but also ensure effective and efficient organizational expansions, also Human resource forecasting should be matched with the organizations' strategic planning to enable for enhanced its implementation.*

**Keywords:** *Human resource, Forecasting, Overstaffing, understaffing, productivity, Personnel.*

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### **Introduction**

During World War II when employers felt Human resource shortages, the importance of Human resource forecasting stood out. Indeed, the government of the United States for example led the way by establishing the War Human resource Commission. Also, as we experience unsettled political conditions throughout the world, and as we enter the new atomic age, Human resource forecasting will be more essential than ever. Human being on a daily basis makes decisions that have either positive or negative impact on their future. In Organisations likewise, Human resource managers makes decisions that do have impacts on the future of their respective organisation. Those decisions may either be positive or negative. The fundamental nature of forecasting therefore is to make a good and reliable prediction about future event.

Organization should at all times have the right people available to do the required work. This requires a commitment to human resource forecasting, a process of analyzing staffing needs and planning how' to satisfy these need, in a way that best serves organizational mission, objectives and strategies. The process begins with a review of organization mission, objectives and strategies. This establishes a frame of reference for forecasting human resource needs and labour supplies, both within and outside the organization, (Crosby, 2000)

Forecasting can therefore be defined as the art and science of prediction of future events. It may involve taking historical data and projecting it into the future with some sort of mathematical models. Sometimes it is subjective or base on initiative prediction of future events, (Otokiti, 2003).

Ultimately, the forecasting process should help managers identify staff requirements, assess the existing workforce, and determine what additions and/or replacements are required to meet future needs. It is no secret, for example, that high-tech workers are in great demand today and many organizations are experiencing or are anticipating difficult)' in meeting their staffing needs. For every new product plan, for instance, there is a human resource plan associated with it, and one that covers all generations of the

product's anticipated life. This plan helps focus recruiters on key staffing needs (Turner, 2005).

A forecasting exercise is usually carried out in order to provide an aid to decision-making and in planning the future. Typically all such exercises work on the premise that if we can predict what the future will be like we can modify our behaviour now to be in a better position, than we otherwise would have been, when the future arrives (Otokiti, 2003).

Matching human resources with planned organizational activities for the present and the future is one of the main problems faced by an organization. Human resources have a certain degree of inflexibility, both in terms of their development and their utilization. It takes several months to recruit, select, place, and train the average employee; in the case of higher-echelon management personnel in large organizations, the process may take years. Decisions on personnel recruitment and development are strategic and produce long-lasting effects. Therefore, management must forecast the demand and supply of human resources as part of the organization's business and functional planning processes, (Turner, 2005).

Long-term business requirements, promotion policies, and recruitment (supply) possibilities have to be matched so that human resources requirements and availability estimates (from both internal and external sources) correspond sufficiently. Establishing long-term human resources requirements is closely related to strategic business plans. Strategic business plans should provide a minimum base of information on which viable human resources plans can be built. On the other hand, management should consider labour availability when they establish strategic business plan because current and potentially available human resources affect the viability of strategic business plans (AL pander, 2000).

Hence considering the impact of human resource forecasting leading to downsizing and resizing policies conducted by human resources decision makers and policymakers, the success and prospects of any organization depend on their work force. If the organisation is unable to employ and retain qualified and motivated Human resource, then it can't do its responsibilities and duties well. Inadequacy of Human Resources forecasting has been cited as the reason why most government Institutions today are facing a chaotic situations because they did not forecast their workforce, neither did they have any systematic human resource Forecasting programme that put the organizations goals first and the decay in some public institution is evident

as the level of frustration is equally high; and the “marketplace” trend of organization is becoming a reality (Rabiu, 2015).

Vivian (2017) observed that the cause of sharp increase in workers strength as soon as any new chief executive emerges? Primarily is lack of human resource forecasting. If not, what else can in a Polytechnic, four deputy Registrars are found in one division doing what a Junior Staff could do and other junior workers are satisfied to find a place under the trees located around the premises.

Jackson and Schuler (1990), observe that human resources are the most valuable assets to an organization, public or private organization. It's not only helps the organization to activate all other resources which are otherwise dormant and inactive but also, in the process, ensure that the organization always and consistently delivers value to its stakeholders, including shareholders, customers, employees and the public.

