KNOWLEDGE, ATTITUDE, AND PRACTICE OF DIGITAL TECHNOLOGY AMONG DIPLOMA IN AGRICULTURE STUDENTS: A CROSS SECTIONAL STUDY OF SURKHET DISTRICT

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AN ABSTRACT

of the dissertation of *Bobin Thapa* for the degree of *Master in Technical and Vocational Education and Training,* presented on *18 November 2025,* entitled *Knowledge, Attitude, and Practice of Digital Technology Among Diploma in Agriculture Students: A Cross Sectional Study of Surkhet District.*

APPROVED BY

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Prakash Kumar Paudel, PhD

Dissertation Supervisor

This study presents an assessment of knowledge, practices, and attitudes of diploma-level agriculture students in Surkhet District, about digital technology. This study aims to explore the current status of digital technology usage among diploma level agriculture students. According to the Digital Nepal Framework 2019, empowering youth through digital platforms is a key strategy to bridge the science and technology for all sectors. Quantitative Research methodology, including two research question was applied in this study. A total of 163 students participated in data collection from both the Diploma in Plant Science and Animal Science. The curriculum and related literature were reviewed to identify potential digital tools that diploma-level agriculture students should be familiar with Five key digital tools that were identified include a) MS Office, b) basic internet platforms such as social media apps, c) digital marketing tools, d) digital agriculture applications for extension services, and e) cyber security awareness. A structured questionnaire was developed for the assessment of digital technology among students. A scale was also constructed to assess student's digital tools Knowledge and Practices (0–3 points as per using digital tool), and attitudes were measured by using a Likert scale marked from 1 to 5 points. Data were collected using a form and further analyzed with SPSS software using descriptive statistics and inferential statistics such as t-test, ANOVA. For Data Reliability.

The findings of this study provided insights into the current status of adoption of digital tools and technology by students enrolled in diploma in agriculture program and identified the existing gaps and some areas for improvement in curriculum. The major findings from this study are student's primary source of digital knowledge is from their school, and some digital tool knowledge was transferred to students through their friends. However, Student's overall attitude toward adopting digital technology in agriculture is highly positive. This study also found that the relationship between student's attitudes toward digital technology and demographic profiles is not statistically significant with each other, but there is a significant relationship between student's attitudes toward digital technology and use of digital tools, access to smartphones, use agricultural apps, and good knowledge in using MS Office tools. Findings from this study suggest that there is a high need for curriculum update in diploma in agriculture program by integrating mobile based agriculture technologies.

Lastly, prioritizing practical sessions to use digital technology in the study will be more effective for students. This study also aligns with the goals of the Digital Nepal Framework 2019 and the Agriculture Development Strategy (ADS, 2015-2035), which may contribute to providing better extension services for farmers in Nepal.

…… 18 November 2025

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शोधसार

विकास शिक्षामा स्नातकोत्तर डिग्रीका लागि बबिन थापाको शोधप्रबन्धको शिर्षक “कृषि डिप्लोमा अध्ययनरत विद्यार्थीहरूमा डिजिटल प्रविधिसम्बन्धी ज्ञान, दृष्टिकोण र अभ्यासः सुर्खेत जिल्लाको एक क्रस–सेक्सनल अध्ययन” २ मंसिर २०८२ मा प्रस्तुत गरिएको थियो।

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प्रकाश कुमार पौडेल, पीएचडी

शोध निर्देशक

यो अध्ययन सुर्खेत जिल्लाका डिप्लोमा तहका कृषि अध्ययन गर्ने विधार्थीहरुको डिजिटल प्रविधि सम्बन्धी ज्ञान, अभ्यास तथा दृष्टिकोणको मूल्यांकन गर्नको लागि गरिएको हो। यो अध्ययनको मुख्य उद्देश्य भनेको डिप्लोमा तहका कृषि विद्यार्थीहरूबीच डिजिटल प्रविधिको प्रयोगमा वर्तमान अवस्था, कमि कमजोरी र आवश्यकता अन्वेषण गर्नु हो। यो अध्ययनले डिजिटल नेपाल फ्रेमवर्क २०१९ अन्तर्गत, डिजिटल प्लेटफर्म मार्फत युवालाई सशक्त बनाउनु सबै क्षेत्रमा विज्ञान तथा प्रविधिको पहुँच विस्तार गर्ने उदेश्यालाई पनि जोड दिन्छ। यस अध्ययनमा मैले परिमाणात्मक अनुसन्धान पद्धति प्रयोग गरेको छु, जसअन्तर्गत दुईवटा अनुसन्धान प्रश्न समावेश गरिएको थियो। तथ्यांक संकलनका लागि वनस्पति विज्ञान तथा पशु विज्ञान विषयका डिप्लोमा तहमा रहेका १६३ विद्यार्थीहरू सहभागी भएका थिए । यस अध्ययनको लागि डिप्लोमा तहका कृषि विद्यार्थीहरूले जान्नुपर्ने सम्भावित डिजिटल उपकरणहरू पहिचान गर्न पाठ्यक्रम तथा सम्बन्धित साहित्यको समीक्षा पनि गरिएको थियो । यस अध्ययनको लागि पहिचान गरिएका पाँच प्रमुख डिजिटल उपकरण अनतर्गतः एम.एस. अफिस, सामाजिक सञ्जाल लगायतका आधारभूत इन्टरनेट प्लेटफर्म, डिजिटल मार्केटिङ उपकरण, डिजिटल कृषि सम्बन्धि एप्लिकेसन, र साइबर सुरक्षा सचेतनाहरु हुन् ।

विद्यार्थीहरूको डिजिटल प्रविधि सम्बन्धी अवस्था चुनौतीहरु तथा आवश्यकताहरुको मूल्यांकन गर्न प्रश्नावली तयार गरिएको थियो। डिजिटल उपकरण सम्बन्धी ज्ञान तथा अभ्यास मापन गर्न ०–३ अङ्कको स्केल निर्माण गरिएको थियो भने विधार्थीहरुको दृष्टिकोण मापन गर्नको

लागि १ देखि ५ अङ्कसम्मको लाइकर्ट स्केलको प्रयोग गरिएको थियो । तथ्यांक फारममार्फत संकलन भएको थियो र त्यस पश्चात एस पी एस एस सफ्टवेयरको प्रयोगबाट वर्णनात्मक तथा अनुमानात्मक तथ्यांक विश्लेषणहरु गरिएको थियो। यस अध्ययनका निष्कर्षहरूले डिप्लोमा तहका कृषि कार्यक्रममा अध्ययनरत विद्यार्थीहरूमा डिजिटल उपकरण तथा प्रविधिको प्रयोगको वर्तमान अवस्था, अन्तर तथा पाठ्यक्रम सुधारका सम्भावित क्षेत्रहरू पहिचान भएको छ। अध्ययनका प्रमुख निष्कर्ष अनुसार विद्यार्थीहरूको डिजिटल ज्ञानको मुख्य स्रोत विधालय रहेको छ भने केही डिजिटल उपकरण सम्बन्धी ज्ञान साथीहरू मार्फत प्राप्त भएको पाइयो। त्यसैगरी कृषि क्षेत्रमा डिजिटल प्रविधि अपनाउने विषयमा विधार्थीहरूको समग्र दृष्टिकोण अत्यन्त सकारात्मक रहेको देखिएको छ।

यो अध्ययनले विधार्थीहरूको डिजिटल प्रविधि प्रतिको दृष्टिकोण र जनसांख्यिक विशेषता बीच सांख्यिकीय रूपमा महत्वपूर्ण सम्बन्ध नभएको देखाए पनि डिजिटल उपकरणको प्रयोग, स्मार्टफोनको पहुँच, कृषि एपहरूको प्रयोग तथा एम.एस. अफिस प्रयोग सम्बन्धी राम्रो ज्ञान सँग विधार्थीहरूको दृष्टिकोणबीच महत्वपूर्ण सम्बन्ध रहेको पाइएको छ । यस अध्ययनका निष्कर्षहरूले डिप्लोमा तहको कृषि कार्यक्रममा मोबाइल आधारित कृषि प्रविधिहरू समावेश गरी पाठ्यक्रम अद्यावधिक गर्नुपर्ने आवश्यकता रहेको संकेत पनि गरेको छ । साथै, यो अध्ययनमा डिजिटल प्रविधिको प्रयोग सम्बन्धी व्यवहारिक कक्षालाई प्राथमिकता दिनु विधार्थीहरूको लागि अझ प्रभावकारी हुने देखिन्छ । यो अध्ययन डिजिटल नेपाल फ्रेमवर्क २०१९ तथा कृषि विकास रणनीति (२०१५–२०३५) का लक्ष्यहरूसँग समेत अनुरूप रहेको छ, जसले नेपालका कृषकहरूका लागि प्रभावकारी कृषि विस्तार सेवा प्रवाहमा योगदान पुऱ्याउन सक्छ।

..... २ मंसिर २०८२

बबिन थापा

उपाधि उमेदवार

This dissertation, entitled *Knowledge, Attitude, and Practice of Digital Technology Among Diploma in Agriculture Students: A Cross Sectional Study of Surkhet District,* was presented by *Bobin Thapa* on *18 November 2025.*

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Bobin Thapa

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DECLARATION

I hereby declare that this dissertation is my own original work, and it has not been submitted to other college for any other degree.

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Bobin Thapa

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DEDICATION

I want to dedicate this dissertation to my mother, Parbati Thapa, my father, Jeewan Kumar Thapa, and my grandfather, Bal Bahadur Thapa. The love from my family has made this journey possible for me.

