

**RESEARCH ARTICLE :**

Relationship between personal characteristics of Assistant Technology Managers and perception of usefulness of Agricultural Technology Management Agency (ATMA)

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SUMMARY : The present study was conducted in Dharwad, Gadag, Belagavi, Haveri, Vijaypur, Bagalkot and Uttar Kannada districts of northern Karnataka. The total sample size for the study was 80 Assistant Technology Manager (ATMs). The *Ex-post-facto* research design was adopted for study. Findings of the study revealed that that majority (81.25 %) of the ATMs belonged to young age group, studied graduation (52.50 %), had less than 5 years of total experience, had participated one to two times of training (55.00 %), belonged to medium organizational climate (61.25 %), belonged to medium organizational commitment (57.50 %), belonged to medium job involvement (61.25 %), belonged to medium job satisfaction (45.00 %), belonged to high job stress (51.25 %), belonged to medium self confidence (61.25 %) and 63.75 per cent of ATMs belonged to medium job performance. Among eleven independent variables job involvement, education, training received and job performance showed positive and significant relationship with perception of usefulness of ATMA by ATMs. All the eleven independent variables taken together explained 49.70 per cent of the variation in the perception of usefulness of ATMA by ATMs.

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authors' affiliations**BACKGROUND AND OBJECTIVES**

The Government of India, Ministry of Agriculture, Department of Agriculture and 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], initially in 28 districts of seven states during March 2005, on a pilot basis and later on extended to almost all the districts in the

country from the year 2007-08. 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.

Agricultural Technology Management Agency (ATMA) is a new step forward, in the history of agricultural extension in India. 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). Keeping this in view, the present study was designed with objective of study the personal characteristics of ATMs and to analyze relationship between perception of usefulness of ATMA and personal characteristics of ATMs.

RESOURCES AND METHODS

The study was an "Expost-facto" research design,

carried out in Dharwad, Gadag, Belagavi, Haveri, Vijaypur, Bagalkot and Uttar Kannada districts of northern Karnataka. In order to ensure homogeneity in the sample, it was planned in advance to consider ATMs working at RSK level who are primarily responsible for field extension work. For the study 80 Assistant Technology Managers (ATMs) were formed the population of the study. Perception of ATMA was operationally defined as meaningful sensations of ATMs about usefulness and other relevant aspects of ATMA. Scale was developed for measuring perception of usefulness of ATMA by ATMs. The finale scale consists of 52 statements. These statements were administered to 80 ATMs to assess their perception of usefulness of ATMA. Responses of ATMs 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 ATMs. Thus, 260 and 52 were the maximum and minimum scores, respectively, obtainable by the ATMs. Data were collected by interviewing respondents with the help of a structured interview schedule developed for the purpose. The data collected from respondents were scored, tabulated and analyzed using suitable statistical tools such as frequency, percentage, mean, SD correlation and regression.

OBSERVATIONS AND ANALYSIS

The results obtained from the present study as well as discussions have been summarized under following heads:

Age :

The results presented in Table 1 indicated that majority (81.25 %) of the ATMs belonged to young age group followed by middle age (17.50 %) group, whereas, meagre percentage (1.25 %) of ATMs belonged to old age. Gopika *et al.* (2015) reported that Assistant Horticulture Officers belonged to young age.

Education :

It is inferred from the Table 1 that, more than fifty (52.50 %) per cent of ATMs studied graduation. Whereas, 35.00 per cent of ATMs perceived Diploma (Agri) and 12.50 per cent of ATMs perceived post graduation. The

