

Original Research Article

<https://doi.org/10.20546/ijcmas.2021.1002.224>

Digital Tools Impacting the Administrative Procedures in Agricultural Colleges of Northern India

Surya Rathore^{1*}, Samala Akhila², Poonam² and Kundan Veer Singh³

¹*Division of Extension Systems Management, ICAR – National Academy of Agricultural Research Management, Hyderabad (TS), India*

²*KVK, Navgaon (Alwar-I), SKNAU, Jobner (Rajasthan), India*

³*Division of Genetics & Plant Breeding, SKUAST, Jammu (J&K), India*

**Corresponding author*

ABSTRACT

Keywords

Impact, Digital tools, Administrative procedures, Agricultural Universities

Article Info

Accepted:
17 January 2021
Available Online:
10 February 2021

The purpose of this study was to investigate the awareness and usage of digital tools by deans in administrative procedures of State Agricultural Universities of India. Also, an investigation into the impact of digital tools in terms of academic development with the deans' eye was conducted. Sample consisted of 20 Deans belonging to ten SAUs of northern India comprising twenty diverse colleges of agricultural sciences who were selected through Simple Random Sampling method. Data were collected with the help of semi-structured interview schedule developed for the purpose along with informal observation and discussions. Majority of the deans under study were aware of various digital tools except for e-portfolio. All of them were using computers, Wi-Fi, smart phones daily but LCD projectors were used occasionally. Deans of various colleges under study had never used tele-conferencing, e-portfolio, digital student report card system and virtual classrooms for administrative process. Online admissions, Student Information System (SIS), online payment of fees and student-staff communication through e-mail were considered to be time saving and accurate tools facilitating the administrative procedures. Deans agreed to the fact that transparency & accountability and governance has improved to an extent of more than 76% to 90%. It is recommended that there should be refresher courses for the college administrators exposing them to novel digital tools like e-portfolio, digital report card system and virtual classrooms which are much needed in this new normal.

Introduction

Covid – 19 has taught us to be more and more digital savvy. The inclusion of digitization in the administrative procedures has become dire necessity for teaching learning as well as

administrative procedures of a typical university system and agricultural education is no exception. The new normal has brought drastic change in the way universities should function, including the administrative functions.

Today, technology as a leading edge is resulting in changing the lifestyle of people. Most of the Indian Universities are not much aware about improving the administrative efficiency by using ICT tools. So, the staff in the administration should be exposed to new technology and they should be made aware of the benefits of this technology. According to Achimugu *et al.*, (2010) internet has become a major driving force of this dynamic level of Information and Communication Technology which has positively impacted every sector. ICT usage in administration and university education requires concerted efforts. When the staff are trained and enlightened to use digital technologies, the organization will be prepared to deal with technological change in the present society. Using of digital tools like e-portfolio, digital card system, virtual classrooms *etc.* in educational administration will help the administrators to achieve their goals easily. E-Portfolio is nothing but an electronic evidence which is generally assembled and managed online, it includes multimedia, text, images, electronic files *etc.* ICT is used for staff and student administration, personal administration and instructional supervision.

The changes in administration adversely affect the organization. According to Ahmed (2009), use of ICT in administration and teaching process makes an organization more flexible, less expensive and saves time. So, most of the universities are trying to assume benefits of ICT.

ICT is a useful tool to have transparency, reliability and efficiency. Information and Communication Technologies will impact student learning unless staff and administration are educated digitally and understand how to integrate it into curriculum. Administration becomes more effective by using ICT tools in any organization. Universities need to make

greater use of technology to deliver their courses and prepare their students better for this ever-changing environment that relies on technology. The benefits of ICT would possibly guide policy makers and it is a call forth for university administrators to ensure total and effective application of ICT in administrative duties. There is a need to change the mentality of universities. The structure needs to let go of its inherent rigidity and become more versatile, allowing professional bodies and industry to collaborate to make them more functional and application-based in the delivery of education programmes. More fundamental questions relating to national education policies and theoretical grounds and premises have been set aside by these rapid transitions from classroom to online teaching.

There were 63 State Agricultural Universities in India with three central universities and four deemed universities. Each university consists of 3-4 colleges on an average headed by Dean who is the administrative head of that particular college. Though all administrative procedures are dealt by the administrative staff who work under the administrative control of the Dean but unless and until the administrative head has the awareness of the use of various digital tools along with knowledge to bring the same into practice, one cannot expect to have a digital revolution in the temples of learning which is very much required for the present day students, faculty as well as the administrative heads of various units of the university system. Along with being aware and using things, it is necessary to know their perception regarding the impact of digital tools in the teaching learning system. Considering this, an inquiry is made into the awareness, usage and frequency of usage of digital tools and how digitization is impacting the teaching learning process in terms of time saving, accuracy and ease based on the

perception of the administrators in the Agricultural University system. Questions were asked on extent of improvement of various procedures of the university with digitization.