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ABBREVIATIONS

ADB	Asian Development Bank
ADS	Agriculture Development Strategy
AI	Artificial Intelligence
AITC	Agriculture Information & Training Centre
ANOVA	Analysis of Variance
BMP	Best Management Practices
CSA	Climate Smart Agriculture
CTEVT	Council for Technical Education and Vocational Training
DOI	Diffusion of Innovations
eChautari	Electronic Chautari
FAO	Food and Agriculture Organization
GAP	Good Agriculture Practices
GSMA	Groupe Speciale Mobile Association
ICT	Information and Communication Technology
IoT	Internet of Things
IPM	Integrated Pest Management
KAP	Knowledge, Attitude, and Practice
MoAD	Ministry of Agriculture Department
MoALD	Ministry of Agriculture and Livestock Development
MoCIT	Ministry of Communication and Information Technology
MoEST	Ministry of Education, Science and Technolgy
MS Excel	Microsoft Excel
MS PPT	Microsoft PowerPoint
MS Word	Microsoft Word
OECD	Organization for Economic Cooperation and Development
SPSS	Statistical Packages for Social Sciences
TVET	Technical and Vocational Education and Training
UNESCO	United Nations Educational, Scientific, and Cultural Organization
USDA	United States Department of Agriculture

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CHAPTER I
INTRODUCTION

Background of the Study

Digital technology is known as the use of electronic tools, systems, and devices that generate, store, and process data to improve efficiency of communication (Organization for Economic Cooperation and Development [OECD], 2020). In this 21st century, digital technologies have become vital for effective communication, a better learning experience, business efficiency, and innovation across the world. And in developing countries like Nepal, digital technology plays an important role in bridging information gaps, enhancing better service delivery, and promoting inclusive growth of people living in different parts of the country (World Bank, 2020). There is an importance of digital technology in agriculture as well, where this sector plays a dominant role in the economy because more than 65% of the population is engaged in agriculture in Nepal. Digital technology is the best platform for transferring scientific knowledge, advanced technologies, and innovations directly to farmers through mobile and commuter applications and digital agricultural extension and advisory platforms. By using these tools and technology, farmers can access timely agriculture related information such as weather forecasts, pest and disease identification and management, etc. These agricultural information helps farmers to increase productivity and efficiency in the field by minimizing the damages caused by diseases, pests, and weather (Aker et al., 2021). In Nepal, there are lots of digital agriculture initiatives running, among them mobile based agriculture advisory platforms such as GeoKrishi Farm App, Smart Krishi App, Krishi Guru App, etc., are actively providing these services to farmers, and also these are quite popular and adopted by farmers of Nepal (Bohara & Gurung, 2025). Even though these are toward digital technologies, the agricultural sector is backward due to low digital literacy, and poor digital infrastructure in rural areas (Ministry of Agriculture and Livestock Development [MoALD], 2025). On the other side, the use of smartphone and internet has been gradually increasing in Nepal, which is producing greater opportunities for the use of digital technologies in the agriculture sector in Nepal (Nepal Telecommunications Authority [NTA], 2023). Digital technology can provide significant opportunities to close these gaps by enabling real-time communication,

reducing the dependency on traditional extension workers, and empowering farmers with evidence-based decision-making tools (MoAD, 2016). Young Generations or Youths are the future of agriculture, they carry responsibility of transferring advanced knowledge and continuing the farming practices. In Nepal, the Diploma in Agriculture program plays an important role in preparing young professionals with technical and practical agricultural skills that can support sectoral transformation (Ministry of Communication and Information Technology [MoCIT], 2019). To make their impact big, it is very necessary that diploma graduates should also develop strong digital technology awareness and competencies (World Bank, 2020). With these skills, these graduates can help farmers to access real-time information, adopt innovative practices, and improve overall farm management.

These Diploma program of Council for Technical Education and Vocational Training (CTEVT) bear a significant responsibility in providing students or future agricultural professionals with the required digital competencies (CTEVT, 2025a). Diploma in Agriculture programs are designed to produce mid-career-level technical human resources. Also, during internships and fieldwork of these courses, diploma-level students act as extension service providers, which bridge the research institutions and farmers in the community by facilitating the transfer of improved technologies and best practices (Paudel et al., 2025). With the rise of the use of digital tools, diploma-level students in agriculture are also expected to have sound knowledge about digital tools and technologies (Singh et al., 2023). Additionally, there are no such insightful study to understand the status. Therefore, it is crucial to explore the current status of digital knowledge, skills, attitudes, and practices in students who are enrolled in diploma level agriculture program.

Problem Statement

Integration of digital tools, especially mobile based agriculture apps in agriculture, can be one reason for transforming agriculture toward modernization in Nepal (Food and Agriculture Organization [FAO], 2017). Mobile based agriculture advisories assist farmers to improve production and efficiency at the farm level by reducing various damages caused by diseases, pests, and weather. On the other hand, the gap of technology transfer to farmers through agriculture technicians in Nepal is 1:1500, which means their high demand for agricultural graduates in agriculture sector (Nepal Economic Forum [NEF], 2021). Adding to this, the integration of digital technology topic into diploma in agriculture curriculum has been limited.

Although universities and higher education programs have recognized the importance of digital technologies and already included the digital technology in agriculture in their courses however diploma-level agricultural programs in Nepal still provide very limited. This gap is very concerning as Diploma-level graduates will be large segment of the agricultural workforce in future, serving as extension workers, junior technicians, and local-level facilitators. Also, there is lack of market relevant curriculum to address the need of real-world scenario (Paudel et al., 2025). Due to this, current status of digital literacy of the students may directly affects in transferring knowledge to farmers (World Bank, 2019). With the rise in importance of digital technology in agriculture sector, the current status of digital knowledge and its uses among students are not been explored (Rijal, 2025). If this gap remains unexplored, it will be difficult to understand the current digital knowledge and skills of students, and also difficult to analyze whether students are on the right path to meet the rising demand of the nation.

Purpose of the Study

The purpose of this study is to assess the knowledge, attitude, and practice of digital technology of students enrolled in Diploma in Agriculture program in Surkhet, Nepal.

Research Questions

The research questions for this study are as follows:

1. What is the attitude and knowledge level of digital agriculture technologies among diploma in agriculture students?
2. What is the relation between the attitude of students toward digital technologies and the demographic factors, and the Digital Technology Usage?

Hypothesis Statements

H1 = There is a strong relationship between attitude of students toward adoption of digital technology and Access to smartphones, digital tools usage by students.

H2 = Students' attitudes toward the adoption of digital technology and demographic profiles are not statistically significant with each other.

Rational and Significance of Study

Digital technology is playing an important role in the agricultural sector by fostering better access to information, improving productivity, and enhancing informed decision making (FAO, 2022). Students enrolled in diploma in agriculture program are the main source for technology transfer to the farmers of Nepal; therefore, the knowledge, skills, attitude, and practices of digital tools and other technologies of students play a vital role in the adoption of mobile based advisory and other digital tools usage for farmers (Vaidya et el., 2023). Therefore, this study is important to assess and explore the digital readiness of students enrolled in Diploma in Agriculture program. Students with high digital literacy have a highly positive attitude toward digital technology, and high attitude of students have a high adoption rate (Mishra et el., 2024). At the same time, Digital Infrastructure, such as high internet speed, smartphones, and other digital tools, is also growing day by day (NTA, 2024). The use of these tools for agricultural purposes not only improves knowledge but also makes students efficient and effective in the production of any crops. This study also provides valuable insights for curriculum developers, policy makers and other agricultural stakeholders about the current status, gaps, and strategies for digital technology for any kind of capacity building program, education, and practices (World Bank, 2025). Moreover, this study highlights the area for strengthening and empowering students to become skillful agricultural professionals in the future. Hence, this study holds great importance for creating a better pathway for advancing technology in Nepal.

Scope and Limitations

This study is only assessing third year students who are enrolled in the Diploma in Agriculture program of CTEVT-affiliated institutions of Surkhet district of Nepal. This assessment of digital technology is completely based on data collected through a structured questionnaire. Furthermore, this study focuses mainly on knowledge, skills, practices, and attitude; however, this study does not go deep into the actual impact of digital technologies on students. For this, further research should be conducted to explore these aspects.

Organization of this Study

In this study, there are six chapters, where Chapter I provides an introduction to this study, drawing the background, problem statement, purpose of the study, research questions, rationale for conducting this study, significance of this study, and

scope and limitations. Chapter II presents a complete review and reflection of existing literature relevant to digital technology in agriculture, digital literacy, and agricultural education. In this chapter, the theoretical framework for guiding this study, the importance of digital technology, curriculum review, policy review, thematic review, and research gap are also presented. In Chapter III, the methodology adopted for this study in detailed, which includes research design, study area, population type, sampling procedures, data collection questionnaire, data analysis methods, and ethical considerations used in this study. Similarly, in Chapter IV, the data are presented by using both descriptive and inferential statistics. Likewise, in Chapter V, the key findings of this study are mentioned and their meaning and connected with existing literature and the research questions. Finally, in Chapter VI, I have concluded the study by summarizing the key findings, drawing conclusions, and providing recommendations for curriculum developers, policymakers, and future researchers.

CHAPTER II
LITERATURE REVIEW

In this chapter, I have reviewed and reflected on the literatures related to digital technology in agriculture students. The review of curriculum, thematic framework, theoretical framework, and policy review has also been explored to find gaps and previous study's findings. This process helped me to identify what should be assessed at the diploma level students, such as the types of digital tools students are expected to learn, such as MS Office, agriculture-related apps, and other tools mentioned in the curriculum, including digital marketing, cybersecurity, and related areas mentioned in policies.

Context of Digital Agriculture

The agricultural sector of Nepal is slowly transforming into modern agriculture due to rapid advancements in digital technologies. This is also known as 'Agriculture 4.0' or 'smart agriculture which includes lots of innovations and technology such as Internet of Things (IoT), artificial intelligence (AI), and blockchain (Wolfert et al., 2017). These technologies are designed to improve agricultural procedures, enhance efficiency, improve crop yields, and mitigate degradable environmental effects. Precision agriculture with the help of sensors and data analytics provides advisories to apply inputs like water, fertilizers, and pesticides whenever needed, which also assists in reducing cost, waste, and increasing productivity of the farm (Gebbers & Adamchuk, 2010). IoT devices provide real-time monitoring of soil health conditions, weather, and crop health, livestock health, providing farmers with actionable advisories to make informed decisions (Elijah et al., 2018). The integration of AI helps to identify diseases and pests, deficiency of nutrients in the crops. Similarly, it also helps in yield forecasting and market trend analysis. These things help to empower farmers with accurate strategic planning capabilities (Kamilaris & Prenafeta-Boldu, 2018).

This digital agriculture transformation can connect the farmers, agricultural extension service providers, and policymakers to provide real-time information to each other. These data provide a transparent status of farmers, extension workers, and service providers helping to develop the contextual planning for production, input supply, and marketing according to the needs of the community. Therefore, there is a

high demand for agri professionals who are better equipped with advanced digital skills, data literacy, and an understanding of compound technological systems. All the developed nations have been at the forefront of this digital revolution; they are investing in research, infrastructure to connect the full potential of digital agriculture (FAO, 2017). However, the advantages and usefulness of digital tools and technology are now increasingly being recognized by developing countries such as India, Nepal, providing a potential pathway to address food security challenges, enhance income generation in rural livelihoods, and carried for a long period of time without degrading the environment.