Every organization, whether it is serving private or public interest, has a corporate mission or purpose. It is the attainment of this purpose that guarantees the organizational survival, growth and acceptability to its numerous stakeholders, it is impossible to achieve organizational purpose without human resources forecasting, it is therefore obvious from the above that human resources management and forecasting ensures that there is a “fit” between the mission/objective/strategies of the organization and the workforce to execute them, (Henderson, 2010)

Human resources forecasting involves projecting labour needs (supply) and the effects they'll have on a business. Human resource (HR) department forecasts both short- and long-term staffing needs based on projected sales, office growth, attrition and other factors that affect a company's need for labour. In addition to forecasting the number and type of workers you'll need, HR planning includes analyzing the various costs and administrative work that go along with adding workers or downsizing, (Turner, 2005)

Analysis of human resource supply and demand has a long history and severed as an important tool in the area of human resources forecasting. The main purpose of Human resource forecasting is to avoid under and over staffing in an organization, which improve long-term productivity of employees. Agapiou (1996) stresses that the viability of an organization and the ability to compete will depend largely on its expansion ability and the quality of service performed by it staff. Also, the forecast information needs

to be sufficiently detailed to show expected demand and supply for each occupation in the organization.

### **THEORETICAL FRAME WORK**

The importance of theoretical frame work is to allow the writer of a research report, to position his/her works to an existing theory, model or concept. The researcher would explain such theory or concept and make a pick that would be in line with his research themes as he understands it from such concept, model or theory. In line with the foregone, I hereby adopt Theory of Economic Rhythm for this research purpose. This theory was propounded by Easton in (1965) this theory propounds that the economic phenomena behave in a rhythmic manner and cycles of nearly the same intensity and duration tend to recur. According to this theory, the available historical data have to be analysed into their components, i.e. trend, seasonal, cyclical and irregular variations. The secular trend obtained from the historical data is projected a number of years into the future on a graph or with the help of mathematical trend equations. If the phenomena are cyclical in behaviour, the trend should be adjusted for cyclical movements.

When the forecast for a year is to be split into months or quarters then the forecaster should adjust the projected figures for seasonal variations also with the help of seasonal indices. It becomes difficult to predict irregular variations and hence, rhythm method should be used along with other methods to avoid inaccuracy in forecasts. However, it must be remembered that business cycles may not be strictly periodic and the very assumptions of this theory may not be true as history may not repeat.

Action and Reaction theory: This theory is based on the Newton's 'Third Law of Motion', i.e., for every action there is an equal and opposite reaction. When we apply this law to business, it implies that if there is depression in a particular field of business, there is bound to be boom in it sooner or later. It reminds us of the business cycle which has four phases, i.e., prosperity, decline, depression and prosperity.

This theory regards a certain level of business activity as normal and the forecaster has to estimate the normal level carefully. According to this theory, if the price of commodity goes beyond the normal level, it must come down also below the normal level because of the increased production and supply of that commodity.



Sequence Method or Time Theory: This theory is based on the behaviour of different businesses which show similar movements occurring successively but not simultaneously. As such, this method takes into account time lag based on the theory of lead-lag relationship which holds good in most cases. The series that usually change earlier serve as forecast for other related series. However, the accuracy of forecasts under this method depends upon the accuracy with which time lag is estimated.

## **CONCEPTUAL FRAMEWORK**

The term forecasting is used in so many different ways that there is often confusion about what people actually mean when they talk about forecasting or when they use the words such as forecast. Moreover, many of its uses are so broad that the basic elements of forecasting are difficult to identify, and it cannot easily be distinguished from related activities such as policy-making or plan implementation. It was partly this confusion which led one writer on the subject to title his article, "if forecasting is everything, maybe it's nothing" (wildavsky, 1973). Conyers and Hill (1984) defined forecasting as a continuous process which involves decisions or choices about alternative ways of using available resources, with the aim of achieving particular goals at some time in the future. According to Uwakweh (1969), forecasting involves making decisions about which of a number of courses of action to adopt in order words, making choices. He further emphasized that, it is not possible to provide everything for everybody at once and that the plan represented the result of process of choosing which thing should be given priority attention. Forecasting, he said; means choosing between many desirable activities because not everything can be done at once (Uwakweh 1969). Forecasting involves deciding what should be done, how it should be done and when it should be done in determining organizational goals and the means of achieving those goals of the organization (Williams, 2000). Forecasting therefore helps to ensures that individuals working together in an organization understand the purpose of their organized effort and the task ahead of them. Thus, it helps people within the organization to know what is expected of them. "Unless there is planning events are left to chance; its core importance resides in its ability to minimize risk while taking advantage of business opportunities" (Koontz et al, 1981).

