

DEVELOPING AN ICT UTILIZATION INDEX FOR FIELD VETERINARIANS

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Abstract: A preliminary index was developed by taking expert suggestions from academicians and Field Veterinarians. A final ICT utilization index was developed based on the statistical analysis of the ratings provided by the judges.

Keywords: Field Veterinarians, ICT utilization index, ICT tools, Livestock Development.

Introduction

India is a country of agriculture and livestock being an integral part of agriculture is sharing one-fourth of its contribution to the national GDP. The herculean task of livestock development through providing clinical, advisory and extension services in India is mainly performed by field veterinarians working in public service delivery system. Veterinarians in Andhra Pradesh working in the post by name Veterinary Assistant Surgeon (VAS) not only treats the dumb which were clinically ill, but also acts as the sole veterinary extension personnel available at the village or mandal level carrying out various programmes and projects for livestock and rural development which are being initiated by the honorable government. For performing all these it has become a must for each and every veterinarian to use modern ICT tools which are found very much handy in information management and instant communication.

Information and Communication Technology which is popularly known as ICT has become a part of the daily routines. So, even the late adopters and laggards of this technology are forced to adopt it at a faster rate due to the pressure experienced by them from the peers who had already adopted and using this dynamic technology. In order to study the ICT utilization pattern and extent of utilization of ICT tools among field veterinarians, need for developing an index was found of essential and inevitable which led to an attempt with the objective to develop an index for ICT utilization among field veterinarians.

*Received June 24, 2016 * Published Aug 2, 2016 * www.ijset.net*

Methodology

ICT utilization was operationally defined as the combination of different types devices used, purpose and frequency of usage and the experience of field veterinarians in using ICT tools.

A list of 70 components that can be included in the preliminary index for Utilization of ICT tools by field veterinarians was prepared and given to 50 judges who are experts and teachers in extension and veterinary sciences and those who belonged to Andhra Pradesh State Animal Husbandry Department. The judges were asked to rate the components in the order of their importance on a three point continuum viz; most relevant (MR), relevant (R) and least relevant (LR). Out of 50, 27 useful responses were obtained, they were assigned scores as 3 for most relevant, 2 for relevant and 1 for least relevant components. Instructions to judges were given in the judgement sheet.

After giving scores to the components and coding the data, weighted mean was calculated for each component. Finally, mean of all the components was calculated. The components which were having weighted mean value above the mean value (2.3259) were retained for developing the final index for Utilization of ICT tools. Thus, finally 52 components out of 70 were incorporated into the index. The selected components were incorporated into three heads viz; types of devices used, use of ICTs and experience in ICTs. The list of components selected along with their weighted mean values were furnished in the judgement sheet.

Practical applicability of the ICT utilization index:

The selected components were incorporated into three heads as below viz; types of devices used, use of ICTs and experience in ICTs.

Types of devices used (A): It is operationalized as the different devices which are currently in use by the field veterinarians. A score of 2 was assigned to each device are using and a score of 1 was assigned to each device they are not using. The possible score ranged between 4 and 8.

Use of ICTs (B): It was operationalized as the purpose and frequency of use of ICT tools by the field veterinarians. It consisted of 4 main components (Computers, Mobile phones, Digital Storage Devices and Search Engines). Under computers, there are 6 subheads (MS Word, Powerpoint slides, MS Excel worksheet, e-mail, World Wide Web and ICT Based information tools). 2 purposes under MS Word, 2 purposes under Powerpoint slides, 9 under MS Excel worksheet 5 under e-mail, 4 under World Wide Web and 2 items under ICT Based information tools were listed in the schedule. Under Mobile phones 2 subheads (general applications and messenger apps) were included. In general applications and messenger apps,

5 and 3 purposes were included respectively. The Digital Storage Devices and Search Engines consists of 5 and 2 components respectively. A weightage of 3, 2 and 1 were assigned to the responses frequently, occasionally and never respectively. The possible score ranged from 39 to 117.

Experience in ICT use (C): It was operationalized as the time period which the field veterinarians are using the ICT tools. Schedule was used and the respondents were asked to indicate their experience in ICT use on a six point continuum i.e. Never, Less than 6 months, 6 months to 1 year, 1 to 2 years, 2 to 4 years and more than 4 years and a weightage of 0, 1, 2, 3, 4 and 5 was assigned respectively. The possible score ranged from 0 to 54.