Digital Transformation in Nepali Agricultural Sector

Agriculture is the backbone of the economy of Nepal however, it is facing lots of unique challenges in its area of agricultural modernization (Shahi, 2022). These challenges include a small amount of landholdings, complete dependence on traditional farming methods, vulnerability to climate change effects, limited access to finance and markets, and a significant youth's foreign migration trend (MoALD, 2019). In this context, digital technology provides an opportunity to overcome these hurdles and expose the agricultural sector's full potential in Nepal. The Government of Nepal, by recognizing the importance of digital transformation, has initiated various policies, projects, and programs aiming at improving digital literacy and integrating technology in all different sectors, including agriculture sector as well (MoCIT, 2019). Lots of schools have already started to establish smart learning platforms, such as smart classrooms for providing better education and knowledge transfer for students enrolled in agriculture (Adhikari, 2025). However, the execution and impact of digital agriculture initiatives in the agricultural area have been irregular, mainly due to poor digital infrastructure, low digital literacy rates among farmers, and a lack of personalized digital solutions. Recent studies stated that digital infrastructure and low digital literacy are major factors affecting people's equitable access to digital services. In the context of Nepal, these types of challenges are mostly seen in rural areas, where internet access and digital infrastructures such as networks are very limited (Rajkarnikar, 2025).

Apart from these issues, there are some digital initiatives emerging in Nepal's to provide digital solutions and improve access to agriculture information. These digital initiatives include mobile based agriculture advisory service (GeoKrishi, Smart Krishi), market information systems, Online platforms (E Chautari), e

marketplace for agricultural inputs supply and demand collection, production advisories, and digital payment systems such as (E SEWA, Khalti, Mobile Banking Apps) (Bohara & Gurung, 2025). There are some popular mobile based advisory service providers as well such as GeoKrishi, Smart Krishi, Krishi Guru, and Plantsat creating farmers easy access to localized weather forecasts, crop disease identification, pest management recommendations etc. These platforms are empowering farmers with timely and relevant information. Online marketplaces such as Samuhik Bajar initiated by GeoKrishi connect farmers directly with buyers, reducing intermediaries and offering farmers better prices for their agricultural products. Digital payment systems help farmers access financial transactions, improving access to credit for investment.

Knowledge, Attitude, and Practice of Digital Competencies in Students

The Diploma in Agriculture program plays a vital role in generating the next generation of agricultural technology facilitators for transferring the skills and knowledge of digital technology to the community (Bohara & Gurung, 2025). All the stakeholders, instructors, are very crucially responsible for equipping students with theoretical knowledge as well as practical skills necessary for modern farming practices and agribusiness operators. The curriculum of these programs must be changed and there should be inclusion of topics such as digital literacy, mobile based agriculture advisory services, and the basic application of computers in the context of agriculture (Ministry of Education Science & Technology [MoEST], 2022). Without proper training and proper guidance about digital technology, it is very hard for students to capitalize on the opportunity created by digital agriculture.

However, the major concern is how much the current Diploma in Agriculture program curriculum updates and aligns itself with the pathway of the growing digital world. So, there is a need to assess whether these programs are effectively integrating digital technology, providing hands on practical training, and fostering an attitude that grasps technological innovation in mind. The success of digital agriculture initiatives largely depends on having digitally competent agriculture experts who can adopt, adapt, and continuously improve new technologies to increase productivity and farm efficiency. Thus, getting an insight into the present knowledge and evaluation levels of diploma students in agriculture regarding digital tools and technology is not simply an academic exercise but rather a strategic imperative for the future of the agricultural sector in Nepal.

In this study, the Knowledge, Attitude and Practices (KAP) framework was used to assess and explore the current status of digital tools and technologies usage level of students enrolled in Diploma in Agriculture Program. This framework has a clear structure guiding me to assess the current awareness, usage, and identify existing gaps. Gender, Stream type, age groups of students are shortlisted variables to compare with the independent variables of Attitude of students these are the key factors that can influence the attitude of students toward digital technologies (Agyekum et al., 2022). This theme assesses students' level of awareness about digital tools and information sources, including basic digital tools mentioned in the curriculum, peer learning, and other digital platforms. Agriculture knowledge means the information and understanding that students possess about digital technologies relevant to agriculture (Bohara & Gurung, 2025). Previous research had highlighted that knowledge of digital tools completely influences technology adoption and integration into agricultural practice (Cui & Wang, 2023). Attitude reflects students' learning behavior, including confidence and willingness to adopt digital tools in learning and implement them in daily agricultural practice. Attitude is defined as the tendency to respond positively or negatively toward things, in this case, digital technology. These are learned by personal beliefs and past experiences (Venkatesh et al., 2003). Lots of literature shows that promising attitudes toward technology are strongly associated with higher adoption rates and effective utilization of digital tools (Agyekum et al., 2022). Practice assessment helps to explore student's accurate patterns of using digital tools. So, the Practice is defined as visible actions and behaviors of students that demonstrate the use of digital tools in real-life contexts (Bohara & Gurung, 2025). Some of the previous studies highlighted that effective digital practices not only rely on knowledge and attitude but also rely on access to smartphones, internet, training, and also socio-economic factors (Cui & Wang, 2023). Connecting Knowledge, Skills, Attitude, and Practices about digital tools with demographic factors and other variables identified through curriculum review, literature review provides insight to the existing gaps in digital literacy and develops a plan for enhancing the digital agriculture strategy (Agyekum et al., 2022, Nowell et al., 2017). This emphasizes the foundation for promoting digital literacy and technology adoption of students enrolled in the diploma in agriculture program to improve agricultural productivity and innovation.

Review of the Diploma in Agriculture Curriculum

The Diploma in Plant Science and Diploma in Animal Science come under the Diploma in Agriculture program, which is affiliated with the Council for Technical Education and Vocational Training (CTEVT, 2025a). Diploma in Agriculture program is structured for three-year technical courses aiming to develop quality agriculture and livestock technicians. There is integration of digital technology and tools used in Agriculture, but very limited. Some parts of digital technology are included in the computer application subject, where the basics of computer application, such as MS Office, MS Word, MS Excel, and Microsoft PowerPoint, Internet surfing, Email, etc., have been included but offered only in the first semester. Another part of digital technology is included in the Agriculture Extension subject, where some of the mobile based agriculture advisory services are mentioned. Usually, CTEVT revises and updates its all curriculum around every five years to keep parallel with the current context and demands of each sector. CTEVT has recently revised the latest version of the curriculum in 2025. In the recent version of the curriculum as well, the integration of digital technology and basic ICT tools relevant to agriculture is very limited. Digital literacy and Digital technological skills are highly important for boosting productivity, enabling precision farming, and enhancing the decision-making of the farmers (FAO, 2022). From this curriculum review, computer application courses for agriculture are very basic level and generic and are also only provided in the first semester. These curriculums are not completely aligned with emerging digital technologies standards. There must be some exposure to students about some basic digital tools such as remote sensing, mobile based agriculture advisory services, weather alerts, and e-market platforms. Moreover, there seems the lack of specialized courses on digital technology, such as data-driven farm management, and online agri-marketing strategies, which hold a high need for more complete integration of digital skills and knowledge in the diploma-level agricultural programs.

Policies in Nepal Emphasizes Digital Technology in the Agriculture Sector

All National Policies of Nepal highlight the importance of using Information and Communication Technology (ICT) to improve and make education, agriculture other sectors efficient. Policy makers suggest that integrating ICT in any sector makes the sector more practical, increases access to information, encourages to adoption of new innovations, attracts youths for sustainable development in all sectors. According

to Nepal's TVET Sector Strategic Plan (2023–2032), for a complete roadmap for strengthening technical and vocational education, digital technology is a key pillar of transformation. Emphasizing the inclusion of ICT in the education sector will improve teaching and learning methods for both instructors and students, enhance access to digital technology, and develop digitally skilled agriculture professionals matching future facilitator demands for technology transfer. This idea was strengthened during the National TVET policy dialogue 2024, mutually organized by CTEVT and United Nations Educational, Scientific, and Cultural Organization (UNESCO), where digital transformation was key strategic priority together with green and sustainable TVET and engaging with private-sector collaboration (UNESCO, 2024b). These initiatives highlight strong policy intent toward integrating digital literacy and digital technological skills in all TVET programs, including diploma-in agriculture program.

Additionally, at a larger level, the Digital Nepal Framework 2019 delivers national guidelines and supervision for ICT integration across in all sectors, including agriculture (MoCIT, 2019). Digital Nepal framework encourages institutions to establish ICT labs, develop open learning platforms, and integrate digital literacy within the curriculum. It promotes for smart teaching learning method, digital learning tools, and access to online digital platforms to improve both the quality and efficiency of agricultural education. Digital technologies such as smartphones play a critical role in bridging the gap between newly formed, scientifically proven agricultural technologies and farmers (MoALD, 2025). Smartphones enhance agricultural extension services by providing real time agricultural information to farmers. There are a number of digital advisory platforms, such as GeoKrishi, Smart Krishi, that are currently effectively distributing and working in the adoption of digital literacy and mobile based agriculture advisory services for farmers (Groupe Speciale Mobile Association [GSMA], 2024). The inclusion of ICT in agriculture education fosters students to get better practical knowledge, access updated agriculture technologies information, and develop skills to use digital tools and technologies for better farming and decision-making (MoCIT, 2019). So, all these above policies suggest that including digital technologies in agricultural education and extension is highly essential for capacitating farmers and fostering the adoption of advanced and climate-smart sustainable farming practices.

Theoretical Framework

This study is also guided by the Diffusion of Innovations (DOI) theory (Rogers, 1995). This theory has a strong lens through which we can understand the adoption and acceptance factors of digital technologies of students enrolled in diploma in agriculture program. With this theory, this study provides exposure to both the macro level process of innovation dissemination and the micro level factors influencing use of digital technology.

