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## **Motivational Access to the Use of Information and Communication Technology (ICT) in Teaching Economics**


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### **Abstract**

This paper focuses on motivational access to information and communication technology (ICT) in teaching economics at Tribhuvan University of Nepal. ICT integration has become an integral part of the contemporary educational landscape. It is emerging as a transformative force in teaching and learning activities. Motivational access refers to the individual's interest, desire, and intention to engage with ICTs. The use of ICTs by educators to increase their sense of achievement and success in teaching and learning is known as motivation. The theoretical lens of this study is Van Dijk's resource and appropriation theory. For this purpose, a cross-sectional research design and structured Google Form questionnaires were administered to 404 economics teachers. The methods involve a rigorous statistical analysis, including descriptive statistics, one-sample t-tests, and ANOVA, to explore differences in motivational access based on socio-demographic characteristics. This paper develops some key indicators to analyze teachers' perceptions of the usefulness of ICT, such as ICT as an effective teaching tool, its support for diverse teaching and learning styles, and its ability to solve educational problems. The findings reveal that most economics teachers perceived a higher level of usefulness of ICT in their teaching. They believed that ICT support would enhance creativity, facilitate communication, and increase access to knowledge. However, motivation is determined by additional income, gender, teaching faculty, teaching level, qualification, job nature, and computer availability for using ICT. To bridge gaps in motivational access and enhance ICT integration, this study recommends targeted professional development programs, equitable access to ICT resources, and the inclusion of motivational incentives in educational policies to encourage sustained use of ICT in teaching.

*Keywords:* motivational access, perceived usefulness, educational opportunities, integrating ICT tools, economics teachers

### **Motivational Access to the Use of Information and Communication Technology (ICT) in Teaching Economics**

Information and communication technology (ICT) has recently become a disruptive force that could completely change education. Educators all around the world to improve the teaching and learning process and provide students with more interactive, engaging, and accessible learning possibilities (Irrinki, 2021; Pombo et al., 2016; Shoraevna et al., 2021; Stein et al., 2020) are using it. ICT has revolutionized education by providing cutting-edge resources and platforms that greatly improve teaching and learning (Athawale, 2023; Chandra & Mills, 2014). However, for ICT integration to be successful, instructors must be motivated and willing to use these tools in their instructional practices in addition to having access to technology (Guzman Mena, 2020; Raygan & Moradkhani, 2020; Singhavi & Basargekar, 2019).

Modern teaching methods rely heavily on integrating information and communication technology (ICT), which turns conventional classrooms into dynamic, interactive learning spaces (Daniela, 2019). ICT integration in economics can improve students' understanding of complex concepts and accelerate their skill development in an area where real-world applications are crucial. To maximize ICT's potential benefits in economics education, it is critical to comprehend teachers' motivational access to it (Işik et al., 2012; Nji & Idika, 2018). Motivation is the characteristic that pushes an individual toward acting, performing actions, and achieving.

The effective use of information and communication technologies (ICTs) can be broadly categorized into four main areas: infrastructure, skills, usage, and motivation. Motivation is one of four forms of digital access, the others being material access (possessing the required tools and connectivity), skills access (knowing how to utilize ICTs), and usage access (having the chance and drive to use ICTs for worthwhile endeavours). Motivational access is the desire and

willingness to use information and communication technologies (ICTs) for personal, educational, or social purposes (Grošelj et al., 2019). Motivational access refers to the individual's interest, desire, and intention to engage with ICTs (Van Dijk & AGM, 2017; Van Dijk, 2014). This means having a desire and willingness to learn how to use ICTs and to use them for their own personal or professional purposes.

The theoretical literature on teachers' motivational access to ICT is scarce. On the other hand, an analysis of pertinent psychological theories provides valuable perspectives on the motivation of educators. Before teachers may be inspired to satisfy their higher-order wants of self-actualization and professional goal accomplishment, their basic needs must be addressed. Second, more intrinsic (or internal) variables eventually inspire teacher effort, performance, and professional conduct more effectively than extrinsic (or external) basic needs and environmental factors. These conclusions are based on eight interrelated categories of influences: workload and challenges, remuneration and incentives, recognition and prestige, accountability, career development, institutional environment, voice, and learning materials and facilities. They are further supported by a review of empirical studies on teachers' motivation (Guajardo, 2011). The literature revealed several factors that could influence motivational access to ICTs, including individual characteristics, social influences, and contextual factors (Huang, 2016; Padilla-Meléndez et al., 2013). Motivational access is influenced by perceived relevance (needs and interests), perceived benefits (improved learning, increased productivity, or enhanced communication), perceived ease of use, self-efficacy, attitudes towards ICTs, and social norms (Grošelj et al., 2019; Van Dijk & AGM, 2017).