To understand the concept of forecasting, a thin line of distinction is there between the different concepts like 'projections', 'estimates' and 'forecasts'.

‘Projections’ are predictions of outcome at the responses of spontaneous forces. The outcome which is expected to happen in the normal course of events with the absence of external stimulus is projection. They are mathematical extensions of existing Human resource data into the future. On the other hand Estimates’ are educated guesses. Estimates are calculated approximately based on experiences and opinion of experts.

Forecasts refer to predictions of outcome when normal course of events are influenced, altered and changed by extraneous factors. Forecasts usually take into account both projections and the estimates. Depending upon the purpose of forecasting, there could be different types of Forecasts. Some of the major types of forecasts are described below. HR plans heavily depend on forecasts, expectations, and anticipation of future events, to which Human resource requirements both in terms of quality and quantity are directly linked. Moreover, uncertainty adds complexity to forecasting.

Human resource forecasting is defined as, "the prediction of future levels of demand for and supply of workers and skills at organizational level, at regional level, or could be at national level. A variety of techniques are used in Human resource forecasting. It includes the statistical analysis of current trends and the use of mathematical models. At national level, analysis of census statistics is included. At organizational level, sales and production figures is the base line upon which projections of future Human resource requirements are made" (Ward et al, 1994).

There is a close link between Human resource forecasting and strategic organizational planning. This is because for effective Human resource forecast, there must be a reliable input or information as regards the future direction of the organization in respect of the type of activities it would be involved in the future, the type of skills required. Thus, human resource forecasting is sometime called Human resource forecasting. Other term used are personnel forecasting and employment forecasting (Koontz et al, 1981). Therefore, human resource forecasting is the process for determining and assuring that the organization will have an adequate number of qualified persons available at the proper time, performing jobs which meet the needs of the organization and which provide satisfaction for the individual involved. Dessler, (2001), opined that human resource forecasting is an on-going process that is not static involving many interrelated activities which must be modified and updated as conditions require. It includes the planning and development of human resource program, such as recruitment,

performance appraisal, and training to ensure that people's needs in the organization are met. Strictly speaking, we should call this function "human resource forecasting and action programming." Furthermore, human resource forecasting requires detailed analysis of the present and the future to ensure that the organization has the right number of people available who possess the right kinds of skills to perform the jobs required by the organization when the work is needed (Izueke, 2009). The basic for human resource planning is the competitive organizational strategy of the enterprise as a whole. Mathis and Jackson (1977) see human resource planning as the process of analyzing and identifying the need for the availability of human resources so that the organization can meet its objectives. According to Griffin (1977), human resource forecasting involves assessing trends, forecasting the supply and demand of labour and then developing appropriate strategies for addressing any differences.

Dessler (2001) further sees human resource forecasting as employment planning which, is the process of formulating plans to fill future openings based on an analysis of the positions that are expected to be open and whether they will be internally or externally. This is why Ogunniyi (1992) in handling the subject says that Human resource forecasting is a concept that involves critical analysis of supply, demand, surplus, shortages, wastage and utilization of human resources whose primary goal is the adoption of policy actions and strategies which will not be stressful and or be a negation of endeavors to balance the equation of supply and demand required for socio-economic and political development of a nation. Human resource forecasting can generally be seen as activities involving processing people into, though, and out of the workplace. Ferries and Buckley (1996), opined that it has to do with the determination of the number and kinds of personnel the organization needs presently and need in foreseeable future and finding ways to anticipate these needs and satisfying them.

