

COMPUTER USAGE PATTERN OF VETERINARIANS AND THEIR ATTITUDE TOWARDS COMPUTER USAGE

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ABSTRACT

Computer has become an essential tool in every field of veterinary sector. The field level veterinarians are using computers for many tasks. The study assessed the computer usage pattern of veterinarians working under government sector. A sixteen point psychological scale designed following Likert's method of summated rating was adopted to study the attitude of veterinarians towards computer. The data were collected from sixty veterinarians of two randomly selected districts. The study revealed that almost all the veterinary surgeons had access to computer either at home or office, majority of the veterinarians were having high level of knowledge and skill in computer usage and having either favourable or ambivalent attitude towards computer. Computer knowledge and skill were positively related to their attitude.

KEYWORDS: Computer, Computer knowledge and Skill

INTRODUCTION

Computers have revolutionised every sphere of human life such as education, health care, communication, commerce and agriculture. In Kerala, under e-governance, the use of computers has become unavoidable in every administrative office for saving and processing data. Most of the services to citizens are provided online nowadays. Almost all the offices are automated with e-file tracking and e-payment facilities. Veterinary institutions are not exceptions. Various software such as Project preparation tools, health and disease surveillance software and advisory systems are used widely. In the field, Veterinarians are also engaging in technology based transfer of information which is an alternative to a traditional extension system.

Need based advisory system is an IT tool of contemporary importance in the field of animal husbandry extension as in any other field. Some advances have already been made by researchers earlier in this regard. For instance, Nisha (2008) had developed an IT based advisory system in English and Tamil to address the needs of dairy farmers. Raju (2004) had developed a poultry expert system on poultry diseases, bio-security, summer management and drugs used. Prabhu (2012) had developed an expert system for veterinarians to diagnose diseases in dairy cattle. Saurkar and Watane (2012) had developed an expert system for pet owners to diagnose diseases in pets.

Thurstone (1946) reported that attitude is the degree of positive or negative disposition associated with a psychological object. Allport (1935), states that an attitude is a mental and neutral state of readiness organized through experience exerting directive or dynamic influences upon individual's response to all objects or situations with which it is

associated. Attitude is an important concept that is often used to understand and predict people's reaction to an object or change and how behaviour can be influenced (Fishbein and Ajzen, 1975). Attitudes are usually formed from our experiences with the psychological object. A person's attitude represents his evaluation of the entity in question and attitudes are held with respect to some aspect of the individual's world, such as another person, a physical object, behaviour, or a policy (Ajzen and Fishbein, 1977). According to Taiwo (1998) attitudes are inclinations and feelings, prejudices or bias, preconceived notions, ideas, fears and convictions about any specific topic.

With this background, a study was planned to assess the computer usage pattern of Veterinarians working under Government of Kerala and their attitude towards computer usage.

SAMPLING PROCEDURE AND DATA COLLECTION

Two districts of Kerala, one each from south and north were selected purposively for the study. Accordingly, Thiruvananthapuram and Palakkad were selected as the study areas. Sixty veterinary surgeons were selected randomly from among the government veterinary surgeons of Thiruvananthapuram and Palakkad districts. Socio personal profile and background data were collected through personal interview and questionnaires wherever necessary. Attitude towards computer usage meant the degree of positive or negative affect associated with the use of computers. It was measured using the scale developed for the study using Likert Method of summated rating.

Scale Development- Procedure followed

For item writing, some open ended interviews were conducted with representative subjects from the target respondent population to provide a degree of authenticity that in turn could contribute to the scale's validity. Thus 55 statements pertaining to the domain computer usage were initially prepared and edited as per the criteria prescribed by Edwards and Kilpatrick (1948).

Back translations were done on the coverage of the content domain. That is, competent judges who were not involved in the construction of the items were asked to assign the items back to the hypothesized categories. A pilot study was conducted to check out such points as how easily the scale instructions were followed, how well the scale format functioned, how long the scale took to complete, and especially, how appropriate the scale items were for the target respondent population. Finally 50 statements were selected for the analysis.

The statements were administered to 48 randomly selected respondents for item analysis. The responses were recorded on a three point continuum as agree, undecided, and disagree with a weightage of 3, 2 and 1 respectively for favourable statements. For unfavourable statements the scoring system was reversed. The total score for each respondent was obtained by adding the scores of individual items. Thereafter 25 per cent of the respondents with the highest total score (High group- X_H) and the 25 per cent with lowest total score (Low group- X_L) were selected as criterion groups in terms of which to evaluate the individual statements. Mean scores of the statements for both groups (\bar{X}_H and \bar{X}_L) were found out and the difference of mean scores, which differentiated between the favourable and unfavourable groups were calculated ($\bar{X}_H - \bar{X}_L$). The sixteen statements with the largest difference of mean values, were chosen for the final scale as per Tripathi (2002). The final scale items are given in Table.1. The final scale contained 10 negative and 6 positive statements.