Materials and Methods

Sampling methods

The universities were selected purposively i.e. those Universities which responded to our online questionnaire hosted on ICAR – National Academy of Agricultural Research Management, Hyderabad within a month. Thus, 10 State Agricultural Universities were selected from the four northern states of Madhya Pradesh (03), Jammu & Kashmir (01) Gujarat (03) and Rajasthan (03). Further, selection of colleges too was purposive based on their response to our online questionnaire. So, 20 Colleges from 10 State Agricultural Universities of northern India constituted the sample of the study.

Data collection

A mixed methods approach was used to collect data from a sample of 20 colleges belonging to 10 State Agricultural Universities of the four northern states of the country; Rajasthan, Gujarat, Madhya Pradesh and Jammu & Kashmir. As far as possible, efforts were made to select colleges belonging to different verticals of agricultural sciences. Also, information was collected from Nodal officers of the Universities designated by ICAR and Deans of respective colleges through online questionnaire hosted on ICAR – National Academy of Agricultural Research Management (NAARM) website and a part of the data were also collected through personal distribution of the questionnaire at the designated Universities/Colleges and also through informal observation by the researcher.

Results and Discussion

Implementing Digital tools result into increased efficiency and transparency of education systems of SAUs. Various administrative activities like registration, assignment submission, examination and evaluation take lot of time in the absence of digital tools. Using digital tools will lead to less time taking for administering, configuring and managing various academic activities drastically, thus contributing to the efficiency of the system. Research findings show that wherever ICT tools were not being used by all the administrative staff and organization; it was due to lack of proper training and infrastructure. Findings of this study focuses on how aware are the administrators or Deans of the sample SAUs of the northern India, what was the frequency of their usage and then the impact of digitization on administrative procedures of universities is depicted as to how the administrative heads of these colleges of SAUs feel in terms of time saving, accuracy, ease and what extent of improvement has been experienced by the Deans under study as a result of digitization.

Deans' awareness and usage of digital tools

Awareness is just knowing about the existence of an idea, concept, theory or practice but at the same time usage refers to bringing the same into practice. Fig. 1 indicates that all the Deans under study were aware of the usage of various ICT tools except four Deans who were not aware of e-portfolio. Talking about usage, all of them were using computers, Wi-Fi, smart phones and LCD projectors whereas computers, smart phones and Wi-Fi were used by all the Deans daily. Majority of the Deans of various colleges under study had never used teleconferencing, e-portfolio, digital student report card system and virtual classrooms for

administrative purpose. The possible reason for this could be agricultural universities are concerned with practical oriented courses where just lecturing will not suffice rather more practical exposure is required plus number of students in a typical agricultural university too is not more.

Being aware about something is not enough, one has to be assured that he/she as an administrator has brought digital tools in practice and procedures of the college. If we compare the respondents' awareness of digital tools with their usage, fig 1 clearly depicts

that there is no difference in the awareness and usage of computer/laptop, projector, Wi-Fi and mobile/smart phone but as regards interactive white board, television, video conferencing, e-portfolio, digital Student Report Card System and virtual classrooms; in spite of being aware, roughly half of them were making use of all these gadgets in the administrative procedures of their colleges. Rathore *et al.*, (2020) found that only 50 percent of the colleges used Student Information System (SIS) as a management information system to manage student data (Table 1).

Table.1 Distribution of Deans according to usage frequency of ICT tools n=20

S.No	Category	Never	Occasionally	Monthly	Weekly	Daily
1	Interactive white board	40.00	20.00	0.00	20.00	20.00
2	Computer / Laptop	0.00	0.00	0.00	0.00	100.00
3	LCD Projector	0.00	40.00	20.00	20.00	20.00
4	Television	20.00	40.00	0.00	20.00	20.00
5	Video conference	40.00	60.00	0.00	0.00	0.00
6	Teleconference	60.00	40.00	0.00	0.00	0.00
7	E-Portfolio	60.00	40.00	0.00	0.00	0.00
8	Wi-Fi	0.00	0.00	0.00	0.00	100.00
9	Digital student report card System	60.00	20.00	0.00	0.00	20.00
10	Virtual class rooms	60.00	40.00	0.00	0.00	0.00
11	Mobile / Smartphone	0.00	0.00	0.00	0.00	100.00
12	E-Library	20.00	40.00	0.00	0.00	40.00

Table.2 Impact of ICT in educational administration n=20

S.No	Category	Time Savin	Accuracy *	Ease*
1	Online admissions	4.65	4.40	4.30
2	Student Information System	4.25	4.30	4.05
3	Biometrics for staff	3.75	3.95	3.85
4	Online payment of fees	4.20	4.10	4.05
5	Students and staff communication through email	4.65	4.60	4.40
6	Online recruitment process	4.20	4.10	3.95
7	Online Assessment	4.05	3.90	3.90