The DOI theory is a broadly recognized sociological theory that describes the methodology, importance, and meaning of new ideas and technology are disseminated through cultures. According to this theory, the term “diffusion” refers to process by which an innovation is transferred through channels over time in sociological culture (Rogers, 1995). Similarly, the term 'innovation' refers to digital tools and technologies in agriculture, and the 'social system' refers to students enrolled in a diploma in agriculture program from Surkhet, Nepal. Digital tools provide lots of advantages for agricultural students to get new technologies overcoming traditional methods of agricultural farming, such as increased efficiency in farm level data management, improved access to weather and agriculture information. According to the theory, if students use digital technology to access the weather and agriculture related information and take advantage for their studies, then there is a higher chance of adoption of digital technology by the students. The Digital agricultural technologies should be aligned with the diploma in agriculture curriculum, cultural practices of students, and learning methods of students, also have a higher chance of adoption. Easy learning and user friendly digital tools are important factors for students who may have very low prior exposure to new digital agriculture platforms (Dearing, 2009). This involves some new projects, practical sessions, or access to learning environments for students where they can study and experiment with new technologies related to agriculture. When students understand tangible benefits and successful results of digital technology use through their learning from friends or instructors in the school, then there is a high chance that they to be influenced to adopt digital tools by themselves. The demonstrations, success stories, and practical applications of digital tools can enhance acceptance. There are also Mass media channels, which are also more effective in generating knowledge of innovations. Similarly, interpersonal channels are more effective in creating and shifting attitudes of digital technology toward a new idea, and thus in influencing the

decision to adopt or reject an innovation (Rogers, 1995). In this study, both classroom instruction, curriculum, peer learning, social media, etc, play a crucial role in spreading information about digital agriculture (Alawadhi & Al-Shihi, 2024). Overall, the major social system in this study includes the agricultural educational schools, friends, and the age groups of the students, and stream type diploma in agriculture program.

As per this theory of DOI, when diploma level students are first introduced to digital technology in agriculture, they start to gain knowledge about it after understanding the benefits of digital technology, then they adopt it and use it for further learning. As they understand it better, their attitude toward using that digital technology improves, and they become more willing to apply it in their daily life. The repeated use of digital technology increases the confidence of students, and they start using digital technology more. After some time, the technology is fully integrated into their daily routines and learning processes, and it becomes a habit (Getenet et al., 2024). This theory DOI provides a structured framework for understanding the wider context of digital technology adoption in any education system (Rogers, 1995). Likewise, this theory there is another model as well to understand the context of adoption of digital technology.

There are more model guiding this thesis namely, Technology Acceptance Model (TAM) and the Unified Theory of Acceptance & Use of Technology (UTAUT). These theories recommend that students are more likely to use digital tools if these digital tools are easily accessible, easy to use, and beneficial. UTAUT also suggests that friends, teachers, and the surrounding environment influence digital technology use. With the help of these theories, this study explores how students' attitudes impact their knowledge, skills, and practical use of digital tools (Venkatesh et al., 2003). This framework helps me to understand the factors that affect the adoption of digital technology among diploma-level students.

Research Gap

Digital Agriculture is rapidly growing across the country, aiming to improve access to agricultural information and empowering farmers in better decision making (Agyekum et al., 2022). At the same time, the digital tools have also been integrated into agricultural education to develop the digital skills of future agriculture professionals. However, with the growing use of digital technology in all sectors, there is a lack of research about the current status of digital skills of students who are

enrolled in diploma in agriculture programs. Some recent studies have been conducted either on the adoption of digital technologies by farmers or the digital literacy of higher education students, but the adoption and status of digital technology for diploma-level students have not been explored (Bohara & Gurung, 2025). This gap is highly important because students enrolled in a diploma in agriculture program are future agriculture facilitators as well as experts, and play a very crucial role in transferring technology to farmers about agricultural innovations and digital advisory services. Understanding the knowledge and skills of students towards digital tools is crucial to get proper insights, which help to bridge the gap between technology and farmers. At the same time, some research has highlighted that digital literacy and access to technology influence the adoption behaviors of students (Cui & Wang, 2023). Only a few studies studied how formal education, courses, to digital tools contribute to increasing students' skills (Nowell et al., 2017). Demographic factors also play a critical role in determining attitudes and technology adoption behaviors of the students enrolled in the diploma in agriculture program. The variables such as age, gender, stream type, etc., influence both knowledge with and confidence in using digital technologies (Venkatesh et al., 2003). Without evidence in the Nepalese context, educational strategies may fail to address the needs of diverse student populations. Some literature demonstrates that knowledge and positive attitudes do not automatically translate into effective usage or integration of digital tools in academic or farm management activities (Agyekum et al., 2022; Bohara & Gurung, 2025). Also, some studies from Africa and other Asian countries have explored that digital agriculture adoption in the context of Nepal remains limited. Some factors, such as digital infrastructure, internet access, socio-economic status, and attitudes, can influence digital technology adoption differently from other areas (Cui & Wang, 2023). Thus, there is a essential for a real context study which combines KAP analysis to measure the current status of digital technology of students enrolled in diploma-agriculture program.

Conceptual Framework

Conceptual Framework is a proper representation of model with main concepts, variables, and their relations in the study, which helps to guide the research methodology systematically (Creswell & Creswell, 2018). The importance of a conceptual framework means the ability to link theory and practice, clarify the study focus, guide the selection of variables, and facilitate meaningful data collection and

analysis (Maxwell, 2013). For my study, the conceptual framework focuses on assessing students' knowledge, attitudes, and practices (KAP) regarding digital technologies in agriculture. This study was started with literature review and existing curriculum review which guided this study to identify the existing gaps and determine the variables to assess for this study. Then, the research questions were designed, data were collected from students through surveys and questionnaires, and those data were analyzed by using SPSS software. Finally, the results were interpreted to understand students' KAP levels and provide recommendations for integrating digital technologies into agricultural education.

The variables for this study are given below in table

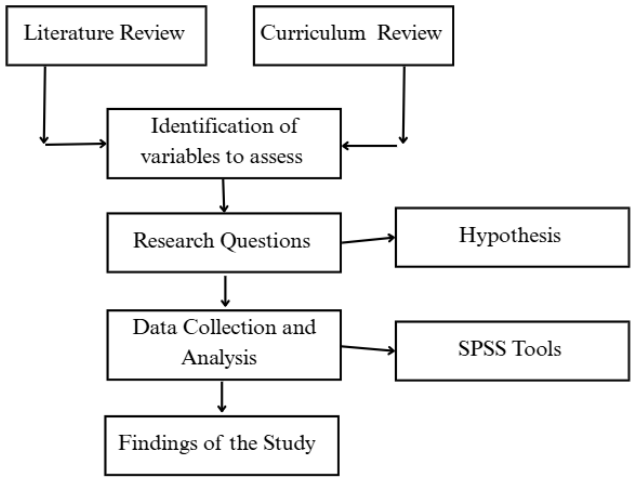
Table 1

List of Variables

Variable Type	Variable
Independent Variable	Students' attitudes toward digital technology in agriculture Age Gender Course / Program of study Access to digital devices and platforms
Dependent Variable	Sources of information on digital agriculture Familiarity with digital technology Proficiency in basic digital tools (MS Word, Excel, PowerPoint) Digital marketing proficiency

Figure 1

Conceptual Framework



Chapter Summary

In this chapter, the existing studies were explored to provide a comprehensive understanding of the digital agriculture context in Nepal, framing the research around students' knowledge, attitudes, and practices (KAP) regarding digital technologies. This chapter highlighted the global transformation toward precision farming, IoT, AI in agriculture, and digital advisory services, and their possibility to improve productivity. In Nepal, digital initiatives such as mobile based agriculture advisory apps, online marketplaces, are increasing, but challenges are also there, such as limited digital literacy among farmers, digital infrastructure, and traditional farming practices that are becoming the barrier for adoption of new technology. The framework of this study focuses on KAP to explore the awareness and understanding of digital tools of students (Knowledge), and their willingness to adopt digital tools (Attitude), and their usage for educational purposes (Practice). Curriculum review showed that Diploma in Agriculture programs are providing basic computer application courses only in the first semester, and a brief integration of agricultural apps and other agri-related digital tools. Policy review in digital technology showed a strong intent to promote digital literacy and technology adoption through initiatives such as TVET Strategic Plan, Nepal Education Policy, and Digital Nepal Framework are some major policies that emphasize ICT integration in education and agricultural extension.

CHAPTER III
RESEARCH METHODOLOGY

In this chapter, I have explained my research methodology to understand the status of digital technologies of students enrolled in the diploma in agriculture program. This chapter begins by discussing research paradigms derived from the philosophical consideration of post-positivism. Then it discusses the research design section, where I explained the survey method using the contextualized questionnaire for exploring determinants of students' choice of hotel management. In the research design, the study area, population, sampling techniques, and sample size have been discussed. Sequentially, this chapter has discussed the data collection tools and techniques. Then, different statistical analysis is discussed for the different research questions I set. After that, I discussed the reliability and validity of my survey. At the end of this chapter, I discussed my ethical considerations during data collection.

Research Design

For this study I have adopted a quantitative research design to examine the digital technology knowledge, attitude, and perceptions of Diploma in Agriculture students in Surkhet, Nepal. A descriptive and inferential approach was employed to systematically collect and analyze numerical data regarding students' use of digital tools, including Microsoft Office, agriculture-related applications, and cybersecurity practices. This design was selected to identify patterns, trends, and relations between demographic variables and digital technology skills.

It is necessary to be clear about the fundamental paradigm guiding the study. A research paradigm means the philosophical framework of beliefs and assumptions that shape the research method (Guba & Lincoln, 1994). This study completely follows a post-positivist paradigm, which allows that reality can be studied scientifically, although absolute truth may not be possible (Tuli, 2010). In this research paradigm, research aims to identify patterns and relationships between variables through observed evidence.

A survey design was also implemented, enabling data collection from multiple participants at the same time (Setia, 2016). Structured questionnaires and localized in Nepali language based on the literature review were used to make sure that key concepts such as awareness with digital tools, knowledge, and attitudes could be

measured effectively (Saunders et al., 2011).

Study Area, Population, and Sample

For this study, Surkhet district was selected, which is situated in the Karnali Province of Nepal. This area was selected as the study area due to the presence of various institutions providing Diploma in Agriculture programs, including Diploma in Plant Science and Diploma in Animal Science. The selection of the study area is critically important because it helps to determine quality of the findings which can be generalized to the population (Capili, 2021). Surkhet was selected for this study because it is the province headquarter of Karnali Province (Ministry of Federal Affairs and General Administration [MoFAGA], 2025). Most of the students from rural areas of Karnali Province migrate to Surkhet to seek their education, as this province have mostly rural and access to quality education is very limited (MoCIT, 2019). Another reason for selecting this location was it was practical and feasible for me as I have very strong networks with agricultural stakeholders and institutions in this area, which will support effective coordination and execution of the study. These factors facilitated smooth coordination with institutional authorities and students. After I was cleared about my study area, I designed to identify the sample for my study. At first, it was essential to identify the population for my study. In this study, the total group of people creating a universe for generalizing was population. The target population for this study comprised all students currently enrolled in the aforementioned diploma programs within Surkhet district. To identify the population, a preliminary visit was made to the CTEVT office in Surkhet, where I obtained resource persons and official lists of all institutions that are running Diploma in Agriculture programs. Through these contacts, basic information about each institution, including student enrollment numbers, was collected. This process allowed me to establish a comprehensive sampling frame.