ICT is the key to success in many domains, such as education, health, and infrastructure. The IT Policy 2000 was the first official government policy in Nepal and aimed to incorporate IT in educational institutions for various

purposes, including distance learning. However, there were few clear ICT education policies. As a tool in the National Curriculum Framework, ICT must be taught separately and integrated into the school curriculum (2005; 2007). The integration of ICT into teaching and learning activities has also been stressed in the School Sector Reformed Plan 2009–2015. The first uniform policy declaration for ICT use in teaching and learning in K–12 and higher education was produced by the ICT in Education Master Plan 2013. None of these policies, meanwhile, have made it apparent how money will be allocated for teacher-educator training and ICT infrastructure. The assessment of the use of ICT in the field of education indicates that the country falls behind both developed and developing nations in terms of ICT infrastructure and services. Nepal's digital gap is evident (Sharma & Seon, 2016).

The University Grants Commission, Tribhuvan University, and other various institutions have been facilitating and supporting ICT development in Nepal's higher education. The use of ICT in the Faculty of Education began through the Open and Distance Education Center (ODEC) before COVID-19, and it was accelerated after the pandemic. However, there is an absence of specific strategies to implement ICT in education policy, a lack of funding for the resources and ICT infrastructure, and a lack of teachers' professional development. It may take decades to realize the minimum level of ICT resources in educational organizations (Gautam, 2023; Gautam, 2021; Hart & Laher, 2015; Rana & Rana, 2020; Sharma & Kim, 2016). However, most educators used ICT resources, including mobile phones, laptops, computers, multimedia, social media, and social networking, to support teaching and learning. ICT tools for teacher education appear to be less effectively utilized by teachers due to their limited ICT knowledge and skills. Most teachers in Nepal struggle to incorporate new technologies into their lessons even though their students are already familiar with them, especially in urban areas. This is reflected in their limited use of ICT

resources in the classroom. Most teachers in Nepal are from older generations and are less familiar with web technologies (Gautam, 2023; Rana & Rana, 2020).

The existing literature focused on ICT status, ICT infrastructure, teacher training, and professional development for using ICT resources in the classroom. However, much attention has not been given to addressing motivational access in higher education in general and economics teaching at Tribhuvan University. The use of ICT by economics teachers for motivational purposes is a complex subject with many facets. In this context, this paper focuses on teachers' perceptions of the use of ICT, including how successful it is as a teaching tool, how it supports a variety of teaching and learning methods, and how it affects meeting the needs of individual students in teaching economics at Tribhuvan University of Nepal.

### **Methods and Material of the Study**

This study adopts a quantitative research approach, utilizing a cross-sectional study design. This design allows us to collect data simultaneously, offering a snapshot of the teachers' motivation towards ICT integration. The study population comprises economics teachers at Tribhuvan University, representing a diverse and vital segment of the academic community. A stratified random sampling technique is employed to ensure the selection of a representative sample. In total, 404 respondents were meticulously chosen to participate in the study, ensuring that each stratum is adequately represented.

A structured questionnaire is administered to the participants through a Google Form to gather data. The questionnaire is thoughtfully designed, with items presented in a five-point Likert scale format, encompassing responses ranging from 'Strongly Disagree' to 'Strongly Agree.' These items are meticulously crafted to assess the motivational factors that influence economics teachers and to uncover their attitudes toward integrating ICT into their teaching-learning process. Data collection occurs during a specific time frame, spanning from 2079 Jestha to Ashoj. This temporal selection is strategic, aiming to capture

a holistic and representative snapshot of the economics teachers' perspectives regarding adopting ICT in their teaching. Collected data undergoes a rigorous statistical analysis using the Statistical Package for the Social Sciences (SPSS). The analysis comprises several key components:

Descriptive statistics are used to give a summary of the information gathered. This involves computing means, standard deviations, and frequencies to accurately portray the essential features of the responses to the Likert scale items understandably and concisely. The sample means of the Likert scale responses are compared to a theoretical population mean using a one-sample t-test. With statistical testing, it is possible to ascertain if there is a clear consensus or divergence of views about the attitudes of economics professors toward integrating ICT compared to a neutral position. The ANOVA is employed to investigate any disparities in motivational access across economics instructors with different socio-demographic attributes.

