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Relationship between perception of usefulness of Agricultural Technology Management Agency (ATMA) and personal characteristics of Block Technology Mangers (BTMs)

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Abstract

The present study was conducted in Dharwad, Gadag, Belagavi, Haveri, Vijaypur, Bagalkot and Uttara Kannada districts of northern Karnataka. The total sample size for the study was 40 Block Technology Manger (BTMs). The *Ex-post-facto* research design was adopted for study. Findings of the study revealed that fifty percent of the BTMs belonged to young age group, studied post graduation (52.50%), had less than 5 years of total experience (52.50%), had participated one to two times of training (62.50%), belonged to medium organizational climate (55.00%), belonged to medium organizational commitment (47.50%), belonged to medium job involvement (60.00%), belonged to medium job satisfaction (57.50%), belonged to high job stress (52.50%), belonged to medium self confidence (42.50%) and 60.00 percent of BTMs belonged to medium job performance. Whereas, 42.50 percent of BTMs belonged to high perceived usefulness category followed by medium perceived usefulness category (40.00%) and low perceived usefulness category (17.50%). Among eleven independent variables education, total experience, training received, job involvement and job performance showed positive and significant relationship with perception of usefulness of ATMA by BTMs. All the eleven independent variables taken together explained 53.64 percent of the variation in the perception of usefulness of ATMA by BTMs.

Keywords: Perception, BTM, ATMA

Introduction

Agricultural Technology Management Agency (ATMA) is a new step forward, in the history of agricultural extension in India. The Government of India, Ministry of Agriculture, Department of Agriculture & Cooperation has drawn up a new programme, in consultation with the States, to revive extension work. Under the programme, the institutional mechanism has been devised in the form of Agricultural Technology Management Agency [ATMA] at district level under Innovations in Technology Dissemination [ITD] component of National Agricultural Technology Project [NATP]. The scheme has been conceived on the premise that applying the concept of best practice or best fit solution, different agricultural extension approaches can work well for different sets of farm conditions. The reform initiatives reflect the view that improvements in agricultural productivity require demand-driven, farmer-accountable, need-specific, purpose-specific and target-specific extension services.

As a part of National Agricultural Extension Reforms, ATMA opened up new dimensions on comprehensive temperament, harmony, sustainability and farmer's initiatives, for improved production, productivity and stability in production and income in farming sector. The changing scenario of agriculture with the introduction of the reforms process warrants a remarkable demand on the extension system to revise their own approaches and methodology to carry the appropriate technologies to the farming communities. The existing extension system was largely based on agricultural activities and it was top to down in nature, whereas, ATMA activities are based on farming system approach with bottom-up planning. The main focus was on improving/reforming the existing extension system for efficient and effective dissemination of available technologies suited to local conditions and farmer's requirements.

Besides, it also aimed at identifying and bridging the gap (through improving Research-Extension-Farmer linkage) between required and available technologies in the changing farming situations. For the programme to be successful it is highly important that those charged with the responsibilities of executing it and those who are getting real benefits out of it, have a clear understanding of the functioning of the system in its totality. The crucial importance of perception in explaining human behaviour could aptly be summarized by an early sociological dictum, if men perceive situation as real, they are real in their consequences (Thomas and Florian, 1927) [9]. Keeping this in view the present study was designed with objective of study the personal characteristics of BTMs and to analyze relationship between perception of usefulness of ATMA and personal characteristics of BTMs.

Materials and Methods

The study was an "Expost-facto" research design, carried out in Dharwad, Gadag, Belagavi, Haveri, Vijaypur, Bagalkot and Uttara Kannada districts of northern Karnataka. In order to ensure homogeneity in the sample, it was planned in advance to consider BTMs working at Taluk level who are responsible for extension work at Taluk level. For the study 40 Block Technology Managers (BTMs) were formed the population of the study. Perception of ATMA was operationally defined as meaningful sensations of BTMs about usefulness and other relevant aspects of ATMA.

Scale was developed for measuring perception of usefulness of ATMA by BTMs. The finale scale consists of 52 statements. These statements were administered to 40 BTMs to assess their perception of usefulness of ATMA. Responses of BTMs was recorded on a five point continuum *viz.*, strongly agree, agree, undecided, disagree and strongly disagree with scores 5, 4, 3, 2, 1, respectively. The total perception score for individual respondent was calculated by summing up the number of sub items as perceived by the individual BTMs. Thus, 260 and 52 were the maximum and minimum scores, respectively, obtainable by the BTMs. Data were collected by interviewing respondents with the help of a structured interview schedule developed for the purpose. The data collected from respondents was scored, tabulated and analyzed using suitable statistical tools such as frequency, percentage, Mean, SD correlation and regression.