For this study, only third-year students were selected. This decision was based on the rationale that third-year students have already went through the entire curriculum and have been exposed to the majority of theoretical and practical skills and things related to digital tools. There were 10 institutions which are offering the diploma in agriculture program including diploma in plant science and diploma in animal science, in Surkhet. A purposive sampling method was applied to identify the most relevant institution for this study in Surkhet District. The total number of students enrolled in this program in Surkhet, including diploma in plant science and

diploma in animal science were 254. Thus, for my study, total population was 254. Then, I calculated sample size by using the formulas of Cochran (1977). The following formula was used for calculating sample size without a finite population correction factor.

$$n_0=\frac{Z^2pq}{e^2}$$

Where,

n_0=sample size

p=estimated proportion of success. In this study, the value of p is 0.5. This value ensures a maximum sample size. This suggests that the factors identified will represent 50% determination of the choice of the BHM.

q=1-p, or estimated proportion of failures. Thus, the value of q is 0.5, which suggests other factors not determining the choice of BHM.

Z^2=square of the confidence level in standard error units. The significance level was determined at 95% (α=0.05). For this significance level, the value of Z is 1.96 (Cochran, 1977)

e^2=square of the maximum allowance for error between the true proportion and the sample proportions. For a 95% confidence interval, the value of e is 0.05.

Putting all the values, I got the value of n_0 as,

$$n_0=\frac{1.96^2 * 0.5 * 0.5}{0.05^2}$$

n_0= 384.16=385

Cochran's formula can be corrected if the sample size is more than 5% of the population. The corrected formula is given below:

$$n=\frac{n_0}{1+\frac{n_0-1}{N}}$$

where,

n_0=sample size without finite population correction factor

n=corrected sample size

N= total population, which is 254 for this study.

Putting all the values, the sample size was 163 After getting the number of samples, I began visiting the field to get information. When, I visited, I was not permitted to get information. I used lottery method to select the institution to visit first, second, third, fourth, and so on for each institution. I went to the first institution as per lottery and collected the information. Then, I visited the second institution to

collect the required number of data. I continued this process, until I got the required number of samples from those institutions. Similarly, I followed the same process for other institutions as well. In this way, I collected 184 forms. However, in checking those questionnaires, I found that students did not fill up complete information in 19 forms. Those were excluded from the study. Thus, data of 184 students were utilized for data analysis.

Table 2

List of Institutions with the Number of Respondents

S N	Name of Institutions	Respondents Numbers
1	Shree JanaJyoti Secondary School	81
2	Sharda Secondary School	30
3	Rastriya Prabidhik Sikhyalaya, Surkhet	21
4	Jana Sewa Secondary School	18
5	Bijay Laxmi Technical School	11
6	Nepal Rastriya Chandraganga Secondary School,	19
	Total	180

Data Collection Instruments

The primary instrument used was a structured questionnaire for data collection in this study. This method is broadly regarded as effective for gathering large-scale, standardized data from students (Creswell, 2009). Curriculum Review and meeting with MTVET professors provided insights to develop the structured questionnaire for this study, ensuring data accuracy and validity. Considering the language barrier and easy understanding, the developed questionnaire was further translated into the Nepali language so that students can fully understand the questions, enhancing the accuracy and reliability of the data. The questionnaire was divided into three major sections: demographic information, knowledge assessment, and attitude measurement. The demographic information is vital for understanding the context and background of the students (Fink, 2013). To assess student attitudes toward digital technology, a Likert scale was adopted. The range of the format was from “Strongly Agree” to “Strongly Disagree.” The Likert scale is an extensively used tool for measuring attitudes, allowing people to capture a range of students' perceptions

and opinions (Likert, 1932). Similarly, to measure students' knowledge of digital technology, the questionnaire was combined in three specific sections on the usage of digital tools, including Microsoft Word, Excel, PowerPoint, and agriculture-related applications and other basic internet tools. In this questionnaire, I designed three different questions for each tool to evaluate the depth of students' familiarity. If a student was able to correctly identify or acknowledge all three features of a digital tool, they scored 3 points. If 2 features were selected, then 2 points were scored, and if only 1 feature was selected by students, then students scored 1. Students who did not select any of the features received a score of 0. This scoring line provided a systematic way to determine the knowledge level of students regarding digital technology and its practical applications.

A pilot testing helped me to check the wording and assess reliability and validity. This questionnaire was pre-tested with a group of students who are enrolled in a diploma in agriculture program to examine the clarity and relevance of the questionnaire. During the conduct of this activity, some feedback was also collected regarding any unclear questions, phrasing, or any other difficulties. Based on collected feedback, the minor changes were made to make the questionnaire more contextual, suitable, and reliable for this study (DeVellis, 2016). The final version of the questionnaire thus reflected a careful steadiness and practical usability to align with study purposes.

Then, I finalized the questionnaire and visited different colleges for information collection as explained earlier.

Data Analysis

The collected data were entered into MS Excel and afterward imported into SPSS Software for statistical analysis. To further analyze the collected data, both descriptive and inferential statistics were used.

Descriptive Statistics: Mainly "Frequency distributions" and "Percentages" were used to find out the demographic background of the students, including the students' familiarity with digital technologies, sources of digital technology information, and knowledge in using various digital tools. "Mean" and "Standard Deviation" were calculated for Likert scale items to assess the combined attitudes towards digital technology (Jamieson, 2004). In this study, Descriptive analysis was used to analyze the students' access to digital tools and applications, sources of information on digital agriculture, familiarity with digital technologies, proficiency in

digital tools, knowledge of digital marketing, and perceptions and usage of digital tools and technologies in agriculture (Seaman, 2007). The data was analyzed using SPSS to calculate frequencies, percentages, means, standard deviations, and skewness. These statistics review how students access and use digital devices as well as digital tools, the level of their skills, where they get information, their knowledge of digital marketing, and their views on the usefulness of various digital tools and applications used in agricultural education. By investigating these results, this study delivered a clear understanding of students' current status such as access, knowledge, skills, and attitude, and identified areas where training and support are needed to improve digital competencies in students.

Inferential Statistics: Independent T-tests and one-way ANOVA were used to study whether there were significant differences in digital technology knowledge and usage between various demographic groups. These tests helped me to identify patterns and variations in the data based on factors such as gender, age, or other relevant features (Gravetter et al., 2017). In addition, histograms were presented to display visually the frequency distribution of the average of students' attitudes toward digital technology. All these statistical analyses were performed by using IBM SPSS software. In this study, inferential statistics were used to answer the research questions and study relationships between variables. This analysis was focused on comparing students' demographic background with their attitudes toward digital technology in agriculture. For this the tests such as "t-tests" and "ANOVA" were conducted to determine whether there are significant differences between groups based on factors like age, gender, or course of study. This analysis helped to understand how different demographic factors may influence students' familiarity with, use of, and attitude toward digital technologies in agriculture (Gravetter et al., 2017). The following table provides my data analysis plan showing the research questions and their respective statistical tools, which I used to analyze the data.

Table 3

Research Questions and Statistical Tools

S.N.	Research Questions	Statistical tools
1	What is the attitude and knowledge level of digital agriculture technologies among diploma in agriculture students?	Descriptive Statistics (Mean, Standard Deviation, Skewness)
2	What is the relation between the attitude of students toward digital technologies and the demographic factors and the Digital Technology Usage?	Independent Sample T-Test, One Way Anova Tests

Reliability and Validity

I applied reliability and validity test for quantitative data in my research. I used my data from the pilot test for reliability test. Reliability determines the internal consistency of the measurement (Bryman, 2016). I used reliability test to check if there is internal consistency in my constructed scale for this study. Cronbach alpha test (newer form of split half test) was used for measuring reliability. Cronbach alpha with value greater than 0.7 is suggested for reliable or internal consistent (Saunders et al., 2011). The value of Cronbach's alpha for overall 18 items for this study was 0.863 which was more than 0.7. Thus, this satisfied the condition of reliability. The reliability tests for all the instruments were checked. Cronbach's alpha value for all the instruments is above 0.7. The result of Cronbach's alpha test is shown in Table 4.

Table 4

Cronbach's Alpha Test

Items Name	Cronbach's Alpha if Item Deleted
Attitude of students Toward Digital Technology	0.868
Proficiency in MS Word	0.843
Proficiency in MS Excel	0.862
Proficiency in MS PPT	0.845
Proficiency in Agri App	0.850
Proficiency in Weather	0.841
Proficiency in Basic Internet Tools	0.838

Proficiency in Digital Marketing	0.874
Proficiency in Cyber Security	0.837
Practice of Agricultural Apps	0.872
Practice of Weather Alert	0.868
Practice of Agricultural Information	0.876
Practice of Social Media	0.870
Practice of Cyber Security	0.873
Practice of Internet	0.878
Practice of MS Office	0.881

Table 4 shows that Cronbach alpha value are above 0.7. Thus, the reliability was in acceptable level for all the factors.

Similar to reliability, I tested weather the answer of my questionnaire reflected the answer of the research questions. For, this I applied validity test. This is done to verify if the answer of the questionnaire reflects the answer of research question or not (Creswell, 2003). It gives the accuracy of measure of assessment tools for what it is expected to measure. The types of validity that needs to be considered are content validity, construct validity, and criterion validity (Cohen et al., 2007). Thus, I checked content validity, construct validity, and criterion validity for my study.

Content validity suggests if the statement of questionnaire is correct to measure latent factor (Muijs, 2004). The questionnaire was adopted and localized in Nepal's language. Also, related literatures and curriculum were reviewed, and many agricultural experts and MTVET professors were consulted while constructing the questionnaire. Similarly, the removal of cross-loading factor in EFA to assure one-dimensionality also assured content validity empirically (Jolliffe & Cadima, 2016).

Construct validity ensures how well does tool measures the construct (Bryman, 2016). It indicates the quality stability of the questionnaire which is based on theoretical approach (Cohen et al., 2018). This study has adopted the questionnaire from CTEVT (2025a).

Similarly, the criterion validity was ensured by comparing the study with other kind of similar studies. Thus, in order to ensure criterion validity, the result of this study was compared and contrasted with other similar type of studies (Bohara &

Gurung, 2025; OECD, 2020; Yao, et al., 2019). Similar natures of results were observed. In this way, criterion validity was ensured in this study.