### **Result and Discussion**

Information and communication technology (ICT) has been considered a tool to assist teachers and students in the classroom in developing countries like Nepal. Technology has also changed the way we view teachers and the traditional paradigm of teaching, and this paradigm was at its peak in popularity during the 1960s and 1970s in developed countries like Australia. Indeed, it increased after the COVID-19 pandemic at an accelerating rate in Nepal. According to Howell (2012), simply placing a computer in a classroom does not mean learning is more effective. Instead, teachers must know how to utilize technology effectively, comprehend the theories underlying the practice, and choose the appropriate technology to meet the needs of their students. To learn how to teach with digital technology, educators require a digital pedagogy. Prensky's (2001) findings state that most instructors are like digital immigrants—they fall on a continuum between those who have embraced ICT use in the classroom and those who have

not tried to use information and communication technology (ICT). The majority of educators are often self-taught or peer-taught. Their knowledge of technology is typically restricted to what they may use at home and at work. Although most instructors utilize technology on a daily basis, their usage of it may not be as current as what their pupils or even their teaching standards require. An effective digital pedagogy does not require technological proficiency (cited in Howell, 2012, p. 6). However, it would be irresponsible to overlook their allure given that learning environments in schools are becoming more and more tech-rich and that students are using digital devices outside of the classroom. This is an approach to teaching and learning that takes advantage of a user's inclination: pupils find that learning exercises involving technology are more engaging and motivating, and they appreciate using it. In conclusion, the use of technology across subject areas like economics is important for engaging and motivating students' learning in a traditional classroom.

### **Perceived Usefulness of ICT**

Motivation is a crucial component of education. Students' dedication to the learning task, satisfaction, and self-esteem all rise when they are motivated to complete it. Teachers are encouraged, and student participation has increased thanks to innovative and creative technologies. Additionally, it raises instructor and student motivation, which modifies the dynamic between the two groups of people with the information. Zhou & Teo (2017) defined four dimensions of motivation, such as perceived usefulness, student facilitation, better performance, and external motivation (Fig. 1). However, this paper only attempts to assess the perceived usefulness of the economics teachers at Tribhuvan University in Nepal.

### **Figure 1**

*Perceived Usefulness of ICT for Teaching Learning Purposes*





### Status of Perceived Motivational Access of Economic Teachers

The economic teacher perceived the importance of ICT integration in teaching. They have given high value with average ratings for ICT as a teaching tool, as support for the selection and use of instructional strategies, and to provide individual feedback. Economics teachers also believed that ICT could support students' access to information collection, creativity, communication, and the revolutionary use of ICT in education. However, the perceived utility of ICT is not exclusively determined by its capabilities. Their foundation lies in the self-realization used for enhancing teaching methods, involving learners, and addressing specific learning requirements. There were also a lot of external factors, such as peer pressure, institutional backing, and changing world environments like the COVID-19 epidemic inspired by the accelerating use of ICT in economic teaching at Tribhuvan University.

In conclusion, the advancement of technology integration in education is contingent upon the motivating access that economics teachers have towards employing ICT for perceived utility. For creating a more inventive and productive learning environment in economics education can be achieved by utilizing strategies for professional development, curriculum design, and institutional support that are informed by an understanding of the elements that shape instructors' perspectives.

**Table 1**

*Status of motivational access for perceived usefulness of economics teachers in using ICT*

	Mean	SD	t-value	p-value
Effective teaching tool	4.19	0.61	39.18	0.00*
Help to adopt various teaching-learning styles	4.20	0.57	42.37	0.00*
Can solve any teaching-learning problem	3.75	0.83	18.16	0.00*
Entertaining	3.98	0.68	28.87	0.00*
Exchanging ideas with seniors and colleagues	4.15	0.53	43.93	0.00*
Supports in self-learning	4.08	0.62	35.35	0.00*

*Note.* \* $P < 0.05$  (i.e. Significant). The data was obtained from Field survey, 2079.

Table 1 shows that participants have a generally good opinion of and acceptance of information and communication technology (ICT) as a useful teaching tool.