Results and Discussion

Age

The results presented in Table-1 indicated that fifty percent (50.00%) of the BTMs belonged to young age group followed by middle age (45.00%) group, whereas, meager percentage (5.00%) of BTMs belonged to old age. Gopika *et al.* (2015) [3] reported that Assistant Horticulture Officers belonged to young age.

Education

It is inferred from the Table-1 that, more than fifty (52.50%) percent of BTMs studied post graduation. Whereas, 45.00 percent of BTMs perceived graduation and 2.50 percent of BTMs perceived Ph.D. The results were in line with the findings of Mishra (2005) [6] indicated that extension officers had post graduation.

Total experience

The data furnished in Table-1 showed that more than fifty percent of (52.50%) of BTMs had less than 5 years of

experience, while, 47.50 percent of BTMs had 5 to 10 years of experience.

Training received

A look into Table-1 inferred that more than sixty percent (62.50%) of BTMs had participated in one to two trainings followed by 27.50 percent of BTMs had participated in 3 to 4 times training. Further, it is also inferred that a meager percentage of BTMs participated in 5 and more times of training (10.00%). The findings were in conformity with the results of Kumar *et al.* (2011) [4] indicated that half percent of respondents were in low category of training undergone.

Organizational climate

It is evident from the data presented in the Table-1 shows that fifty five percent of the BTMs belonged to medium level of organizational climate, while, 27.50 percent and 17.50 percent of BTMs belonged to high and low level of organizational climate, respectively. Ankaikumar (2009) [1] and Kumar *et al.* (2011) [4] revealed that extension personnel belonged to medium organizational climate.

Organizational commitment

The Table-1 pertaining to distribution of the BTMs according to organizational commitment showed as high as 47.50 percent of the BTMs had medium level of organizational commitment, followed by high (35.00%) and low (17.50%) level of organizational commitment.

Job Involvement

A critical look at Table-1 shows that majority (60.00%) of BTMs belonged to middle category of job involvement, whereas, 27.50 percent and 12.50 percent of BTMs belonged to high and low categories of job involvement, respectively. The results were in line with the findings of Gopika *et al.* (2015) [3] indicated that respondents belonged to medium level of job involvement.

Job satisfaction

A bird view of Table-1 showed that 57.50 percent of the BTMs had medium level of job satisfaction, whereas, 22.50 percent of BTMs had low level of job satisfaction and 20.00 percent had high level of job satisfaction. Kumar *et al.* (2011) [4] and Patel *et al.* (2012) [7] reported that respondent had medium level of job satisfaction.

Job stress

It is observed from the Table-1 that more than fifty percent (52.50%) of BTMs experienced medium level of job stress, while, 32.50 percent and 15.00 percent of BTMs experienced medium and low level of job stress, respectively. The findings were in conformity with the results of Gopika *et al.* (2015) [3] and Manjunath (2015) [5] indicated that (PDOs) experienced high level of job stress.

Self confidence

An examination of the contents of Table-1 revealed that 42.50 percent of the BTMs belonged to medium level of self-confidence. Whereas, 37.50 percent and 20.00 percent of BTMs belonged to high and low level of self-confidence. Dilip (2003) [2] indicated that respondents belongs to medium categories of self-confidence.

Job performance

The data presented in Table-1 indicates that sixty percent

(60.00%) of BTMs belonged to medium level of job performance category, while, 22.50 percent of them belonged to high level of job performance category and 17.50 percent were in low level of job performance category. The results were in line with the findings of Manjunath (2015) [5] reported that (PDOs) belonged to medium level of job performance.

Distribution of BTMs according to their overall perception of usefulness of ATMA

The data presented in Table 2 indicated that 42.50 percent of BTMs belonged to high perceived usefulness category followed by medium perceived usefulness category (40.00%) and low perceived usefulness category (17.50%).

Relationship between independent variables of BTMs and perception of usefulness of ATMA

The data presented in Table 3 and clearly indicated that the two variables namely job involvement and job performance had positively correlated with perception of usefulness of ATMA by BTMs at one percent level of significance. Whereas, education, total experience and training received exhibited positive and significant relationship with perception of usefulness of ATMA by BTMs at five percent level of

significance. The variables such as age, organizational climate, organizational commitment, job satisfaction, job stress and self-confidence were found to be non-significant relationship with the perception of usefulness of ATMA by BTMs.