Relationship between personal characteristics of ATM & perception of usefulness

Table 1: Personal characteristics of ATMs		(n=80)	
Sr. No.	Category	ATMs	
		f	(%)
1.	Age		
	Young (<35 Years)	65	81.25
	Middle (35-50 Years)	14	17.50
	Old (>51 Years)	1	1.25
2.	Education		
	Diploma (Agri)	28	35.00
	Graduation	42	52.50
	Post Graduation	10	12.50
3.	Experience		
	Less than 5 Years	67	83.75
	5 to 10 Years	13	16.25
4.	Training received		
	1 to 2 Times	44	55.00
	3 to 4 Times	30	37.50
	Five and more times	6	7.50
5.	Organizational climate		
	Low (Mean – 0.425 SD)	19	23.75
	Medium (Mean ± 0.425 SD)	49	61.25
	High (Mean + 0.425 SD)	12	15.00
		$\bar{x} = 17.35$	SD=3.76
6.	Organizational commitment		
	Low (Mean – 0.425 SD)	15	18.75
	Medium (Mean ± 0.425 SD)	46	57.50
	High (Mean + 0.425 SD)	19	23.75
		$\bar{x} = 36.08$	SD=7.65
7.	Job involvement		
	Low (Mean – 0.425 SD)	9	11.25
	Medium (Mean ± 0.425 SD)	49	61.25
	High (Mean + 0.425 SD)	22	27.50
		$\bar{x} = 50.53$	SD=7.24
8.	Job satisfaction		
	Low (Mean – 0.425 SD)	31	38.75
	Medium (Mean ± 0.425 SD)	36	45.00
	High (Mean + 0.425 SD)	13	16.25
		$\bar{x} = 26.63$	SD=3.61
9.	Job stress		
	Low (Mean – 0.425 SD)	6	7.50
	Medium (Mean ± 0.425 SD)	33	41.25
	High (Mean + 0.425 SD)	41	51.25
10.	Self confidence		
	Low (Mean – 0.425 SD)	11	13.75
	Medium (Mean ± 0.425 SD)	49	61.25
	High (Mean + 0.425 SD)	20	25.00
		$\bar{x} = 21.70$	SD=2.51
11.	Job performance		
	Low (Mean – 0.425 SD)	13	16.25
	Medium (Mean ± 0.425 SD)	51	63.75
	High (Mean + 0.425 SD)	16	20.00
		$\bar{x} = 64.51$	SD=8.11

results are in line with the findings of Manjunath (2015) who indicated that Panchayath Development Officers (PDOs) had bachelors degree.

Total experience :

The data furnished in Table 1 showed that majority (83.75 %) of ATMs had less than 5 years of experience, while, 16.25 per cent of ATMs had 5 to 10 years of experience.

Training received :

A look into Table 1 inferred that fifty five per cent of ATMs had participated in one to two trainings followed by 37.50 per cent of ATMs had participated in 3 to 4 times training. Further, it is also inferred that a meagre percentage of ATMs participated in 5 and more times of training (7.50 %). The findings are in conformity with the results of Kumar *et al.* (2011) who indicated that half per cent of respondents were in low category of training undergone.

Organizational climate :

It is evident from the data presented in the Table 1 show that more than sixty (61.25 %) per cent of the ATMs belonged to medium level of organizational climate, while, 23.75 per cent and 15.00 per cent of ATMs belonged to low and high level of organizational climate, respectively. Ankaiahkumar (2009) and Kumar *et al.* (2011) revealed that extension personnel belonged to medium organizational climate.

Organizational commitment :

The Table 1 pertaining to distribution of the ATMs according to organizational commitment showed that more than (57.50 %) of the ATMs had medium level of organizational commitment, followed by high (23.75 %) and low (18.75%) level of organizational commitment.

Job involvement :

A critical look at Table 1 shows that majority (61.25 %) of ATMs belonged to middle category of job

involvement, whereas, 27.50 per cent and 11.25 per cent of ATMs belonged to high and low categories of job involvement, respectively. The results are in line with the findings of Gopika *et al.* (2015) indicated that respondents belonged to medium level of job involvement.

Job satisfaction :

A bird view of Table 1 showed that more than two fifth per cent (45.00 %) of the ATMs had medium level of job satisfaction, whereas, 38.75 per cent of ATMs had low level of job satisfaction and 16.25 per cent had high level of job satisfaction. Kumar *et al.* (2011) and Patel *et al.* (2012) reported that respondent had medium level of job satisfaction.