Ethical Consideration

This study was conducted by following the ethical guidelines to ensure transparency and fairness throughout this study. Ethical considerations were crucial to maintain the validity, reliability, and credibility of the research (Gallardo, 2012). The process was designed to protect the rights, dignity, and well-being of all students who participated in survey. Firstly, official permission was gained from the respective institutions before starting data collection. An official letter was also submitted to each institution, explaining the objectives of the study. Students were well-informed about the nature of the study and their right to participate voluntarily. No students were forced to provide responses, and they had the freedom to skip any question if they felt uncomfortable answering. Personal details such as names were not collected to protect privacy. Thirdly, respect was maintained throughout the data collection. Students were treated with kindness and respect. No harm physical, emotional, or psychological, was caused to any students at any stage of the study. I also followed all the ethical guidelines provided by Kathmandu University.

Chapter Summary

In this chapter, I started with my philosophical foundation for this study which was guided by the post-positivism. I followed post positivism along with objectivist ontology and empiricist epistemology in this research. The quantitative methodology along with survey approach was discussed for this study. I presented the research methodology adopted for the study, which followed a quantitative approach under the post-positivist paradigm. It was followed by the study of study area (institution providing diploma in agriculture program in Surkhet district), population (third year student), and sample. Population for this study was 254. Sample for this study was calculated as 153. This chapter then talked about the procedure of data collection tools. For this study adopted scale was contextualized. The chapter then presented a reliability measurement procedure through pilot testing. For measuring reliability, I used Cronbach alpha value. Reliability was ensured. This was followed by the presentation of validity measurement procedure. I tested construct validity, content validity, and criterion validity in this study. After that, this chapter talked about the data analysis procedure using software and statistical tools. All the three validities

were ensured in this study. This chapter concluded with the discussion about the ethical consideration of this study.

CHAPTER IV
INTERPRETATION OF DATA

Chapter Overview

This chapter begins with a description of the demographic variables, such as gender, types of courses, and age group of the students doing a diploma in agriculture in the third year in Surkhet. Then, this chapter analyzed the data by using both descriptive and inferential statistics to get the findings of the study's research questions. The T-test and one-way ANOVA test were conducted to find out the relationship between students' attitude and different demographic profiles of students, and the relation between students' attitude and digital technology usage. This analysis was based on identifying statistically significant variations in familiarity and attitude based on factors such as gender, age, academic year, and other demographic attributes. All variables were reviewed in SPSS software to ensure data accuracy and check for missing values.

Demographic Background of Students

In this study, the major demographic background of the students was the age group of students, and gender distribution, which are vital for understanding the context of digital technology adoption among students. In this study, there were 46% (n=75) females and 54% (n=88) males in total. This data shows that male students are enrolled in slightly higher numbers in comparison to female students. Male enrollment is also around 54%, while female enrollment is around 46% in the overall Diploma program of Nepal (CTEVT, 2025b). About age distribution, 44.2% (n = 72) of students were below 18 years, 52.1% (n = 85) were between 18 and 23 years, and 3.7% (n = 6) were above 23 years. The above data represents that most of the students of the age group from 15-23 are enrolled in these programs and are adolescents and youths. In terms of academic courses, 50.9% (n = 83) of students were enrolled in Plant Science (agriculture), whereas 49.1% (n = 80) were enrolled in Animal Science.

Table 5

Demographic Profile of Students

Domain		N=163	Percentage (%)
Age Group	Below 18	72	44.2
	18-23	85	52.1
	Above 23	6	3.7
	Total	163	100.0
Gender	Female	75	46.0
	Male	88	54.0
	Total	163	100.0
Stream	Plant Science	83	50.9
	Animal Science	80	49.1
	Total	163	100.0
Local Government	Panchapuri RM	2	1.2
	Barahtaal RM	108	66.3
	Birendranagar M	52	31.9
	Simta RM	1	0.6
	Total	163	100.0

This study was conducted only among third-year students, as they had already completed the majority of their syllabus and gained exposure to the full curriculum, and were at the phase of preparing to enter the job or workforce. The students were from four municipalities of surkhet. The majority of students (66.3%, n = 108) were from Barahatal Rural Municipality, followed by 31.9% (n = 52) from Birendranagar Municipality. Smaller percentage of students were from Panchapuri Rural Municipality (1.2%, n = 2) and Simta Rural Municipality (0.6%, n = 1).

Sources of Information on Digital Technology Among Students

In this section, the source of students' education in digital technology was analyzed. The data shows that most students get information about digital technology from an institution, with 88 students (54%). Friends are the next most common source where they are getting information about digital technology, with 39 students (24%) learning through learning from friendss. 36 students (22%) are getting information from the Internet, while self-learning is the least method, with only 10

students (6%).

Table 6

Sources of Information on Digital Agriculture among Students

	School	Internet	Self	Friends
Total	163	163	163	163
N	88	36	10	39
Percentage	53.99	22.09	6.13	23.93

These results show that institutions play the main role in providing students about digital technology in agriculture. Friends and the internet are also there, but very few students rely on self-learning. Educational institutions are primary sources of learning platforms for students because they provide structured, organized, realtime, practical trends instruction guided by qualified instructors. Institutions play a vital role in developing knowledge, skills, and values essential for personal growth and societal development (UNESCO, 2024a). The main lesson from this is that to improve students' knowledge and skills, institutions should strengthen the use of digital technology in diploma programs.

Student's Familiarity with Digital Technology

This study shows that most of the students (56.4%) have a moderate familiarity with digital tools and technologies. Students have some knowledge about digital tools and technologies, but may not be fully skilled or confident in using them. Only a few students, about 10.4%, said that they are highly familiar with the use of digital tools and technology, indicating that only a few students have a good level of knowledge and likely use digital tools. However, 33.1% of the students said they are completely not familiar with the use of digital tools and technology.

Table 7

Student's Familiarity with Digital Technology

Familiarity with Digital Technology in Agriculture		
	Frequency	Percent
Not much	54	33.1
Moderate	92	56.4
Very well	17	10.4
	163	100.0

This shows that one-third of the group has very little knowledge or confidence in using digital tools in agriculture. Although nowadays students have good access to digital tools such as smart phones and laptop, the use of digital tools for educational purposes remains limited (OECD, 2020). Most of the students have very little knowledge about digital technology in agriculture; there is still a need to improve awareness and skills, especially for those who are not familiar with it.

Digital Tools Proficiency Levels among Students

In this study, students were requested to provide about their ability to use different digital tools. For each tool, they were given three possible features they might be able to do. If a student said they could do all three tasks, they scored 3, meaning they had a high level of skill in mentioned digital tool. If they could able to use two features, they scored 2, which showed a medium level of skill. If they could only use one feature, they scored 1, meaning they had low knowledge in using mentioned digital tools. A score of 0 was given if they could not able to use any features of digital tools, showing no knowledge or experience with the tool.

The results show that skill levels are not the same for all digital tools. For MS Word, the average score of students was 0.91, which means many students have low to medium skills. The skewness value (1.147) shows that most students are still at the lower end of the skill range. MS Excel had an average of 0.79, and MS PowerPoint 0.83, both slightly lower than MS Word, meaning using MS Excel and MS PowerPoint skills is weaker amongst students. Agricultural applications had quite higher average of 1.00, showing slightly better knowledge, but skewness (0.937) still points to more students with lower skills. Weather information tools scored an average of 1.17, showing better awareness, but the high skewness (1.659) means many students still use them very little. Basic internet tools such as social media platforms, Google scored the highest average of 1.26, meaning they are the most familiar to students, though skewness (1.354) shows skills are still uneven. Cybersecurity scored 0.81, showing low awareness and practice amongst students in keeping data and devices safe.

Table 8

Digital Tools Proficiency Levels among Students

	N	Mean	Std. Deviation	Skewness
MSWORD	163	0.91	0.689	1.147
MSEXCEL	163	0.79	0.616	0.487
MS PPT	163	0.83	0.615	0.440
Agri_App	163	1.00	0.711	0.937
Weather Info	163	1.17	0.615	1.659
BasicInternetTool	163	1.26	0.699	1.354
CyberSecurity	163	0.81	0.708	0.924

Agri app= GeoKrishi and SmartKrishi

Overall, these data revealed that students have very limited knowledge in using MS Office tools. However, students showed high proficiency in using basic internet tools such as social media platforms, online meeting platforms, and email. Regular interaction with digital tools has developed improved digital literacy and information evaluation skills users (Hsieh, 2019). The factors of using digital tools also depend upon proper training and awareness about digital tools given to the users (Bohara & Gurung, 2025). These results are produced based on the frequency of use of these digital tools. The limited use of MS Office amongst students due to their low access to computers and laptops, and also a lack of sufficient practical sessions in institutions. The use of agri related apps, weather forecasting, and basic internet tools is extensively used among students because these tools can be easily accessed through smartphones.

Digital Marketing Proficiency Levels among Students

Digital marketing proficiency amongst students was assessed to understand their knowledge about digital marketing in agriculture. Only about 28% of students have very good knowledge about digital marketing (mean = 0.2822), showing that only few students have good knowledge about digital marketing, with skewness (0.977) indicating that most students are below the high level skills. More than half of the students (mean = 0.5521) are aware about digital technology but not good knowledge, meaning they know about digital marketing but they are somewhat aware; the negative skewness (-0.212) is shown, but nearly 0, which means a fairly balanced distribution in this group. Around 21% of students are not aware of digital

marketing (mean = 0.2086), showing little or no knowledge, and the skewness of 1.448 indicates that most students are in this group which have minimal exposure to digital marketing in agriculture.

Table 9

Digital Marketing Proficiency Levels among Students

	Good Knowledge	Aware but not good knowledge	Not Aware
N	163	163	163
Mean	0.2822	0.5521	0.2086
Std. Deviation	0.45146	0.49881	0.40755
Skewness	0.977	-0.212	1.448

Overall, while many students have heard about digital marketing in agriculture, most have only basic awareness, and only a few have strong skills, highlighting the need for training to improve both understanding and practical ability.

Attitude of Students toward Adoption of Digital Tools and Technologies in Agriculture

A total of 163 third-year Diploma in Agriculture students responded on ten statements on a 0–4 scale, where 0 represented “strongly agree” and 4 represented “strongly disagree.” Lower means indicate stronger agreement.

Students showed the higher level of attitude that weather forecasts are important for making farming decisions (M = 0.60, SD = 0.699). They also have positive attitude on the value of Microsoft Word and Excel for keeping and analyzing farm records (M = 0.67, SD = 0.777). High positive attitude was also seen for the use of mobile applications to getg agriculture advisories (M = 0.76, SD = 0.665), the role of social media in connecting with other farmers and sharing knowledge (M = 0.77, SD = 0.651), the internet for solving agricultural problems (M = 0.80, SD = 0.825), and Microsoft Excel for managing and analyzing data (M = 0.81, SD = 0.843). Slightly higher mean scores, though still in positive attitude, were recorded for the benefits of digital devices such as mobile phones and laptops in improving productivity (M = 0.82, SD = 0.788) and Microsoft PowerPoint for presenting and getting ideas (M = 0.88, SD = 0.679). Digital marketing had the highest mean (M =

0.93, SD = 0.763), meaning students had a positive attitude toward digital marketing but may be less widely used in practice.