To this end, human resource forecasting is a management activity that involves a careful analysis of existing workforce, job requirements in other sources and developing people who will run the structures of the evolutionary organization now and in the future in order to ensure the achievement of objectives. Specifically, human resource planning involves analysis of: Workforce inventory (disaggregating it into skilled and unskilled, technical and non-technical etc.); Relating the disaggregated workforce to the job involvements and requirements (e.g student/lecturer



ratio, proposed production level and available work-hours); Calculating the required establishment; Determining shortages or surplus of workforce; Taking appropriate management decisions, as it relates Human resource/workforce

Thus, human resource forecasting is a continuous process in order not to take chances. Who is where, in what number and at what time in the organization should always be an alarm for human resource manager. This is because of Fayyol, Henri (1980), asserted that, scientific human resource planning makes the organizations to acquire the right number of qualified people in the right job at the right time, focuses on corporate goal, utilizes human resource, reduces uncertainty, reduces labour cost, keeps records, maintains good industrial relation, and regularizes in production. Therefore, human resource forecasting is the most essential for industrial productivity.

The Productivity is the driving force behind an organization's growth and profitability. Productivity is the relationship between output of goods and services of workers of the organization and input of resources, human and non-human, used in the production process. In other words, productivity is the ratio of output to input. The higher the numerical value of this ratio, the greater the productivity (Onah, 2010). Productivity has been defined as the measure of how well resources are brought together in organization and utilization for accomplishment of a set result. It is reaching the highest level of performance with the least expenditure of resources (Mali, 1978). According to Onah (2010), productivity is the relationship between output of goods and services and input of resources, human and non-human, used in the production process. In other words, productivity is the ratio of output to input. The higher the numerical value of this ratio, the greater the productivity. Thus, productivity can be applied at any level, whether for individuals, for work unit, for the organization. Productivity is a measurement or calculation between input and outputs. Inputs are the amount of resources such as human resource, money, and time, physical, technological and effort spent working in the organization, while output is the result. If the inputs are equivalent to the outputs, the worker is considered productive. When the employees are productive, they accomplish more in a given amount of time. In turn, efficiency saves their company money in time and labour. When employees are unproductive, they take longer time to complete projects, which cost employee's more money due to the time lost (Ikeanyibe, 2009). The importance of higher productivity of the employees

in public enterprise cannot be overemphasized, which include the following; Higher incomes and profit; Higher earnings; Increased supplies of both consumer and capital goods at lower costs and lower prices; Ultimate shorter hours of work and improvements in working and living conditions; Strengthening the general economic foundation of workers (Nwachukwu, 1988).

### **CONCEPT OF HUMAN RESOURCE FORECASTS**

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### **NEED FOR HUMAN RESOURCE FORECASTS**

The long gestation lags to produce skilled professional people is the basic rationality and necessity of Human resource forecasts. Proper Human resource forecasts well in advance facilitate planning of education and

training. It is an effort to ensure that required Human resource both in terms of quality and quantities are available at the time when they are demanded. Imperfections in the labour market is the another major reason of Human resource forecast. Markets for Human resource with long lead time to produce skilled people are characterised by long lags in the supply side and short lags on the demand side. Therefore supply is to be planned in order to meet the demand. If that does not happen, there is a high probability that the labour market may lead to distortions in occupation-education correspondence. As a result of which there could be mounting educated unemployed or inadequately trained people taking up different occupations for which they are not competent enough or both. Human resource Forecasts are expected to facilitate correction of labour market distortions.

Another major reason of man power forecast is that, in the short-run, elasticities of substitution among various skills is considered to be either zero or near zero. Which necessitates different categories of skilled Human resource in fixed proportion for production of goods and services requires. In such a situation shortages of any skilled category of Human resource, would adversely affect the production of goods and services within the economy. Human resource Forecasts would help in avoiding such types of situation by facilitating anticipation of skill shortages and planning skill supplies accordingly.

## **TYPES OF FORECASTS**

### ***Short-Term Forecasts***

Short-term forecasts are usually made for a period not exceeding two years. Short-term forecasts are very useful at the micro-level i.e company level or department level.

### ***Medium-Term Forecasts***

The horizon for planning for medium term forecasts is generally about two to five years. Medium term forecasts are useful for those offices which are concerned with advising ministers or preparing contingency plans to meet the 'twists and turns of economic circumstances or international events'.

### ***Long-Term Forecasts***

Forecasts for a period of more than five years are considered as long-term forecasts. Long-term Human resource forecasts are useful in educational planning. Planning for requirements of highly skilled professional categories

of Human resource are forecasted on long term basis. Long term forecasts are very useful in the preparation of corporate plans incorporating productivity changes, technological changes and major organisational developments.

