ANALYSIS OF THE ROLE AND LEVEL OF JOB PERFORMANCE AMONG EXTENSION AGENTS IN TECHNOLOGY DELIVERY IN IMO STATE, NIGERIA

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ABSTRACT
The study analysed the role performance and job satisfaction of extension agents in technology delivery in Imo State. The multistage random sampling technique was adopted in the selection of farmers and simple random sampling for the selection of extension agents. The instruments for data collection were four sets of structured questionnaire (for farmers, extension agents, block extension supervisors, and zonal extension officers). The data obtained were analysed using descriptive and inferential statistics. Regular and timely attendance to FNT received a very high level score on role performance of the extension agents (3.78). The regression result shows that regular payment of allowances, gender, provision of mobility, promotion, farm families covered, trainings and level of education were significantly related to the level of job performance. The extension agents perceived a highest level of satisfaction with interpersonal relationships in their establishment (4.18). The grand mean score was 3.526 indicating that these workers had an overall high level of satisfaction with their job. The study recommends that regular promotion and payment of allowances should be sustained through increased government funding of the Agricultural Development Programmes (ADP). Also, the level of in-house and external trainings of extension workers should be maintained and/or improved upon so as to enhance their productivity and job satisfaction.

Keywords: Role performance, job satisfaction, extension agents and Imo ADP

INTRODUCTION
Studies on the role performance of agricultural extension agents generally focus on evaluation of extension system and methodology rather than personnel. For instance, economic evaluation of the performance extension system (Bindlish and Evenson, 1993), economic impact of extension system of agriculture extension (Brikhaeuser, 1991) and measuring performance indicators of paid-extension system (Dinar and Keynan, 1998). There is rarely focusing on the determinants of extension agents' level of job performance. Davis and Verma (1993) asserted that studies concerning job performance evaluation in extension organisation contexts are still limited. Dinar *et al.* (2007) focused on assessing the impact of agricultural extension on farm production, farmers' adoption rate of the new technology disseminated by extension workers. In Nigeria agricultural extension organisations, there is a lack of proper and adequate understanding of the performance of extension personnel.

Agricultural extension services have been criticized over the years as ineffective (Ekumankama and Anyanwu, 2007; Ajayi and Aphunu, 2007; Ibrahim *et al.,* 2008; Okwoche and Asogwa, 2012; Nnadi *et al.* 2012a; 2012b; Agbarevo, 2013). Though these researchers provided incisive insights into the effectiveness of extension agents and the possible reasons, their studies did not show level of job satisfaction of the extension agents. This makes the understanding of the role performance and level of job satisfaction of extension agents in extension delivery unclear. This has left a gap in research. The broad objective of the study is to analyse the role performance and level of job performance of extension agents in technology delivery in Imo State.

METHODOLOGY

The study was carried out in Imo State, Nigeria. The State is located in the rainforest agro-ecological region of Nigeria and shares common boundaries with Abia State on the east and northeast, Rivers State on the south, and Anambra State on the west and northwest. The State lies between latitudes 5 °45'N and 6 °35'N of the equator and longitudes 6 °35' E and 7 °28' E of the Greenwich Meridian (Microsoft Corporation, 2009). It has a total land area of about 5,067.20 km^2 (Ministry of Lands Owerri, 1992). The State has an average annual temperature of 28 °C, an average annual relative humidity of 80%, average annual rainfall of 1800-2500mm and an altitude of about 100m above sea level (Imo ADP, 1990). The State has three agricultural zones namely Orlu, Owerri, and Okigwe agricultural zones. These divisions are for administrative and extension services and not for any agro-ecological difference (Nwajiuba *et al.,* 2008). It is also delineated into 27 local government areas. This ensures effective coverage by Imo state ADP.

The State is generally situated in the rain forest of Nigeria; characterized by intermittent period of heavy, moderate and light rainfall intersperse with dry period. The population of the state is 3,934,899 persons with many subsisting in farming (NBS, 2007). The multistage random sampling technique was adopted in the selection of farmers from the three agricultural zones in the State for this study. In each agricultural zone, two LGAs each were randomly selected. In each LGA, two communities were randomly selected. In each community, five contact farmers were randomly selected from the list of contact in the communities collected from the Extension Agents (EAs). For the selection of EAs for this, twenty EAs each working in each of the three agricultural zones were randomly selected from the list of EAs distributed according to agricultural zone posting. Also, the block extension supervisors of the extension agents selected were interviewed as well the zonal extension officers. The instruments for data collection were four sets of structured questionnaire (for farmers, extension agents, block extension supervisors, and zonal extension officers) which were validated by some extension officers of the Imo Agricultural Development Programme (Imo ADP). It was pretested using a small sample of 10 extension agents and 10 farmers. The data obtained were analysed using descriptive and inferential statistics.