The mean score for the “Effective teaching tool “statement was 4.19, with a standard deviation of 0.61. The t-value of 39.18 and a p-value of 0.00 suggest a significant positive perception regarding the effectiveness of ICT in teaching. This finding aligns with numerous studies in the literature highlighting the positive impact of ICT on teaching and learning outcomes (Mahdum et al., 2019).

Similarly, participants expressed a strong belief in the versatility of ICT in facilitating various teaching-learning styles. The mean score for “Help to adopt various teaching-learning styles “was 4.20, with a standard deviation of 0.57. The

high t-value of 42.37 and a p-value of 0.00 further support the participants' conviction in the adaptability of ICT in education. This finding resonates with research by Lawrence and Tar (2018), who emphasized the diverse pedagogical approaches that technology integration can support.

The participants also demonstrated a positive attitude towards technology's problem-solving capabilities in the teaching-learning process. The mean "Can solve any teaching-learning problem" score was 3.75, with a standard deviation of 0.83. The t-value of 18.16 and a p-value of 0.00 indicate a statistically significant belief in technology's efficacy for addressing educational challenges. This aligns with the views of Sharma and Srivastava (2020), who discussed the problem-solving potential of technology in education.

Moreover, participants indicated that using the internet and computers is an entertaining experience for them. The mean score for the statement "Entertaining" was 3.98, with a standard deviation of 0.68. The t-value of 28.87 and a p-value of 0.00 underscore the participants' positive perception of the enjoyment of incorporating technology into their educational practices. This finding is in line with studies that emphasize the engagement and motivation that technology can bring to the learning process (Huang, 2016; Padilla-Meléndez et al., 2013)

Furthermore, the participants expressed a strong agreement with the statement that ICT provides an opportunity to exchange ideas with seniors and colleagues. The mean score for "Exchanging ideas with seniors and colleagues" was 4.15, with a standard deviation of 0.53. The t-value of 43.93 and a p-value of 0.00 highlight the participants' recognition of ICT's collaborative and communicative potential in an educational setting. This finding resonates with research by Mota et al. (2011), emphasizing the importance of technology in fostering collaboration among educators.

Lastly, participants indicated that they use ICT because it supports them in self-learning. The mean score for “Supports in self-learning “was 4.08, with a standard deviation of 0.62. The t-value of 35.35 and a p-value of 0.00 suggest a significant acknowledgement of the role of ICT in facilitating self-directed learning. This finding aligns with the literature on the benefits of technology in promoting personalized and independent learning experiences (Azukas, 2019; Chaipidech et al., 2022).

### Teachers' Perception of ICT Use

This table reveals a highly positive perception of ICT among the participants, highlighting its effectiveness as a teaching tool, its versatility in supporting various teaching-learning styles, and its potential for solving educational problems. The findings of this study, presented in Table 2, align with existing literature, emphasizing the positive impact of ICT on education across various dimensions.

**Table 2**

*A Significant Result of Motivational Access ICT for Perceived Usefulness of Economics Teachers in Using Socio-Demographic Variables*

Variables	Categories	Frequency	Mean	SD	p-value
Gender	Female	55	4.10	0.44	0.41
	Male	349	4.05	0.40	
Faculty	Humanities	67	4.04	0.44	0.75
	Management	170	4.05	0.39	
	Education	46	4.02	0.40	
	Others	121	4.09	0.41	
	Total	404	4.06	0.40	
Teaching level	Bachelor	231	4.06	0.36	0.97
	Master	65	4.05	0.44	
Additional income	Both level and MPhil	108	4.06	0.46	
Qualification	Masters	326	4.04	0.39	0.18

	MPhil	41	4.11	0.46	
	PhD and post-doc	37	4.16	0.47	
	Total	404	4.06	0.40	
	No	204	4.01	0.40	0.02*
	Yes	200	4.11	0.40	
Job Nature	Permanent	192	4.06	0.42	0.10
	Contract	99	4.06	0.33	
	Part-time	113	4.06	0.44	
	Total	404	4.06	0.40	
Computer at home	No	18	4.03	0.38	0.74
	Yes	386	4.06	0.40	

*Note.* \* $P < 0.05$  (i.e., significant). The results are based on field survey, 2079 carried out by the authors.

Table 2 provides insights into the motivational access of Economics teachers at Tribhuvan University concerning the perceived usefulness of ICT in teaching economics. The mean scores across various demographic variables suggest a generally positive perception of the importance of ICT in teaching economics.