Each respondent was given an index value ('t' value) using the following formula.

$$t = \sum \left[\left(\frac{\text{Actual score in A}}{\text{maximum score in A}} \times \frac{100}{3} \right) + \left(\frac{\text{Actual score in B}}{\text{maximum score in B}} \times \frac{100}{3} \right) + \left(\frac{\text{Actual score in C}}{\text{maximum score in C}} \times \frac{100}{3} \right) \right]$$

where, A = Types of devices used

B = Use of ICTs

C = Experience in ICTs

The possible score varied 33.33 to 100.00. After getting the index values, the respondents were categorized as follows through mean and standard deviation.

- i) Low level of ICT Utilization = Below (Mean-S.D)
- ii) Medium level of ICT Utilization = Between (Mean ±S.D)
- iii) High level of ICT Utilization = Above (Mean+S.D)

Conclusion

At the advent of ICT utilization, though field veterinarians were lagging behind due to their professional background, the advantages of ICT tools have made them to utilize ICT tools in their job chart. The present study was undertaken to develop an ICT utilization index for studying the utilization of ICT tools by field veterinarians to adjudge the extent and utilization pattern.

JUDGEMENT SHEET for Utilization of ICT Tools by Field Veterinarians

Please go through each component and statements carefully and record your response by tick (√) mark against the appropriate category, Most Relevant (MR), Relevant (R) and Less Relevant (LR). Please attempt all the components and statements.

I. **Types of devices used:** This represents the different ICT devices used by field veterinarians

| | Types of devices used | MR | R | LR | 'Z' value |
|-----------|-----------------------|----|---|----|----------------|
| A. | COMPUTERS | | | | |
| | a. Desktop | | | | 2.7407 |
| | b. Laptop | | | | 2.6667 |
| | c. Netbook / Notebook | | | | 1.2962* |
| | d. Tablet PC | | | | 1.3703* |
| B. | MOBILES | | | | |
| | a. Basic mobile | | | | 2.8518 |
| | b. Smart Phones | | | | 2.7037 |
| | i. Android phone | | | | 1.3333* |
| | i. Windows phone | | | | 1.2592* |
| | i. i – phone | | | | 1.1111* |

II. **Use of ICTs:** This represents the Frequency (Frequently, Occasionally and Never) and purpose of use of ICT tools by field veterinarians

A. COMPUTERS

| S.No. | Use | MR | R | LR | 'Z' value |
|-----------|---|----|---|----|----------------|
| a) | I use MS Word for typing | | | | |
| 1. | For professional purpose | | | | 2.8518 |
| 2. | For personal purpose | | | | 2.7778 |
| b) | I use Power point slides to present in | | | | |
| 1. | Farmer's trainings | | | | 2.5185 |
| 2. | VAS technical trainings | | | | 2.6667 |
| 3. | Paravet trainings | | | | 1.6667* |
| c) | I use MS Excel Worksheet | | | | |
| 1. | To maintain database related to patients | | | | 2.5185 |
| 2. | To prepare database of livestock insurance | | | | 2.4815 |
| 3. | To prepare annual reports | | | | 2.7407 |

| | | | | | |
|---------------------------------------|---|--|--|--|----------------|
| 4 | Data entry related to livestock schemes like Sunandini, Ksheerasagar, etc. | | | | 2.9259 |
| 5 | Data entry about feed and fodder distribution | | | | 2.7037 |
| 6. | Entry of livestock census | | | | 2.7407 |
| 7. | To prepare project reports for loans | | | | 2.7778 |
| 8. | To prepare performance reports | | | | 2.6667 |
| 9 | To prepare graphs and charts | | | | 2.5185 |
| 10. | To calculate subsidies and premiums | | | | 1.5556* |
| d) I use e-mail | | | | | |
| 1. | To communicate with other veterinarians | | | | 2.5926 |
| 2. | To send reports to higher officials like Assistant Director, Deputy Director, Joint Director and Director | | | | 2.5556 |
| 3. | To be in contact with allied and parallel departments | | | | 2.7037 |
| 4. | To send information to progressive farmers | | | | 2.4815 |
| 5. | To send invitations, letters and case related information to SVVU scientists | | | | 1.5556* |
| 6. | To communicate with Print and Electronic Media | | | | 2.6296 |
| 7. | For sending Death Intimation Report to Insurance company. | | | | 1.6667* |
| e) I use World Wide Web | | | | | |
| 1. | To acquire latest information related to livestock farming | | | | 2.7778 |
| 2. | To upload Sunandini scheme calf information into DAHD website | | | | 2.7778 |
| 3. | Uploading disease reports in NADRS | | | | 2.7407 |
| 4. | To read online journals, e-books etc. | | | | 1.4815* |
| 5. | To publish articles | | | | 1.2962* |
| 6. | To register e-courses (edX, Coursera, etc.) | | | | 1.2592* |
| 7. | To get photos / pictures of various livestock breeds, diseases, farm equipment, etc. | | | | 2.7778 |
| f) ICT Based information tools | | | | | |
| 1. | Information kiosk | | | | 2.5556 |
| 2. | Multimedia modules | | | | 2.5926 |