To assess the job/role performance of the field extension agents, each of the Block Extension Supervisor, was interviewed to ascertain the level of role performance of the selected extension agents under their supervision by a role perception scale. The zonal extension officers were interviewed also using the role perception scale. The role perception scale which was developed by Patel (1983) and used by Ajayi (1999b) and Banmeke and Ajayi (2005) were adopted to estimate the level of role perception of the extension workers. The BES and ZEOs were asked to rate items that affect the role performance of the selected extension agents on a 4 point rating scale of very high = 4 points, high = 3 points, low = 2 points, and very low = 1 point. The mean role performance score of all the items were calculated. The level of job/role performance was determined by dividing the grand mean performance score of all the items by the number of items. A mean of 2.50 was used as cut-off point to determine the level of role performance of extension agents with respect to each of the role performance indicators. This was modified thus: >3.50 = very high, 2.5 – 3.5 = high level, 1.5 – 2.49 = low level and <1.50 = very low level. Thus, a 4-point graphic rating scale of 1, 2, 3 and 4 add up to 10, which gives 2.5 as mean, when divided by 4.

A multiple regression analysis was used to ascertain the determinants of job/role performance. The linear form of the regression model was expressed in the implicit form as follows;

$Y = F (X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, e)$.

Where Y = Role performance score
X_1 = Payment of allowances (0 if not regular, 1 if regular)
X_2 = Mobility (0 if not provided, 1 if provided)

X_3 = No of farm families covered by the EA (actual Number)
X_4 = Rate of promotion (0 if not consistent, 1 if consistent)
X_5 = Number of trainings attended in the last 2 years (actual number)
X_6 = Age (Years)
X_7 = Gender (1 = Male, 0 = Female)
X_8 = Level of education (Years)
X_9 = Years of experience (Years),
e = Error term

To determine their perceived level of job satisfaction, the respondents were presented with five main job satisfaction factors namely; conditions of service; job content; organizational policies; working environment; and interpersonal relationships to rate. Each job satisfaction factor was further broken down into operational components. Respondents were then asked to score the operational components on the basis of its adequacy or otherwise, under each main job satisfaction factor, in their work place using a five-point Likert – type scale weighted as follows:
Very high level of satisfaction 5
High level of satisfaction 4
Moderate level of satisfaction 3
Low level of satisfaction 2
Very low level of satisfaction 1
Respondents' mean scores were then computed for each job satisfaction factor. These were used to estimate the workers' present levels of job satisfaction using the following decision rules:
1.00 – 1.49 very low
1.50 – 2.49 Low
2.50 – 3.49 Moderate
3.50 – 4.49 High
4.50 – 5.00 Very high.

RESULTS AND DISCUSSION

Perception of Level of Role Performance

Table 1 presents the level of role performance of extension agents in Imo State. Regular and timely attendance to Fortnight Training (FNT) received a very high level score on role performance of the extension agents (mean = 3.78). This very high level score of regular and timely attendance could be as a result of the importance of FNT in the Training and Visit approach of extension service of ADPs. Utilization of information and communication sources received a mean score of 3.17 while contributions during FNT received a mean score of 3.12. These roles are related to information sharing with farmers and colleagues. Results in table 1 indicate that farmers rated the role of knowing the technology (mean = 2.88) and communication of the technology to the farmers (mean = 3.18) as high. An extension agent should be a person with adequate knowledge of the technologies to be disseminated to the farmers (Ozor, 1996). With the adoption of the Unified Agricultural Extension System (UAES) by the Agricultural Development Programme (ADPs), the EAs assumed the responsibility of disseminating different technologies to farmers covering crops, livestock, fishery, agro-forestry and processing; hence, the need for them to possess adequate knowledge of the relevant technologies (Agu, 1998). Studying Village situation was rated high (mean = 2.53) by the farmers in terms of role performance of the extension agents. It is imperative that functional extension workers must be very conversant with the geographical limit of their circle or cells (Ozor, 1996).