*(5- Strongly Agree, 4- Agree, 3- Undecided, 2- Disagree, 1- Strongly Disagree)

Table.3 Extent of improvement in educational administration as a result of ICT n=20

S.No	Category	0% -	26%-50%	51% -	76%-90%
1	Transparency & Accountability	5.00	10.00	25.00	60.00
2	Manpower Productivity	10.00	30.00	20.00	40.00
3	Academic development of staff	10.00	30.00	25.00	35.00
4	Academic development of students	15.00	10.00	25.00	50.00
5	Employability of students	15.00	25.00	35.00	25.00
6	Governance	20.00	15.00	0.00	65.00

Fig.1 Awareness and usage of digital tools by deans

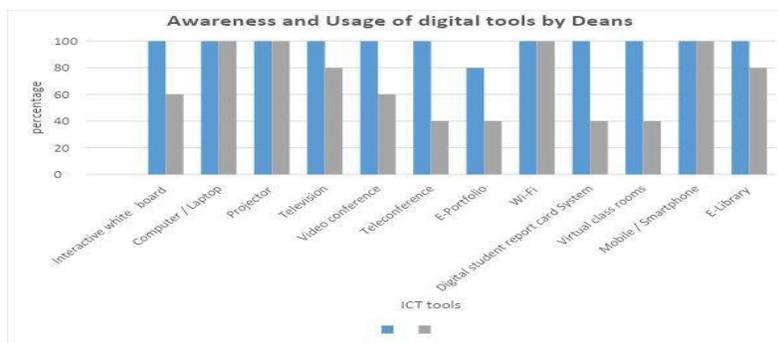
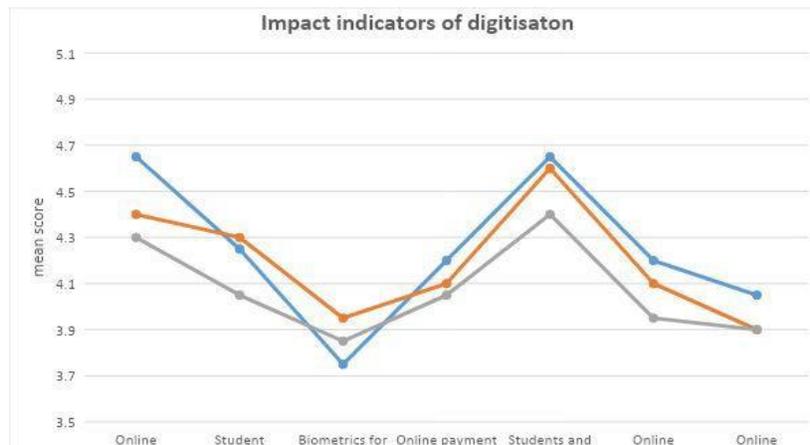


Fig.2 Impact of ICT on educational administration



Deans’ perspective: How digitization is impacting educational administration?

Table 2 reveals that Deans of different colleges of northern India almost fell in the category of strongly agree regarding considering online admissions and student

staff communication through e-mail to be time saving whereas on the basis of mean value, it can be concluded that the responses were somewhere between Strongly Agree and Agree regarding accuracy of online admissions, Student Information System (SIS), Online payment of fees and student-

staff communication through e-mail. These findings are in consonance with the findings of OECD (2005) which states that ICT is being used and had a more impact on administrative services such as admissions, registrations, fee payments and online classes *etc.*

Regarding how far ICT has eased their lives, all the Deans agreed for all the categories of work except biometrics for staff for which the Deans just agreed. The reason for this could be that University teachers have to take their classes as per schedule, it hardly matters whether biometrics is there or not.

Fig. 2 depicts that according to the administrators' views, digitization has considerably impacted educational administration in terms of saving time, accuracy and ease in work performance. The deans of various colleges under study agreed to the fact that online admissions, student information system, online payment of fees, student – staff communication through e-mail were the areas of digital intervention which had contributed to the administrative procedures of the university system in terms of saving time, accuracy and no doubt had made the work easier. As far as use of biometrics for staff is concerned, they were undecided regarding its contribution in terms of saving time, easing the process and accuracy. The possible reasons could be if there are less number of biometric points, surely it is a wastage of time standing in the queue and if we talk about accuracy; some malpractices were anticipated by the administrators saying that a person marks his/her attendance using biometrics in the first half and then goes out doing his personal work, then again comes and marks himself present using biometrics. In such cases, it is very difficult to claim absence of employees. Online recruitment process was considered time saving and accurate but not easy by the

administrators whereas online assessment of students was only considered time saving but neither accurate nor easy. It is quite possible that online assessments give pupils an opportunity for malpractices so in such case, this practice might not be accurate and also for conducting these assessments, we need to have trained manpower with all needed digital support at the level of the students as well as administrators, which possibly was an issue for the administrators under study. Watson & Sottile (2010) reported equitable rates of cheating in face-to-face classes as compared to online classes, but 5.2% more had someone else give them answers during an online class quiz or test.