Examining the influence of gender on motivational access, the data illustrates that both female ( $n=55$ , Mean=4.10, SD=0.44) and male ( $n=349$ , Mean=4.05, SD=0.40) teachers express high motivation. Importantly, the absence of a statistically significant difference between the two groups ( $p=0.41$ ) suggests that gender does not play a significant role in determining motivational access to ICT among Economics teachers. However, this finding disagrees with existing literature emphasizing the diverse and inclusive nature of ICT adoption irrespective of gender (Ali et al., 2021; Vanitha & Alathur, 2020).

The teaching faculty variable, encompassing Humanities, Management, Education, and Others, demonstrates uniformly high motivation levels across all categories. No significant differences in mean scores are observed (Humanities:

Mean=4.04, SD=0.44; Management: Mean=4.05, SD=0.39; Education: Mean=4.02, SD=0.40; others: Mean=4.09, SD=0.41), contributing to an overall mean of 4.06 ( $p=0.75$ ). This suggests that motivational access to ICT is consistent across diverse academic disciplines, reflecting the universality of positive attitudes towards technology adoption in the teaching profession.

Analyzing the impact of teaching level on motivational access, the study considers Bachelor, Master, and both level and MPhil categories. The results indicate consistently high motivation across all levels, with no significant differences in mean scores (Bachelor: Mean=4.06, SD=0.36; Master: Mean=4.05, SD=0.44; both level and MPhil: Mean=4.06, SD=0.46). The lack of statistically significant differences ( $p=0.97$ ) suggests that teaching level does not significantly influence the motivational access of Economics teachers towards using ICT. This observation supports the idea that motivation is not contingent on the academic level but is a shared characteristic among Economics teachers at Tribhuvan University.

The impact of qualification on motivational access is explored, categorizing teachers into Masters, MPhil, and PhD/Post Doc groups. The findings reveal consistently high motivation across all qualification levels, with no significant differences in mean scores (Masters: Mean=4.04, SD=0.39; MPhil: Mean=4.11, SD=0.46; PhD and Post Doc: Mean=4.16, SD=0.47). The overall mean for qualification is 4.06, indicating that teachers' motivation remains consistent irrespective of academic qualifications ( $p=0.18$ ).

Considering additional income as a potential influencing factor, teachers with no additional income ( $n=204$ , Mean=4.01, SD=0.40) exhibit slightly lower motivation than those with additional income ( $n=200$ , Mean=4.11, SD=0.40). The observed statistically significant difference ( $p=0.02^*$ ) implies that having additional income may positively influence Economics teachers' motivation to use ICT. This finding resonates with studies emphasizing the impact of

economic factors on teachers' attitudes towards technology adoption in education.

The study also categorizes job nature into Permanent, Contract, and Part-time. The results indicate similar levels of motivation across all job natures, with no statistically significant differences in mean scores (Permanent: Mean=4.06, SD=0.42; Contract: Mean=4.06, SD=0.33; Part-time: Mean=4.06, SD=0.44). The overall mean for job nature is 4.06, suggesting that the nature of employment does not significantly impact motivational access ( $p=0.10$ ).

Examining the impact of the availability of a computer at home on motivational access, results indicate no significant difference in mean scores between teachers with ( $n=386$ , Mean=4.06, SD=0.40) and without ( $n=18$ , Mean=4.03, SD=0.38) a computer at home ( $p=0.70$ ). This suggests that the availability of a computer at home does not significantly affect Economics teachers' motivation to use ICT in teaching.

These results provide a comprehensive understanding of the motivational access of Economics teachers at Tribhuvan University, emphasizing their uniformly positive perception of the importance of ICT in teaching economics. The findings contribute to the ongoing discourse on integrating ICT in education and underscore the need for nuanced strategies that consider diverse demographic variables influencing teachers' engagement with technology.

### **Conclusion**

This paper examines Tribhuvan University teachers' perceived motivation for integrating ICT into their economics classes. The findings indicate a highly positive perception towards the acceptance of ICT in economics teaching. It can be potentially used to transform traditional modes of instruction. However, the effective use of ICT is determined by socio-demographic variables like gender, teaching level, and qualification. These do not significantly impact motivation but add income for the teacher educators. In addition, employment status or computer

availability at home motivates ICT use. This paper underscores the importance of understanding motivational factors for effective technology integration in education. The positive attitudes observed suggest opportunities for further development of ICT in economics teaching at Tribhuvan University, with implications for policy, curriculum, and faculty training programs.

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