The zonal extension officers rated the role of feeding back the problems to the researchers by the extension agents high (mean = 2.88). Agu (1998) in her findings confirmed that a feedback process was effective in extension research linkages. The farmers saw the role of organizing people as also high (mean = 2.52), which was in agreement with the current focus in extension delivery for the

purpose of multiplier effect. People need to be encouraged to carry out liberated activities to be free from exploitation (Akanji, 1998). The farmers also rated as high (mean = 2.62) the role of helping farmers to prepare farm plans. For proper planning and high return, it is imperative that, farmers should be adequately informed on farm plan preparation (Ajayi, 1999a; Ajayi 1999b). The need to keep good records (keeping of diary containing primary, self-recorded information on his/her village/ field visits) was perceived to be high in terms of role performance by the BES (mean = 3.17), as well as diagnosis and proffering of solution to field problems (mean = 2.82) which the farmers reported. According to Ozor (1996), one of the major duties of extension workers is to keep clear, accurate and up to date records. The study reveals that the zonal extension officers rated as high roles such as regular and timely field visits to farmers (mean =3.27). Developing rapport, otherwise called change relationship with clientele was rated high (mean = 2.62) by the BES.

Farmers rated motivating contact farmers/farmer groups to adopt different technologies in each sub-circle high (mean 3.43), as well as making of report on field day (mean = 3.13), reporting latest farm technology (3.20), monitoring use of new technologies by clientele (mean = 2.85). The above findings are in line with Adams (1982) and Williams *et al*., (1984) who posited that the extension worker is an adviser, a technician and a middleman operating between agricultural research institutions and the farm families. He is a change agent helping farmers to identify their problems and find their own solutions. He works for the creation of community harmony essential for group projects. The extension agent must be capable of giving farmers practical field demonstrations, appropriate improved techniques, help them to locate farm supplies and equipment, advise them on sources of credit, and follow up their requests with the organizations involved (Adams, 1982; Williams *et al*., 1984). The extension agent must assume the additional role of change agent to awaken in the people a desire for change. He must act as a catalyst, helping the farmers to identify and analyse their own problems.

The zonal extension officers perceived as low the role of facilitating programme implementation (mean = 2.43). Knowing source of inputs was rated as low (mean = 2.32). Extension workers are expected to know and direct farmers to sources of farm inputs (Ajayi, 1999a; 1999b). The role of extension workers in linking farmers with financial and marketing institutions was rated as low (mean = 1.85). The respondents rated the role of conflict management as low (mean = 2.15). In order to ensure casualty free environment, conflict should be managed at the emergence stage before it degenerate to escalation stage or beyond (Ajowun, 2006). The role of arranging supplies was also rated low (mean = 2.07). Although extension workers are not supposed to be involved in the distribution of farm inputs, experience from farmers when given access to production inputs (packages), adequate extension support and production incentives, farmers can easily increase their production by three to four times (Adeniyi, 2001). Creating opportunities to train farmers was rated as low (mean = 2.15), participation with the organization manager and the pertinent unit (mean = 2.45), holding of a field day in a month (mean = 2.45). The grand mean role perception score was 2.766 implying that the overall role performance of extension agents is high and important. This finding is in agreement with the results from similar study by Asiabaka (1992).

Table 1: Farmers, Block Extension Supervisors and Zonal Extension Officers' perception of role performance of Extension agents