### ***Policy Conditional Forecasts***

Policy conditional Human resource forecasts are determined by the man power policy factors which influence the demand for Human resource. Such types of Human resource forecasts are based upon a rule of thumb. Sometimes professional judgment or an explicitly specified model is used for policy conditional forecasts.

### ***Onlookers Forecasts***

An onlooker Human resource forecasts are those which are derived by assuming that the factors influencing future Human resource demand behave in similar way as they did in the past. Like policy conditional forecasts, onlookers' forecasts are also obtained with the help of a rule of thumb, or professional judgment, or an explicitly specified model, or any combination of the three.

### ***Optimising Forecasts***

Optimising Human resource forecasts are done within the framework of an optimisation model. In this type of forecast, demanded numbers of various categories of Human resource are so determined that either the end benefits are maximised, or cost of resources used in achieving a pre-determined end objective is minimised.

### ***Macro and Micro Forecasts***

There is a clear distinction between macro and micro forecasts, primarily because of two reasons. First, the end purposes of the two types of forecasts are different. Second, the methodologies employed and data base used are different. It is, however, possible that micro forecasts, if properly planned, might ultimately lead to macro forecasts but not vice-versa. Macro forecasts are done usually at the national, industry/sector and region/state levels. They are primarily used in: Planning education and training facilities.

Micro forecasts have relevance at the enterprise or department level. Micro Human resource forecasts are needed primarily for planning, recruitment and selection, promotion, training and counselling purposes in order to meet the plan for the development of an enterprise or department concerned.

Therefore details and precise forecasts are very much required at this level. The micro forecasts are usually expressed in terms of numbers required for each occupation. It also takes into account the source and stage of recruitment, scheduling of training and so on and so forth. This chapter deals with micro level demand forecasting in details.

## **REVIEW OF EMPIRICAL STUDIES**

Over many decades, the field of human resource forecasting (HRF) has attracted a great deal of attention across various disciplines owing to its contribution and impact on the bottom-line issues within organisations, studies conducted includes: Meehan and Ahmed, (1990) human resource forecasting model; Rosenfeld and Warszawski (1993) systematic methodology for forecasting personnel demand for construction; Cooper (1995) developed a model to forecast supply and demand of physicians in the United States for a period to 2020. Dumpe et al., (1998) forecasting model for the nursing workforce. Kolb and Stekler (1992) evaluated the long-term forecast of employment in various industries. The work in the 21 century is notable for the rapid changes taking place in sectors of business and industry. Many organizations have recognized the importance of Human resource forecasting and applied various forecasting methodologies to determine the future training needs.

The ability to adapt rapidly to meet new requirements is vital if the organization is to find the right number of workers with the right skills. However, studies conducted includes: Human resource forecasting in managing Human resource by Aslan et al (2013) they created a model to motivate and retained workers in Pakistan, Different perspective on Human resource forecasting (a literature Review) by Aisha,(2017) this was just a review of literature as one model was developed, an empirical study on Human resource forecasting in Belgian production companies, Brent et al, (2013) they investigated HR forecasting tools used by Belgian production companies, Measuring organisational performance in strategic human resource management, Edward & Patrick (2008) they used historical analysis and found that, there is positive relationship between organisational performance and human resource forecasting, The effect of human resources forecasting and training and development on organizational performance in the Government Sector in Jordan, MohammadNoor et al ( 2014) it could



be noticed that all this studies were conducted outside Nigeria which has its own organisational culture.

Meanwhile, It can be noted that those studies are conducted so far in Nigeria were mostly restricted to private establishment, Human resource forecasting and employee productivity in Nigerian Banking Sector by Rabiou et al (2015), Human resource management challenges in Nigeria under a globalised economy, Francis and Cyril (2011), show that effective managers should constantly be aware of the changes taking place in domestic (home country) environment, as well as around the globe (international and foreign environments) on HR issues and developments.

Meanwhile, it could be noticed that all this studies were conducted outside Nigeria which has its own organisational culture; this study provides a practical examination and assessment of the impact of human resource forecasting in polytechnics of northeast Nigeria.