B. Basic / Smart phones

| S.No. | Use | MR | R | LR | 'Z' value |
|--|---|----|---|----|-----------|
| a) General | | | | | |
| 1. | Telephone calls | | | | 2.8148 |
| 2. | SMS | | | | 2.7407 |
| 3. | To take photographs of animals, fodder varieties, farm equipment etc. | | | | 2.5185 |
| 4. | To record audio and video. | | | | 2.6296 |
| 5 | To use internet | | | | 2.6296 |
| 6 | To use e-mail | | | | 1.7778* |
| b) Messenger Apps (WhatsApp / We Chat / Hike / Telegram / ChatON) | | | | | |
| 1. | To send livestock related information to progressive farmers | | | | 2.4444 |
| 2. | To send photographs, video clippings, etc. related to livestock to other veterinarians / officials of A.H Dept. | | | | 2.7037 |
| 3. | For group discussions about different aspects of livestock | | | | 2.4074 |

C. Digital Storage Devices

| S.No. | Device | MR | R | LR | 'Z' value |
|-------|----------------------|----|---|----|-----------|
| 1. | CDs | | | | 2.5185 |
| 2. | DVDs | | | | 2.4444 |
| 3. | Pendrives | | | | 2.8518 |
| 4. | External Hard Discs | | | | 2.6296 |
| 5 | SD cards / Micro SDs | | | | 2.4444 |

D. Search Engines

| S.No. | Search Engine Used | MR | R | LR | 'Z' value |
|-------|--------------------|----|---|----|-----------|
| 1. | Google | | | | 2.8889 |

| | | | | | | | | | | |
|----|------------|--|--|--|--|--|--|--|--|----------------|
| 2. | Yahoo | | | | | | | | | 2.6296 |
| 3. | MSN | | | | | | | | | 1.4814* |
| 4. | Bing | | | | | | | | | 1.3703* |
| 5 | Ask | | | | | | | | | 1.1481* |
| 6 | Alta Vista | | | | | | | | | 1.1481* |
| 7 | Lycos | | | | | | | | | 1.0000* |

III. Experience in ICT use :

| ICT tool | Experience in ICT tool use | | | | | | MR | R | LR | 'Z' value |
|---|----------------------------|--------------------|-------------------|-------------|-------------|-------------------|----|---|----|---------------|
| | No experience | Less than 6 months | 6 months – 1 year | 1 – 2 years | 2 – 4 years | More than 4 years | | | | |
| Computers | | | | | | | | | | |
| MS Word | | | | | | | | | | 2.7407 |
| Power Point presentation | | | | | | | | | | 2.5556 |
| MS Excel Worksheet | | | | | | | | | | 2.5185 |
| Internet | | | | | | | | | | |
| e-mail | | | | | | | | | | 2.8148 |
| WWW | | | | | | | | | | 2.6667 |
| Facebook | | | | | | | | | | 2.4814 |
| Mobile Phones | | | | | | | | | | |
| Basic mobile | | | | | | | | | | 2.8518 |
| Smart phone | | | | | | | | | | 2.7407 |
| Messenger Applications (WhatsApp / We Chat / Hike/ Telegram/ ChatON) | | | | | | | | | | 2.5925 |

*components having Weighted mean values less than Mean (2.3259)

References

[1] Roshan Baig (2015). Extent of Utilization of ICT tools among Field Veterinarians of Andhra Pradesh. M.V.Sc thesis submitted to Sri Venkateswara Veterinary University Tirupati.

- [2] Kerlinger Fred, N. (2008). Foundations of behavioural research. *Surjeet Publications 2nd edition. Page- 151-153.*
- [3] Raghava, N.V., & Punna Rao,P. (2014). ICT use behaviour of scientists of Krishi Vigyan Kendras. *Journal of Communication Studies, xxxii, 3-12*
- [4] Jyothi, V. (2009). Information Communication Technology in Teaching and Learning in Agricultural Colleges of ANGRAU – A Critical Study. Ph.D thesis submitted Acharya N.G. Ranga Agricultural University Hyderabad.