Table 10

Attitude in Usage of Digital Tools and Technologies in Agriculture

Perceptions and Usage of Digital Tools and Technologies in Agriculture	N =163	Mean	Std. Deviation
Microsoft Word and Excel are very useful for recording and analyzing agricultural activities.		0.6	0.77
Agricultural information received through mobile applications makes farming easier and more effective.		0.7	0.66
Weather forecasts are very important to minimize agriculture product damages.		0.6	0.69
Social media is a powerful tool for connecting with other farmers, learning from them and sharing knowledge.		0.7	0.65
Mobile-based agriculture advisories help to make agriculture more productive and efficient.		0.8	0.78
The internet helps to find solutions to agricultural problems.		0.8	0.82
Digital marketing makes it easy to sell agricultural products directly to consumers.		0.9	0.76
Cybersecurity is vital for online safety.		0.7	0.69
MS PowerPoint useful for presenting ideas and sharing knowledge in agriculture.		0.8	0.67
MS Excel is useful for data collection and analysis.		0.8	0.84

Overall, these data revealed that students have a positive attitude toward digital

technology use in agriculture. The students usually hold a highly positive attitude toward digital technology, knowing its value in enhancing learning and communication purposes (OECD, 2020). Therefore, even though some students have little familiarity with using digital tools, their willingness to use technology in agriculture and their overall attitude toward digital learning are high.

Students' Access to Digital Devices and Platforms

Students' access to digital tools was assessed to understand how much they are able to use digital technology and to explore the opportunities available to them for learning and agricultural purposes. For this, students were asked about their access to smartphones, laptops, social media, agricultural applications, and computers in their institutions. The responses of the students were recorded in frequencies and percentages.

Here, findings show that a large majority of students (151 out of 163, 92.6%) have access to smartphone. Similarly, access to laptops is very limited, with only 25 students (15.3%) have access to a laptop, while 138 students (84.7%) do not. Almost all students (160 students, 98.2%) reported that they have access to social media such as Facebook, Messenger, and TikTok. Access to agriculture-related mobile applications was reported by 129 students (79.1%), while 33 students (20.2%) have not used agriculture-related applications. Regarding computers in institutions, 119 students (73%) have said that access to computers in institutions is available, whereas 41 students (25.2%) suggested computers in institutional are not easily accessible to students.

Table 11

Students' Access to Digital Devices and Platforms

		Frequency	Percent
Access to a Smart Phone	Yes	151	92.6
	No	12	7.4
	Total	163	100.0
Access to a Laptop	Yes	25	15.3
	No	138	84.7
	Total	163	100.0
Access to social media	Yes	160	98.2
	No	3	1.8

	Total	163	100
	Yes	129	79.1
Access to Agri App	No	33	20.2
	Total	162	99.4
Total		163	100.0
	Yes	119	73.0
Access to Computers in Institutions	No	41	25.2
	Total	160	98.2
Total		163	100.0

This data represents that most students have good access to smartphones. At the same time, agriculture-related apps are available, but very few students actually use them. So, if the curriculum includes awareness or training about these agricultural apps, it would be more helpful for students to learn. Also, laptops and computers in institutions are not always available, but smartphones are always with students. So, using agriculture apps on smartphones can be a better and easier way for students to learn anytime.

Distribution and Central Tendency of Students' Attitudes in Digital Technology

In order to study the relation between students' attitudes toward digital technology and different demographic factors and digital technology usage, descriptive statistics were presented to check for further eligibility T-test and one way ANOVA test. T-tests and ANOVA are very effective statistical tools for comparing means between different groups when the independent variable is nominal and the dependent variable is scale. A total of 163 valid responses were included in the analysis. The mean score was 0.78, which indicates that, on average, students showed a generally positive attitude toward the use of digital technology.

Table 12

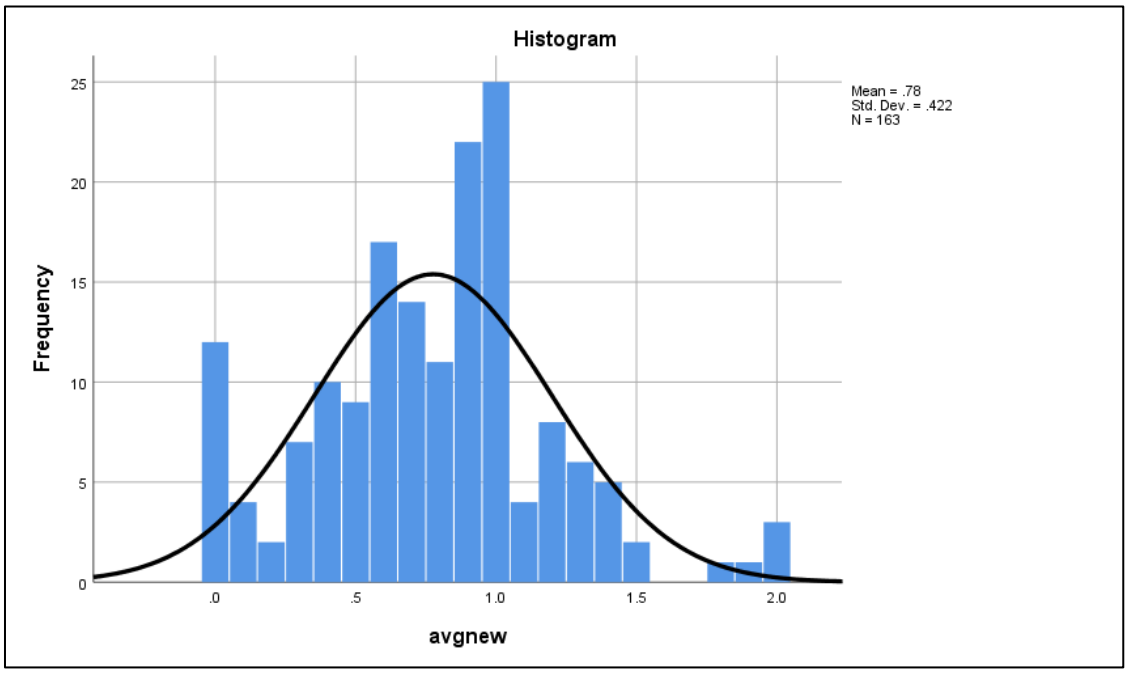
Distribution and Central Tendency of Students' Attitudes in Digital Technology

N	Valid	163
	Missing	0
Mean		0.78
Std. Deviation		0.422
Skewness		0.256
Std. Error of Skewness		0.190
Kurtosis		0.481
Std. Error of Kurtosis		0.378

The standard deviation (SD = 0.422) reflects the degree of variation in students' responses. As, the SD is relatively low, this suggests that most students' attitudes are distributed around the mean, and there is limited inconsistency in the responses. In other words, the majority of students expressed positive attitudes, with very fewer negative responses. For distribution, the skewness value (0.256) indicates a slight positive skew, suggesting that the distribution of attitude is marginally shifted to the right, but remains close to normal.

Figure 2

Distribution of Students' Attitudes in Digital Technology



The histogram above also represents the descriptive findings that students generally express favorable attitudes toward digital technology. Above normal distribution of data confirms the suitability of the data for further inferential statistical testing, such as t-tests or one way ANOVA to analyze the relationships between attitudes of students toward adoption of digital tools with other demographic and digital tools usage.

Relationship Between Students' Attitudes Toward Digital Technology, Smartphone Ownership, and Use of Agriculture-Related Apps

A one-way ANOVA test was conducted to study the differences in students' attitudes toward digital technology based on use of agricultural apps and smartphone usage. T-tests and ANOVA are very effective statistical tools for comparing means between different groups when the independent variable is nominal and the dependent variable is scale. This analysis revealed a statistically significant difference in attitudes toward digital technology among students who use agricultural applications, $F(18, 143) = 2.172$, $p = .006$. There was another significant difference observed between smartphone use of students, and their attitude toward adoption of digital tools and technology, $p = 0.028$.

Table 13

Relationship Between Students' Attitudes Toward Digital Technology, Smartphone Ownership, and Use of Agriculture-Related Apps

		Sum of Squares	df	Mean Square	F	Sig.
Student's Using Agri App	Between Groups	5.642	18	0.313	2.172	0.006
	Within Groups	20.636	143	0.144		
	Total	26.278	161			
Student having Smart Phone	Between Groups	10.762	18	0.598	1.821	0.028
	Within Groups	47.288	144	0.328		
	Total	58.049	162			

These findings suggest that students who actively use agricultural apps and those who frequently use smartphones tend to have significantly different attitudes toward digital technology. Students who use smartphones in their learning showed positive attitudes (e.g. more confidence, better access to info) while those who did not had more negative outcomes. Supports the general relationship between access/use and attitude (Yao, et el., 2019). Therefore, students who have access to smart phones and who are using agricultural apps have a positive attitude toward digital technology and the students who do not have access to smart phones and who do not use any agri related app have negative attitude toward digital technology.

Relationship Between Students' Attitudes Toward Digital Technology and Their Proficiency in MS Word, MS Excel, and MS PowerPoint

T-tests and ANOVA are very effective statistical tools for comparing means between different groups when the independent variable is nominal and the dependent variable is scale. The ANOVA test showed a statistically significant difference in students' attitudes toward digital technology based on their knowledge of MS Word, $F(18, 144) = 2.841$, $p < .001$. This indicates that students who are familiar with MS Word revealed a more positive attitude toward digital technology compared to those who have limited or no knowledge of MS Word. Since, MS Word is one of the most basic and widely used applications, familiarity with it may boost students' confidence in using digital tools for academic purposes.

This analysis also revealed that there is significant differences in attitudes toward digital technology in respect to MS Excel knowledge, $F(18, 144) = 2.145$, $p = .007$. Students who are capable in using Excel have also positive attitudes toward digital technology, as this software is highly practical for data management and analysis.

Similarly, another significant difference was found in attitudes toward digital technology based on knowledge of MS PowerPoint, $F(18, 144) = 2.059$, $p = .010$. Students who have good PowerPoint skills have a more positive attitude toward digital technology.