Table 1: The Final Scale to Measure Attitude Towards Computer Usage

Sl. No.	Item	*SA	A	UD	D	SD
1	Computer training is a must for its routine use					
2	Computer use will reduce the chances of personal face to face communication					
3	Computers can adversely affect the moral character of children					
4	Computer usage can save my time					
5	I think internet chatting is a good way of communication					
6	Internet based financial transactions can trap us					
7	Computer usage can cause radiation hazards					
8	Children using computer may become introverts					
9	Computerisation will create new employment opportunities					
10	Computer use will cause physical health problems					
11	Computer usage has the risk of exposing confidential matters					
12	Computer usage can strain family relations					
13	Computer usage can facilitate crimes					
14	I fear computers will spread social evils					
15	Computers can help children in their studies					
16	I think computers can enhance the reading habit of people					

*Legends

SA- Strongly Agree A-Agree UD-Undecided D-Disagree SD-Strongly Disagree

On administration of the scale to the respondents, the maximum and the minimum possible scores are found to be 80 and 16 respectively.

Reliability of the Scale

Scale reliability is the proportion of scale score variance that is not error variance. Reliability of the scale was found out by the split- half method. The test was divided into two halves, *i.e.*, odd numbered items to one half and the even numbered items to the other half. Then both the halves were administered to 15 dog owners other than the sample. The correlation of scores between the two halves or sets *i.e.*, even numbered items were correlated to the odd numbered items and reliability co-efficient was obtained. Since this really measured the reliability of only half of the test, an adjustment was made to obtain the true reliability using the Spearman-Brown prophecy formula,

$$r = \frac{2r'}{1+r'}$$

r = Coefficient of reliability

r' = Correlation coefficient between two halves (0.68)

The reliability coefficient was found out to be 0.81, which indicated that the scale was internally consistent.

Validity of the Scale

Validity is the proportion of scale score variance that accurately represents the construct or the proportion of criterion variance that is predicted by the scale. Since the scale content items were written after consulting experts and referring relevant literature, the validity of the scale was assured.

Administration of the Scale

The scale was administered to the respondents. The respondents were asked to record their positive or negative feeling on a five- point continuum *viz.*, strongly agree, agree, undecided, disagree and strongly disagree and scores of 5,4, 3, 2 and 1 were assigned for positive statements respectively. The reverse scoring was followed for negative statements. Based on the total scores obtained, the respondents were categorized into three groups *viz.*, unfavourable, ambivalent and favourable.

Category	Score
Unfavourable (Up to 36)	1
Ambivalent (37-58)	2
Favourable (Above 58)	3

Statistical methods used for the study are Frequency, Percentage, Mean and standard deviation and Spearman's rank order correlation

RESULTS

Table 2: Profile of Veterinary Surgeons

Sl. No.	Category	Frequency	Percentage
Age	Young (Below 35 years)	23	38.33
	Middle (36-50 years)	35	58.33
	Old(Above 50 years)	2	3.34
Educational Qualification	Undergraduates	36	60.00
	UG+ Diploma holders	4	6.67
	PG and above	20	33.33
Professional Experience	Up to 5 years	8	13.34
	6-10 years	22	36.66
	More than 10 years	30	50.00

Table 3: Computer Usage Pattern of Veterinary Surgeons

Item	Category	Frequency	Percentage
Access to computer	Having access to computer	59	98.33
	No access to computer	1	1.67
Training exposure	Yes	49	81.67
	No	11	18.33
Frequency of using computer	Daily	38	63.33
	Few times a week	17	28.33
	Once in a month	5	8.33
No of Tasks performed	1	3	5.00
	2	27	45.00
	3	30	50.00
Knowledge of computer application	Low (up to 3)	0	00
	Medium (4 – 7)	1	1.70
	High (Above 7)	59	98.30
Skill in using computer	Low (Up to 2)	1	1.66
	Medium (3 - 4)	13	21.67
	High (Above 4)	46	76.67

It could be observed from Table 3 that almost all the veterinary surgeons (98%) had access to computer either at home or office, this finding is in agreement with that of Carney et al (2004) McHaney et al (2012) and Prabhu (2012) . Majority of the veterinarians i.e., 81.67 per cent had got training on computer applications and the rest 18.33 per cent had got no training at all. In the present study, majority of the respondents attended some training programme n computer applications. Along with the training exposure, some of them had hands-on experience during basic undergraduate courses and were motivated to add to their proficiency in computer usage through self-learning. Renwick (2005) Bose (2004) Jones et.al (1999) and Space et.al (2003) found training as an appropriate means to enable staff to cope effectively with technological change and attitude to ICT. Also they suggested that successful training needs to appreciate that different people have different training needs and so they prefer different training methods. Regarding the frequency of use of computers, more than half of the veterinarians were using the computer every day. This shows the all-encompassing use of computer in our daily, personal and professional life.