+	VeryHigh(4)		High (3)		Low (2)		Very Low(1)		Totalscore	Mean
	Freq	%age	Freq	%age	Freq	%age	Freq	%age		
Farmers' Report										
Regular and timely field visits to farmers	19	31.7	38	63.3	3	5.0	0	0.0	197	3.27*
Diagnosis and proffering of solution to field problems	4	6.7	41	68.3	14	23.3	1	1.7	169	2.82*
Assessing farmers' needs, desires and aspiration	5	8.3	32	53.3	19	31.7	4	6.7	162	2.70*
Monitoring use of new technologies by clientele	5	8.3	41	68.3	12	20.0	2	3.3	171	2.85*
Reporting latest farm technology	20	33.3	32	53.3	8	13.3	0	0.0	192	3.20*
Motivating contact farmers/farmer groups to adopt different technologies in each sub-circle	34	56.7	18	30.0	5	8.3	3	5.0	206	3.43*
Knowing the Technology	7	11.7	39	65.0	9	15.0	5	8.3	173	2.88*
Communication of Technology	23	38.3	25	41.7	12	20.0	0	0.0	191	3.18*
Studying Village Situation	9	15.0	14	23.3	32	53.3	5	8.3	152	2.53*
Organising farmers	8	13.3	18	30.0	30	50.0	4	6.7	151	2.52*
Helping farmers to prepare farm plan	8	13.3	21	35.0	24	40.0	7	11.7	157	2.62*
Developing rapport with clientele	7	11.7	23	38.3	26	43.3	4	6.7	157	2.62*
Solving farmers production problems	3	5.0	30	50.0	24	40.0	3	5.0	168	2.80*
Creating opportunities to train farmers	5	8.3	6	10.0	31	51.7	18	30.0	129	2.15
Block Extension Supervisors Report										
Utilization of information and communication sources	22	36.7	26	43.3	5	8.3	7	11.7	190	3.17*
Holding of a field day in a month	6	10.0	15	25.0	35	58.3	4	6.7	147	2.45
Making of report on field day	13	21.7	42	70.0	5	8.3	0	0.0	188	3.13*
Keeping of diary containing primary, self-recorded information on his/her village/ field visits	32	53.3	10	16.7	10	16.7	8	13.3	190	3.17*
Knowledge of subject matter	15	25.0	24	40.0	14	23.3	7	11.7	174	2.90*
Knowing Source of Inputs	9	15.0	6	10.0	34	56.7	11	18.3	139	2.32
Linkages with financial/marketing Institutions	1	1.7	8	13.3	9	15.0	42	70.0	111	1.85
Conflict Management	0	0.0	5	8.3	19	31.7	36	60.0	129	2.15
Arranging Supplies	2	3.3	6	10.0	26	43.3	26	43.3	124	2.07
Zonal Extension Supervisors Report										
Regular and timely attendance to FNT	48	80.0	11	18.3	1	1.7	0	0.0	227	3.78**
Contributions during FNT	19	31.7	29	48.3	9	15.0	3	5.0	187	3.12*
Participation with the organization manager and the pertinent unit	2	3.3	23	38.3	35	58.3	0	0.0	147	2.45
Feedback the problems to the researchers	6	10.0	41	68.3	6	10.0	7	11.7	173	2.88*
Facilitating Programme Implementation	3	5.0	20	33.3	24	40.0	13	21.7	146	2.43
Total										**2.766***

*** High ** Very high. Source: Field survey, 2013**

Factors Influencing Level of Performance of Roles of Extension Agents

In order to determine the factors influencing the level of role performance of extension agents in Imo State, a multiple regression analysis was done. The regression was subjected to four functional forms namely; linear, semi log, double log, and exponential forms. The semi log form was chosen as the lead function because it has the highest coefficient of multiple determination value (0.471), the highest F-ratio value (4.946), and the highest number of significant variables (seven). The results of the multiple regression analysis are presented in table 2.

Table 2: Multiple regression estimates of the factors influencing the level of job performance

Variables	Semi log		Linear		Double log		Exponential	
	β	t	β	T	β	t	β	t
(Constant)	1.099***	7.543	2.973***	7.435	1.227**	2.213	9.039**	2.113
Allowance	0.052***	11.354	0.136	1.093	0.058	1.199	1.904	1.140
Mobility	0.033***	6.523	0.058	0.417	0.018	0.349	-0.047	-.027
Farm families covered	-7.21E-005***	-5.035	0.001***	-5.155	-0.043***	-3.373	0.001	1.000
Rate of promotion	0.029***	7.487	0.085	0.810	0.044	1.127	1.395	1.195
Trainings attended	0.001**	2.540	-0.004***	-2.804	-0.016	-1.165	-1.16E-045	-.636
Age	-0.002	-.616	-0.003	-0.274	-0.018	-0.107	8.25E-024**	2.284
Gender	0.059*	1.684	0.148	1.548	0.041	1.133	0.977	0.834
Education	0.006***	9.572	0.013	0.838	0.019	0.295	-7.12E-009	-0.505
Experience	0.001	0.134	-0.002	-0.162	-0.005	-0.087	7.26E-010	0.488
R^2	0.471		0.458		0.402		0.214	
F-Ratio	4.946***		4.698***		3.655***		1.512	

Note: *Statistically Significant at 10%; **Statistically Significant at 5%; *** Statistically Significant at 1%

Source: Field Survey, 2013

The result shows that the coefficient of multiple determination (R^2) was 47.1%. This implies that the variables in the model were able to explain up to 47.1% of the variation in the level of job performance among the extension agents of Imo Agricultural Development Programme (Imo ADP). The result also shows that regular payment of allowances, gender, provision of mobility, promotion, farm families covered, trainings and level of education were significantly related to the level of job performance. Regular payment of allowances (X_1) significantly increased the level of role performance of the extension agents. This relationship is significant at the 1% level. Regular payment of allowances leads to a greater degree of motivation and hence increased job performance of extension agents. Availability of mobility (X_2) during field visits significantly increased the level of role performance of the extension agents. This relationship is significant at the 1% level. Availability of mobility for field visits will increase the productivity and performance of extension agents and will reduce the stress the extension agent will undergo in order to reach the farmers.