A perusal of Table 3 reveals that majority of the Deans agreed to the fact that transparency & accountability and governance has improved to an extent of more than 76% to 90% whereas half of the respondents reported that academic development of students has improved to the extent of more than 76%. No doubt computers have made the governance process of universities easier and as a result, lot of improvement has taken place such as online admissions, notices, announcements, tenders *etc.* which can be done at the click of the mouse and saves human as well as non-human resources. More than one third Deans said that academic development of teachers has taken place to the extent of 76-90% whereas half of them also vouched for academic development of students. Now, the faculty can look for international conferences as well as write quality papers in less time. The same applies to students and they can also fetch for some jobs through the internet.

Negative impact of ICTs

In spite of positive impact of ICT, there are some negative impacts which were reported by the Deans of the various SAUs of Madhya Pradesh. According to them, due to more and

more dependence on ICT, students and staff both are skipping field work and laboratory classes. ICT has increased the dependency among students which result in low thinking, innovations and creativity. Other impact like e-pollution and misuse/mishandling of ICT (cybercrime) was reported. Whereas, the Deans of the SAUs of Gujarat said that since all ICT tools depend on electricity hence when no electricity is available, work may get delayed. They also said that in spite of ICT, paper work is still there because e-mail communication is not considered at administrative level. ICT may at times be misused unless and until authenticated. The Deans of various colleges in Rajasthan said that ICT is at times more of hassle because in spite of ICT, paper work is just as it was, therefore it demands double the amount of time and work input. They also said that it is difficult to use ICT without training. SKUAST, Jammu Deans said that chances of plagiarism have become more as a result of ICT use and also time killing is too much due to web surfing. One aspect which all the Deans reported is that ICTs have led to lack of physical activity, reduced personal interaction, security & privacy. All the Deans under study felt that as a result of ICT, students and staff were found to be wasting time on irrelevant activities on social media like WhatsApp and Facebook. Also, due to ICT, students were losing their creativity.

Thus, it is concluded that proper training in ICTs is the need of the hour and students as well as faculty should be trained on how to make judicious use of Information Communication Technologies.

Tele-conferencing, e-portfolio, digital student report card system and virtual classrooms should be part and parcel of an agricultural university system at least in the new normal. Reasons for not using all these digital tools should be found out and problems regarding

availability or training of staff in ICT should be addressed. The staff associated with online admission and examination cell should be trained in the use and administration of online procedures which is the need of the hour in the present context. More than one third Deans said that academic development of teachers has taken place to the extent of 76-90% whereas half of them also vouched for academic development of students which clearly gives a signal that digital integration has brought about a true revolution in the administrative tasks of Universities. At the same time, ICTs have led to lack of physical activity, reduced personal interaction, security & privacy. All the Deans under study felt that as a result of ICT, students and staff were found to be wasting time on irrelevant activities on social media like WhatsApp and Facebook. Also, due to ICT, students were losing their creativity. It is concluded that proper training in ICTs is the need of the hour and students as well as faculty should be trained on how to make judicious use of digital technologies.

References

- Achimugu, P., Oluwagbemi, O., & Oluwaranti, A. (2010). An Evaluation of the Impact of ICT Diffusion in Nigeria's Higher Educational Institutions. *Journal of Information Technology Impact*, 10(1): 25-34.
- Ahmed, J.U. (2009). Use of ICT in the private universities of Bangladesh *International Journal of educational administration*, 1(1): 77-82.
- OECD (2005). E-learning in tertiary education. Policy brief by the organization for Economic co-operation and development. Retrieved from <http://www.oecd.org/education/ceri/35991871.pdf> (accessed on 05/02/2021)
- Rathore, S; Ravichandran, S; Kaur, M and Poonam (2020) Going digital in the new

normal: Are our SAUs ready? Indian Journal of Extension Education, 56(2): 49-56. (accessed on 05/02/2021)

Watson, G., & Sottile, J. (2010). Cheating in the digital age: Do students cheat more in online courses? Online Journal of

Distance Administration, 13 (1). Retrieved from <http://www.westga.edu/~distance/ojdla/spring131/watson131.html> (accessed on 03/02/2021)

How to cite this article:

Surya Rathore, Samala Akhila, Poonam and Kundan Veer Singh. 2021. Digital Tools Impacting the Administrative Procedures in Agricultural Colleges of Northern India. *Int.J.Curr.Microbiol.App.Sci.* 10(02): 1890-1897. doi: <https://doi.org/10.20546/ijcmas.2021.1002.224>