The finding is in consonance with earlier studies such as Carney et al (2004) who studied computer use among physicians, Yushau (2006) among professors and McHaney (2012) and Prabhu (2012) among Veterinarians. Seetharaman (2012) also reported that 46.20 per cent of the under graduate medical students in south India used computer almost every day.

Nearly 50 per cent of them were doing more than two tasks using computer whereas 45 per cent were doing one or two tasks. The rest five per cent were not performing any task on their own. So also McHaney et.al (2012) Prabhu (2012) Maheswari (2006) reported that most of the veterinarians had access to computer.

It is apparent from the figures that 98.30 per cent off the veterinarians' knowledge of computer application was high while only very few (1.7%) had medium knowledge in it. The finding of the present study is in agreement with that of Inamdar and Rotti (2004) Prabhu (2012) and Nisha (2008) who reported that majority of the extension personnel had high knowledge level in computer application.

Majority of the veterinarians i.e., 76.67 per cent had high skill in using computer, whereas 21.67 per cent had medium skill. Very few i.e., 1.66 per cent had low skill in using computer. The data indicate that majority of the veterinarians had high skill in using computer and only very few of them had low skill. Similarly Bose (2004), Raja *et al.*, (2004) Nisha (2008) and Prabhu (2012) reported that majority of the extension personnel had medium skill in computer applications. However, Elayet *et al.*, (2010) reported that only 25 per cent of the Australian nurses were confident in using computers and the related software.

Attitude towards Computer Usage

Table 4: Attitude towards Computer Usage

Sl. No.	Category	Frequency	Percentage
1	Unfavourable	4	6.66
2	Ambivalent (neutral)	46	76.67
3	Favourable	10	16.67

On analysing the data pertaining to attitude towards computer usage (Table 4), it was found that majority of the veterinarians (76.7 per cent) had an ambivalent or neutral attitude towards computer usage. Among others, 16.70 per cent of the veterinarians had favourable and only 6.70 per cent had unfavourable attitude. The mean score obtained for attitude was 51.75 out of the maximum score of 80.

In the studies of Nisha (2008) and Prabhu (2012) among veterinarians, Rajasekar and Raja (2006) among teachers, Vadivukkarasi and Manjeet (2013) among staff nurses, Adekunle *et al.*, (2007) among librarians, Raja *et al.*, (2004), among nurses found that all the respondents had positive attitude towards computer usage. Smith *et al.*, (1956) observed that people hold or express a particular attitude towards something because they derive psychological benefit by doing so. The ambivalent attitude of majority of the veterinarians in the present study could be because they are not fully aware of the potential of the computer systems. Also they may not be much into the office duties along with the clinical diagnoses and treatment which are the main duties of the veterinarians in the field. Dye *et al.*, (1994) in their study reported that veterinarians who held positive attitude towards the use of computers were aware of the importance of computers in enhancing their productive and management practices.

STATISTICAL ANALYSIS

Spearman's Correlation between Independent and Dependent Variables in the Case of Veterinary Surgeons

Table 5 presents the Spearman correlation matrix which shows the variables such as knowledge in computer application, skill in using computer and information seeking behaviour were having significant positive association with the attitude towards computers.

Table 5: Spearman's Correlation between Independent and Dependent Variables in the Case of Veterinary Surgeons

	Education	Tasks performed	Frequency of use	Training	Knowledge	Skill	Information seeking behaviour	Information storing behaviour	Attitude
Education	1	.463	.172	-.019	.144	.508**	.293*	.299*	.135
Tasks	.463**	1	.427**	-.130	.400**	.432**	.341**	.222	.241
Frequency	.172	.427**	1	-.113	.328*	.450**	.170	.045	.250
Training	-.019	-.130	-.113	1	-.025	.090	-.117	-.265*	.045
Knowledge	.144	.400**	.328*	-.025	1	.464**	.013	.014	.256*
Skill	.508**	.432**	.450**	.090	.464**	1	.074	.205	.265*
Information Seeking behaviour	.293*	.341**	.170	-.117	.013	.074	1	.083	.305*
Information Storing behaviour	.299*	.222	.045	-.265*	.014	.205	.083	1	.232
Attitude	.135	.241	.250	.045	.256*	.265*	.305*	.232	1

** (P<0.01)

* (P<0.05)

Almost similar results were reported by Czaja and Sharit (1998) Drennan et al (2005) Ilyasuet *al.*, (2005) Liu (2005) and Teo (2008). But, Yushau (2006) reported that computer experience does not affect computer attitude, usage and perceived usefulness.

CONCLUSIONS

Nowadays technology is used to enhance learning; therefore it is important for extension agents to be comfortable with computer so that the learners will derive full advantage of the new educational technology.

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