Farm families covered (X_3) significantly reduced the performance of extension agents in their roles. This effect is significant at the 1% level. Reasons could be due to fatigue and inefficiency as result of long time needed to reach all the farm families. Rate of promotion (X_4) significantly increased the performance of extension agents in their roles. This effect is significant at the 1% level. The promotion of extension agents to higher ranks as at when due can go a long way to increase their level of confidence with the organization and hence their level of job performance and satisfaction. Irregular promotion leads to frustration and reduced interest in the job. In the same vein, trainings attended (X_5) significantly increased the performance of extension agents in their roles. This effect is significant at the 5% level. The more extension agents attend training workshops, the more they are able to update themselves with current trends in the field of agriculture. Consequently, their level of satisfaction is expected to increase as a result of their ability to do their work better. Gender (X_7) had a positive and significant effect on the role performance of extension agents in the area. This implies that male extension agents performed better than their female counterparts in their various extension roles. This effect is significant at the 1% level. The level of job performance is also directly related to the level of education (X_8) of the extension workers, thus the higher the level of education, the higher the level of job performance and satisfaction of the extension workers. This effect is significant at the 1% level. Two variables namely; age and number of years of experience of the extension agents were found to be insignificant with the level of role performance of extension agents.

Level of Job Satisfaction

Entries in table 3 show that the extension agents perceived a high level of satisfaction with their job content (mean score = 3.82); moderate level of satisfaction with their conditions of service (mean score = 3.15); high level of satisfaction with interpersonal relationships in their establishment (mean score = 4.18); low level of satisfaction with their working environment (mean score = 2.88); and moderate level of satisfaction with their organizational policies (mean score = 3.60). The grand mean score was 3.526 indicating that these workers had an overall high level of satisfaction with their job. This finding is in disagreement with those of Akinsorotan and Adah (1997) and Anyanwu *et al.*, (2000) who reported low levels of job satisfaction among field extension workers in similar studies in Kogi and Imo State ADPs respectively

Table 3: Level of job satisfaction of extension agents

Job Satisfaction Indices	Very high		High		Moderate		Low		Very low		Total score	Mean
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%		
Job content	4	6.7	44	73.3	12	20.0	0	0.0	0	0.0	229	3.82*
Conditions of Service	0	0.0	15	25.0	35	58.3	7	11.7	3	5.0	189	3.15*
Interpersonal relationships	24	40.0	23	38.3	8	13.3	5	8.3	0	0.0	251	4.18*
Working environment	0	0.0	5	8.3	35	58.3	14	23.3	6	10.0	173	2.88
Organizational policies	7	11.7	22	36.7	25	41.7	6	10.0	0	0.0	216	3.60*
Grand Mean												**3.526***

*High; Source: Field survey, 2013

The reasons are the determinants of their level of satisfaction which the recent agricultural policy of Nigeria has provided for effective extension delivery. Such factors include objectives of extension organization being clearly defined, in-service training opportunities available, contract

additions/incentives paid, job being secured and pensionable, fulfilment as an extension worker, government funding now available, performance as extension worker, working relations with colleagues, working relationship with farmers, reward system, salaries being paid regularly, involvement in decision making, access to research findings, and extension facilities available (Ibrahim *et al.*, 2008).

CONCLUSION

The study concludes that the major determinants of role performance of extension workers are training of extension workers, regular promotion, education, gender, provision of mobility, number of farm families covered, and payment of allowances. Extension agents are satisfied with four major components of the organization being interpersonal relationships, organizational policies, job content and conditions of service. The major determinants of this job satisfaction among extension agents are job being secured and pensionable, working relationship with farmers, reward system, and salaries being paid regularly. The level of in-house and external trainings of extension workers should be given more attention to enhance their productivity and job satisfaction. Since training positively impacted on their role performance, extension agents' efficiency could be more enhanced through training. Training is the only springboard for acquisition of knowledge and skill. Regular promotion and payment of allowances should be sustained through increased government funding of the Agricultural Development Programme (ADP). Imo ADP management should pay more attention to issues concerning workers' welfare and motivation. Specifically, management should ensure that workers achievements are recognized and rewarded adequately. In addition, extension staff should be provided with all necessary working kits/materials and fringe benefits/incentives such as vehicle refurbishing loans, local transport and travel (LT & T) claims as well as in-service training opportunities. These measures will no doubt greatly improve job performance satisfaction and staff retention in the Imo State Agricultural Development Programme.

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