Job stress :

It is observed from the Table 1 that more than fifty per cent (51.25 %) of ATMs experienced high level of job stress, while, 41.25 per cent and 7.50 per cent of ATMs experienced medium and low level of job stress, respectively. The findings are in conformity with the results of Gopika *et al.* (2015) and Manjunath (2015) indicated that (PDOs) experienced high level of job stress.

Self confidence :

An examination of the contents of Table 1 revealed that majority (61.25 %) of the ATMs belonged to medium level of self confidence. Whereas, 25.00 per cent and 13.75 per cent of ATMs belonged to high and low level of self confidence, respectively. Dilip (2003) indicated that respondents belongs to medium categories of self confidence.

Job performance :

The data presented in Table 1 indicate that more than sixty per cent (63.75 %) of ATMs belonged to medium level of job performance category, while, 20.00 per cent of them belonged to high level of job performance category and 16.25 per cent are in low level of job performance category. The results are in line with the

Sr. No.	Category	Frequency	Percentage
1.	Low (Mean – 0.425 SD)	10	12.50
2.	Medium (Mean ± 0.425 SD)	44	55.00
3.	High (Mean + 0.425 SD)	26	32.50
Mean:174.86		S.D: 13.09	

findings of Manjunath (2015) who reported that (PDOs) belonged to medium level of job performance.

Distribution of ATMs according to their overall perception of usefulness of ATMA :

It could be observed from Table 2 that more than half per cent (55.00 %) of ATMs belonged to medium perceived usefulness category followed by nearly one third per cent (32.50 %) of ATMs belonged high perceived usefulness category. Only 12.50 per cent of ATMs belonged to low perceived usefulness category.

Relationship between independent variables of the ATMs and perception of usefulness of ATMA:

It could be observed from Table 3 that only one variable job involvement exhibited positive and significant relationship with perception of usefulness of ATMA by ATMs at one per cent level of probability, while, three

variables namely education, training received and job performance showed positive and significant relationship at five per cent level of probability. Further, variables like age, total experience, 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 ATMs.

Contribution of independent variables towards perception of usefulness of ATMA by ATMs :

The results of multiple regression analysis are presented in Table 4. It could be observed from the results that ‘F’ value (7.211) obtained was significant at one per cent level indicating that all the independent variables put together contributed significantly to the variation in the perception of usefulness of ATMA by ATMs. The co-efficient of determination (R²) was 0.497 which

Table 3 : Relationship between independent variables of the ATMs with their perception of usefulness of ATMA (n = 80)

Sr. No.	Independent variables	Correlation co-efficient (r) value
1.	Age	0.169
2.	Education	0.235*
3.	Total experience	0.166
4.	Training received	0.283*
5.	Organizational climate	0.197
6.	Organizational commitment	0.186
7.	Job involvement	0.433**
8.	Job satisfaction	0.178
9.	Job stress	0.192
10.	Self confidence	0.154
11.	Job performance	0.294*

* and ** indicate significance of values at P=0.05 and 0.01, respectively

Table 4 : Multiple regression analysis of the independent variables with perception of usefulness of ATMA by ATMs (n=80)

Sr. No.	Independent variable	Regression coefficients (b)	S.E.±	t' value
1.	Age	0.100	0.261	0.383
2.	Education	0.820	0.899	0.912
3.	Total experience	2.684	1.427	1.880
4.	Training received	0.078	1.655	2.047*
5.	Organizational climate	0.440	0.562	0.783
6.	Organizational commitment	0.083	0.335	0.248
7.	Job involvement	1.059	0.495	2.139*
8.	Job satisfaction	1.105	0.641	1.72
9.	Job stress	0.530	0.292	1.872
10.	Self confidence	0.837	0.928	0.902
11.	Job performance	0.179	0.210	0.852

R² = 0.497 F = 7.211**

* and ** indicate significance of values at P=0.05 and 0.01, respectively

revealed that 49.70 per cent of the variation in the perception of usefulness of ATMA by ATMs was explained by all the independent variables selected for the study.

The results also revealed that among eleven independent training received and job involvement was found to be significant at five per cent level in influencing perception of usefulness of ATMA by ATMs.

Conclusion :

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

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