## **MATERIAL AND METHODS**

The study is quantitative and explanatory, as well as sample survey design was adopted as the research design method, Data was collected using both primary data via observation and survey methods of questionnaire. While Secondary Sources includes: past data of the polytechnics under study, journals, gazettes, textbooks, magazines, newspapers, encyclopedias, other people's project reports, web and library will be used

The population of the study comprises of 722 staff of 10 polytechnics, in northeast Nigeria which comprises of Federal Polytechnic, Mubi. Abubakar Tafari Ali Polytechnic, Bauchi. Federal Polytechnic, Bauchi. Ramat Polytechnic, Maiduguri. Federal Polytechnic, Damaturu. Mai Idris Aloomo Polytechnic, Gaidam. Gombe State Polytechnic, Bajoga. Taraba State Polytechnic, Suntai. Federal Polytechnic, Bali. Adamawa State Polytechnic, Yola. A statistical formula was used in determining the sample size. Yaro Yamani formula, For the purpose of this study, structured questionnaires were used, using 5 point Likert Scales ranging from 1 "Strongly disagree" to 5 "Strongly agree". The questionnaires used for this study were adopted and modified from previous related studies on the impact of human resource forecasting, as there are many established measures for the variables of interest in this study. Also, For the purpose of this study, descriptive statistics like frequency, percentage, mean and standard deviation; and parametric

tests such as, Simple and Multiple Regression Analysis (MRA) and Correlation analyses were used for the analyses of data collected.

The reliability of the instrument was tested with aid of IBM SPSS version 20, and based on the results obtained; all the constructs met the requirement of Cronbach's Alpha of above 0.7 coefficients (Devellis, 2003). The Cronbach's Alpha values of the respective constructs were found to be; Replacement need = 0.751, organizational expansion = 0.812, understaffing = 0.775, productivity of employees = 0.808, understaffing = 0.808 and challenges of HRF = 0.776 respectively. The values of the respective Alphas are quite adequate considering the recommended value of alpha 0.7 minimum (Nunnally, 1978). Generally, the variables have a Cronbach's Alpha of 0.926 with 29 total items. This shows that the items in the questionnaire have a high level of internal consistencies.

## RESULTS AND DISCUSSION

Here all the hypotheses formulated in Chapter One were tested using simple and multiple regression analyses.

**Table 1: Direct relationship between latent variables & Human resource forecasting**

Construct	R square (R2)	Unstd. B	Std. $\beta$	P Value	Decision
RN & HRF	.187	.479	.432	***	Significant
IM& HRF	.035	.124	.186	.006	Significant
US & HRF	.186	.411	.431	***	Significant
PE & HRF	.247	.509	.497	***	Significant

Source: Extracted from IBM SPSS v20 Output, 2020.

RN= Replacement Need, IM=implementation of HRF, US = Understaffing, PE=Productivity of Employees, HRF= Human Resource Forecasting, R2 = coefficient of determination, Unstd.  $\beta$  = Unstandardized beta, Std.  $\beta$  = Standardized/Actual beta & P = probability value.

**Table 2: Impact of Human Resource Forecasting on Overstaffing.**

Construct	R square (R2)	Unstd. B	Std. $\beta$	P Value	Decision
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(Constant)	_____	<b>1.795</b>	_____	***	<b>Significant</b>
Overstaffing	<b>.363</b>	<b>.607</b>	<b>.602</b>	***	<b>Significant</b>

**Source:** Extracted from IBM SPSS v20 Output, 2020.

The results of the simple regression analysis suggested that human resource forecasting has a positive and significant relationship replacement need in Polytechnics of northeast Nigeria, (Table 1). The output shows that, the R square values (R<sup>2</sup>) of .187, P value of .000 and standardized & unstandardized regression coefficients of .432 and .479. The R<sup>2</sup> of .187 explained that, Replacement need contributes only 18.7% of the variance of Human resource forecasting, while, 81.3% of variance of Human resource forecasting is explained by other variables. Furthermore, by having P-value of  $P < .05$ , the result reaches statistical significance. In other words, based on the outputs ( $R^2 = 0.187$ ;  $P = 0.000$  &  $\beta = 0.432$ ), This finding is consistent with previous studies on Human resource forecasting, (Popkov et al, 2005; Ashish, 2017; Rosenfield and Warzawski, 1993).