Contribution of independent variables towards perception of usefulness of ATMA by BTMs

The relationship of independent variables with the perception of usefulness of ATMA by BTMs was studied through multiple regression analysis and the results on this aspect are presented in Table 4. A cursory glance of the results reveals that among eleven independent variables, training received and job involvement was significantly influencing the perception of usefulness of ATMA by BTMs at one percent and five percent level, respectively. The 'F' value (9.112) was found to be significant at one percent level and co-efficient of determination was 0.5364, which revealed that 53.64 percent of the variation in the perception of usefulness of ATMA by BTMs was explained by all the eleven variables included in the study.

Table 1: Personal characteristics of BTMs n=40

| Sl. No | Category | BTMs | |
|--------|----------------------------------|---------------------------|-------|
| | | f | % |
| 1 | Age | | |
| | Young (<35 Years) | 20 | 50.00 |
| | Middle (35-50 Years) | 18 | 45.00 |
| | Old (>51 Years) | 2 | 5.00 |
| 2 | Education | | |
| | Diploma (Agri) | 18 | 45.00 |
| | Graduation | 21 | 52.50 |
| | Post Graduation | 1 | 2.50 |
| 3 | Experience | | |
| | Less than 5 Years | 21 | 52.50 |
| | 5 to 10 Years | 19 | 47.50 |
| 4 | Training received | | |
| | 1 to 2 Times | 25 | 62.50 |
| | 3 to 4 Times | 11 | 27.50 |
| | Five and more times | 4 | 10.00 |
| 5. | Organizational climate | | |
| | Low (Mean - 0.425 SD) | 7 | 17.50 |
| | Medium (Mean ± 0.425 SD) | 22 | 55.00 |
| | High (Mean + 0.425 SD) | 11 | 27.50 |
| | | $\bar{x}= 18.43$ SD= 5.19 | |
| 6 | Organizational commitment | | |
| | Low (Mean - 0.425 SD) | 7 | 17.50 |
| | Medium (Mean ± 0.425 SD) | 19 | 47.50 |
| | High (Mean + 0.425 SD) | 14 | 35.00 |
| | | $\bar{x}= 37.08$ SD= 4.74 | |
| 7 | Job involvement | | |
| | Low (Mean - 0.425 SD) | 5 | 12.50 |
| | Medium (Mean ± 0.425 SD) | 24 | 60.00 |
| | High (Mean + 0.425 SD) | 11 | 27.50 |
| | | $\bar{x}= 48.28$ SD= 6.48 | |
| 8 | Job satisfaction | | |
| | Low (Mean - 0.425 SD) | 9 | 22.50 |
| | Medium (Mean ± 0.425 SD) | 23 | 57.50 |
| | High (Mean + 0.425 SD) | 8 | 20.00 |
| | | $\bar{x}= 28.25$ SD= 5.30 | |
| 9 | Job stress | | |
| | Low (Mean - 0.425 SD) | 6 | 15.00 |
| | Medium (Mean ± 0.425 SD) | 21 | 52.50 |
| | High (Mean + 0.425 SD) | 13 | 32.50 |
| | | $\bar{x}= 46.88$ SD= 7.32 | |
| 10 | Self confidence | | |

| | | | |
|----|--------------------------|----------------------------|-------|
| | Low (Mean – 0.425 SD) | 8 | 20.00 |
| | Medium (Mean ± 0.425 SD) | 17 | 42.50 |
| | High (Mean + 0.425 SD) | 15 | 37.50 |
| | | $\bar{x} = 25.59$ SD= 5.68 | |
| 11 | Job Performance | | |
| | Low (Mean – 0.425 SD) | 7 | 17.50 |
| | Medium (Mean ± 0.425 SD) | 24 | 60.00 |
| | High (Mean + 0.425 SD) | 9 | 22.50 |
| | | $\bar{x} = 66.33$ SD= 7.92 | |

Table 2: Distribution of BTMs according to their perception of usefulness towards ATMA n=40

| Sl. No | Category | Frequency | Percentage |
|--------|--------------------------|--------------------------------|------------|
| 1 | Low (Mean – 0.425 SD) | 7 | 17.50 |
| 2 | Medium (Mean ± 0.425 SD) | 16 | 40.00 |
| 3 | High (Mean + 0.425 SD) | 17 | 42.50 |
| | | Mean: 176.65 S.D: 10.00 | |

Table 3: Relationship between independent variables of the extension personnel with their perception n=40

| Sl. No | Independent variables | Correlation coefficient (r) value |
|--------|---------------------------|-----------------------------------|
| 1 | Age | 0.181 |
| 2 | Education | 0.386* |
| 3 | Total experience | 0.319* |
| 4 | Training received | 0.364* |
| 5 | Organizational climate | 0.213 |
| 6 | Organizational commitment | 0.288 |
| 7 | Job involvement | 0.495** |
| 8 | Job satisfaction | 0.297 |
| 9 | Job stress | 0.229 |
| 10 | Self confidence | 0.197 |
| 11 | Job performance | 0.486** |

* Significant at 5 percent level ** Significant at 1 percent level

Table 4: Multiple regression analysis of the independent variables with perception of usefulness of ATMA by BTMs n=40

| Sl. No | Independent variable | Regression coefficients (b) | S.E. | 't' value |
|--------|---------------------------|-----------------------------|-------|-----------|
| 1 | Age | 0.211 | 0.216 | 0.975 |
| 2 | Education | 1.097 | 1.478 | 0.742 |
| 3 | Total experience | 0.668 | 1.013 | 0.659 |
| 4 | Training received | 2.090 | 1.016 | 2.090* |
| 5 | Organizational climate | 0.224 | 0.286 | 0.784 |
| 6 | Organizational commitment | 0.878 | 0.597 | 1.470 |
| 7 | Job involvement | 0.679 | 0.303 | 2.240* |
| 8 | Job Satisfaction | 0.493 | 0.424 | 1.161 |
| 9 | Job stress | 0.300 | 0.203 | 1.479 |
| 10 | Self confidence | 0.161 | 0.320 | 0.504 |
| 11 | Job Performance | 0.265 | 0.168 | 1.579 |

$R^2=0.5364$ F = 9.112 **

** = significant at the 0.01 level * = significant at the 0.05 level

Conclusion

The study indicated that BTMs were having high level of perception towards the ATMA. The findings of the study also indicate that perception of usefulness of ATMA by BTMs has been significantly influenced by education, total experience, training received, job involvement and job performance exhibited positive significant relationship with perception of usefulness of ATMA by BTMs. The significant R^2 value revealed that these eleven variables taken together explained a highly significant difference in the levels of perception of BTMs.

References

- Ankaiahkumar K. A critical analysis of co-ordination process in ATMA and its impact on stakeholders in Chittor district of Andhra Pradesh. Ph.D., Thesis, University of Agricultural Sciences, Bangalore, Karnataka (India); c2009.
- Dilip MM. A study on knowledge of gram panchayat members about improved agricultural technologies and their role performance in Konkan region on Maharashtra. M.Sc. (Agri.) Thesis, University of Agricultural Sciences, Dharwad, Karnataka (India); c2003.
- Gopika MH, Shivamurthy M, Mallikarjuna GB, Subbareddy PN. An analysis of personal socio-psychological, organizational and job related profile characteristics, constraints experienced and suggestions offered by assistant horticulture officers. Mysore Journal of Agricultural Sciences. 2015;49(1):95-101.
- Kumar V, Sathiyaseelan R, Vasanthakumar J. Relationship between personal and socio-psychological characteristics of extension personnel and their information output. Journal of Extension Education. 2011;23(3):4691-4698.
- Manjunath BV. Job perception and job performance of panchayath development officers (PDOs). Ph.D. Thesis,

University of Agricultural Sciences, Dharwad, Karnataka (India); c2015.

6. Mishra D. A comparative study on the job performance, job satisfaction and constraints of men and women extension officers of Karnataka state department of agriculture. M.Sc., (Agri) Thesis, University of Agricultural Sciences, Dharwad, Karnataka (India); c2005.
7. Patel DB, Thakkar KA, Patel KS. Perception of the extension personnel about the transfer of technology system in North Gujarat. Gujarat Journal of Extension Education. 2012;23:95-98.
8. Ramadevy DM. Assessment of process implementation of extension reforms in AP. Ph.D. Thesis, ANGRU, A.P (India); c2013.
9. Thomas WI, Florian Z. The Polish Peasant in Europe and America. Knopf Publisher, New York; c1927.