The results demonstrate that the relationship between human resource forecasting and understaffing is significant with ( $\beta = 0.431$ ;  $P = 0.000$ ) and was supported, even though with mixed findings by a number of studies (Yesufu, 2006; Alam & Noor 2009; Abdul Hameed and Counsell 20012).

The result also, suggests that human resource forecasting has significant effects on overstaffing and the result was supported with empirical evidence. The output of the regression result shows that,  $R^2 = .363$ , which explained that the model added 36.3% of the variance between HRF and Overstaffing, while the output of the statistical significance shows significant result with  $P = .000$  and with Beta value = .602 ( $R^2 = 0.363$ ,  $P = 0.000$  &  $\beta = 0.602$ ).

This finding is consistent with various studies like Kobband Stekler (1992), which found that Human resource forecasting significantly reduce cases of overstaffing in organization through cost reduction, superior operational strategies, enhanced quality, visibility and flexibility

More so, the analysis show that the relationship between employees productivity and Human resource forecasting is significant with ( $R^2 = 0.247$ ;  $\beta = 0.497$  &  $P = 0.000$ ).). It explained that, productivity of employees contributes about 24.7% of the variance of Human resource forecasting, while, 75.3% of variance Human resource forecasting is explained by other variables apart from it. Furthermore, by having P-value of  $< .05$ , the result reaches statistical significance (Table 1).

## **CONCLUSION**

Forecasting Human Resource requirements have been useful for economic planners, policy makers and training providers in order to avoid the imbalance of skills in the labour market. Although reviews of the Human resource planning models have been conducted previously, with the accumulated experience and the booming of advanced statistical techniques and computer programs, the study of forecasting practices has undergone considerable changes and achieved maturity during the past decade.

More so, this study concluded based on the result in Table 1 which indicated a positive and significant relationship between replacement need and human resource forecasting ( $\beta = 0.432$ ;  $P = 0.000$ ) in the polytechnics of northeast Nigeria. The researcher therefore concluded that, human resource forecasting is effective in meeting future employment needs of the polytechnics, while ensuring that the right person with the right skills, knowledge and experience are recruited and retained in the organization.

However, established on the results in Table 1 which indicated a significant relationship between human resource forecasting and understaffing in polytechnics, the researcher therefore concluded that, human resource forecasting has significantly reduced understaffing in Polytechnics of northeast Nigeria.

Nevertheless, based on the results in Tables 9; 10; and 11 which point out that all that human resource forecasting has significant impact on overstaffing in polytechnics of northeast Nigeria, the researcher therefore concluded that, human resource forecasting is a policy used in polytechnics to checkmate overstaffing.

finally, in line with the results in Tables 9; 10; 11 and 12 which showed the extent to which human resource forecasting will significantly improve productivity of employees with ( $\beta = 0.497$ ;  $P = 0.000$ ) the researcher therefore concluded that, human resources forecasting has significantly improved employees productivity in polytechnics of northeast Nigeria through ensuring the right quality and quantity of people, with the knowledge, skills, and abilities retained within the polytechnics.

## **RECOMMENDATIONS**

Forecasting Human resource demand must be undertaken on an occupational basis in order to provide apractical and meaningful planning

of construction skills by matching future supply and demand of Human resource of the polytechnics. A replacement chart that is visual tool for identifying internal candidates available and qualified to fill demand estimations suggested for use in the polytechnics.

The polytechnics should learn to embrace human resources forecasting through the use of computer based systems as a trend in human resource management as it is believed to ensure effective and efficient organizational expansions. The use of Supply analysis should be implemented as it help the polytechnics to evaluate HR issues such as how turnover might affect the workforce if the polytechnics takes no action, thereby curbing understaffing. Human resources forecasting in the polytechnics should be matched with the organizations' strategic planning to enable for enhanced employee productivity, Incentivization and motivation of workers base on their needs, and introduction of management decision support system and participatory management to improve productivity of employees. Modern technology should be utilized for developing human resource forecasting that reduce time and cost. Introduction of management support system and participatory management that ensure proper support for human resource forecasting. Moreover, a training and management development program should be implemented to enhance the capabilities of employees to improve their level of accuracy and proficient in the use of various method of human resource forecasting.

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