Table 14

Relationship Between Students' Attitudes Toward Their Proficiency in MS Word, MS Excel, and MS PowerPoint

		Sum of Squares	df	Mean Square	F	Sig.
MS Word	Between Groups	15.098	18	0.839	2.841	0.000
	Within Groups	42.521	144	0.295		
	Total	57.620	162			
MS Excel	Between Groups	14.740	18	0.819	2.145	0.007
	Within Groups	54.978	144	0.382		
	Total	69.718	162			
MS PowerPoint	Between Groups	15.933	18	0.885	2.059	0.010
	Within Groups	61.907	144	0.430		
	Total	77.840	162			

These data revealed that students who frequently use digital technology tend to have a more positive attitude toward it, while those who do not use it show a lower attitude toward digital tools. As mentioned earlier as well, increased use of digital tools helps build familiarity. This strengthens students' confidence and positive attitude toward digital technology. If students are appropriately introduced and get aware about these tools and understand how to use them, their willingness to learn and engage with digital technology increases (Hargittai, 2013). This also suggests that as students become more involved with these types of digital tools, they may explore opportunities for future career growth in related fields.

Attitudes of Students toward Digital Technology in Relation to Digital Tool Usage

A one-way ANOVA test was conducted to study students' attitudes toward using basic digital tools (e.g., email, WhatsApp, Zoom, Google Meet) influence students' attitudes toward digital technology. The results revealed that there is a highly significant difference with $F(18, 144) = 2.695$, $p = 0.001$, indicating that students' attitudes toward digital technology differ distinctly based on their familiarity with these basic tools.

Table 15

Familiarity in Using Basic Digital Tools

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	19.949	18	1.108	2.695	0.001
Within Groups	59.229	144	0.411		
Total	79.178	162			

This findings indicate that students who actively use digital tools for communication and learning purposes have highly positive attitudes toward using and adopting digital tools and technologies. Students with limited exposure have a lower attitude and willingness to integrate digital tools.

Relation Between Courses and the Attitude of Students in Digital Technology

An independent samples t-test was conducted to check whether there was a significant difference in the average attitude of students toward digital technology between two groups of students i.e. agriculture and livestock programs. The t-test for equality of means was applied. This t-test result indicated that $t(161) = -0.005$, $p = 0.996$, with a mean difference of 0.000 (SE = 0.066). Since the p-value is also greater than 0.05, showing that there is no statistically significant difference in students' attitudes toward digital technology between the two groups.

Table 16

Relation Between Agriculture and Livestock Stream and the Attitude of Students in Digital Technology

	Courses	N	Mean	Std. Deviation	Std. Error Mean
A	Agriculture	83	.78	.411	.045
AT	Livestock	80	.78	.437	.049

		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
avgnew	Equal variances assumed	.132	.717	-.005	161	.996	.000	.066
	Equal variances not assumed			-.005	159.441	.996	.000	.066

So these findings suggest that both groups of students share almost identical views and attitudes toward digital technology. In other words, whether students are from agriculture or livestock courses, their perceptions and use of digital technology are the same. Both the Diploma in Plant Science and the Diploma in Animal Science needed digital technology, and their courses are also somewhat similar to each other. Therefore, there is no significant difference between the attitude toward digital technology of these students,

Relation Between Gender and Attitude of Students in Digital Technology

An independent samples t-test was carried out to check whether there is a significant difference in the mean attitude in digital technology scores between male and female students. This test is used when comparing the averages of two separate groups. In this case, the mean attitude score for females was 0.79, while for males it was 0.76. The t-test showed a significance value (p-value) of 0.605, which is also greater than 0.05.

Table 17

Average of Male and Female Students

	N	Mean	Std. Deviation
Female	75	0.79	0.439
Male	88	0.76	0.410

Table 18

Relation Between Gender and Attitude of Students in Digital Technology)

			t-test for Equality of Means				
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Attitude of Students in Digital Technologies	0.889	0.347	0.518	161	0.605	0.034	0.067
			0.515	153.066	0.607	0.034	0.067

Based on independent t-test findings revealed that both male and female students have a similar positive attitude toward digital technology, and gender does not play a major role in attitude toward digital technology. The survey found that around 44.3% of Nepal's social media users were female, and 55.7% were male (Kemp, 2025).This shows that both males and females are using digital technology in the same ways and both have a positive attitude toward digital technology. So, there is no significant relationship between gender and attitude toward digital technology.

Comparison of Students' Attitudes Toward Digital Technology Across Age Groups

A one-way ANOVA was conducted to determine whether students' attitudes toward digital technology differed across three age groups (below 18 years, 18–23 years, and above 23 years). The results indicated no statistically significant difference, $F(2, 160) = 2.977$, $p = 0.054$. Although the value was relatively close to the significance, the result suggests that students' attitudes toward digital technology also remains similar across different age groups.

Table 19

One Way Anova Test (Comparison of Students' Attitudes Toward Digital Technology Across Age Groups)

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.037	2	0.519	2.977	0.054
Within Groups	27.879	160	0.174		
Total	28.917	162			

This finding revealed that age alone may not be a strong determinant of attitudes formation toward digital technology within the study population. Instead, other factors, such as exposure to digital tools may play a more conclusive role in shaping students' attitude to adopt digital technologies in agriculture. Nowadays, people of every age group can able to use smartphones and access digital tools easily, and hence the attitude toward digital technology is also positive among all generation. There is common adoption of digital technology between different generations (Pew Research Center, 2019). Therefore, there is no significant difference in between different age groups.

Chapter Summary

This chapter presented the demographic profile of the students by gender, age group, and diploma courses type, followed by their access to digital devices, familiarity with digital tools, proficiency levels, and attitudes toward digital technology in agriculture. In this study, there was a total of 163 students, only from the third year were involved, where 46% of them were female and 54% of them were male. Age group of students involved in this study was 44.2% were below 18 years, 52.1% were between 18 and 23 years and lastly, 3.7% were above 23 years.

This study revealed that more than half of the students (54%) used the Diploma school/institution as the primary source of information on digital technology in agriculture, followed by friends (24%), the internet (22%), and self-learning (6%). Familiarity with digital technology was moderate in 56.4% of students, while 33.1% revealed low familiarity, and only 10.4% revealed high familiarity. Proficiency analysis showed varying skill levels according to the type of digital tools. Basic internet tools and weather information platforms had the highest familiarity, while cybersecurity, MS Excel, and MS PowerPoint showed very low proficiency.

Students showed a highly positive attitude toward adoption of digital tools and technology. Students expressed the value of digital tools and technology in weather forecasting, record-keeping, and cybersecurity. Majority of students have good access to smartphones with a percentage of 92, and social media about 98.2%, but students' access toward laptops (15.3%) and computers in institutions (73%) which was not so good.

With the help of Inferential statistical analyses confirmed the significant differences in attitudes based on familiarity with digital tools, use of agricultural apps, and proficiency in MS Word, Excel, and PowerPoint ($p<0.05$) were confirmed. However, there was no significant differences were observed between the demographic profile of students and attitude of students in adopting digital tools and technology.

CHAPTER V
STUDENTS' FAMILIARITY, ATTITUDES, AND PRACTICE OF DIGITAL TECHNOLOGY: EXPLORING MEANING

Chapter Overview

This chapter highlights the key analysis of the study, exploring the outlines the current status of students' knowledge, attitudes, and practices regarding digital technology in agriculture. In this chapter key meaning of the study has been compared and contrasted with the relevant literature, highlighting reliabilities, differences, and developing insights of the study. This discussion emphasizes how students' access to smartphones, use of agricultural apps, and proficiency in digital tools effect their engagement with technology, as well as the broader suggestions for digital literacy and agricultural education. It also draws on the Diffusion of Innovations Theory (DOI) to understand the results and connects them to global and national status in digital agriculture education. Finally, this chapter provides a summary of the key analysis of data, its meaning and bringing the major findings and their implication for additional suggestions.

Key Findings of the Study

This sample involved 163 students, with 46% female and 54% male students participants who are perusing Diploma in agriculture. About age, 44.2% were below 18 years, 52.1% were between 18 and 23 years, and 3.7% were above 23 years. Around 50.9% were enrolled in Plant Science where whereas around 49.1% of students were enrolled in Animal Science. Institutions were the primary source for students to access the information about digital tools which was mentioned by 54% of students then followed by learning from friends (24%), the internet (22%), and self-learning (6%). This data showed the important role of educational institutions for introducing students about concept of digital agriculture.

Familiarity with Digital Technology in Agriculture: The majority of students (56.4%) stated moderate familiarity with digital tools, 33.1% had low familiarity with digital technology in agriculture, and only 10.4% stated that high familiarity with digital technology in agriculture. These results highlight that that a significant proportion of students need good exposure to practical sessions and training for effective use digital technologies in agriculture.

Proficiency in Digital Tools: The proficiency of the students depends upon the type of digital tools where basic internet tools (M = 1.26) and weather information platforms (M = 1.17) showed that higher proficiency in using digital tools, whereas MS Word (M = 0.91), Excel (M = 0.79), PowerPoint (M = 0.83), agricultural applications (M = 1.00), and cybersecurity (M = 0.81) reflected that moderate to low proficiency in using digital tools.

Attitudes Toward Digital Technology: Most of the students expressed highly positive attitudes toward the adoption of digital tools (M = 0.78, SD = 0.422). Among them, weather forecasting, data management, cyber security, and record keeping were major of the digital tools where students expressed a highly positive attitude for its adoption.

Access to Digital Devices and Platforms: Most of the students had access to smartphones (92.6%) and social media platforms (98.2%), whereas access to laptops among students was low (15.3%). The computer access institution was available to 73% of students, and 79.1% reported using agriculture-related mobile applications in their smart phones. These findings highlight the potential of mobile-based learning to make better agricultural practices.

Relationship Between Attitudes and Digital Technology Use: Significant differences between students' attitudes and use of agricultural apps were observed ($F[18, 143] = 2.172$, $p = .006$), access to smartphone ($F[18, 144] = 1.821$, $p = .028$), and proficiency in using MS Word ($F[18, 144] = 2.841$, $p < .001$), Excel ($F[18, 144] = 2.145$, $p = .007$), and PowerPoint ($F[18, 144] = 2.059$, $p = .010$). The difference between students attitude and students using basic digital tools such as email, WhatsApp, and Zoom also exposed significant relationships ($F[18, 144] = 2.695$, $p = .001$). These results indicate that active use of digital technologies strongly influences positive attitudes toward their adoption of digital technology in agriculture.

Relation between Attitudes of students and Demographic Factors: The attitude based on gender, age, or course specialization ($p > .05$) shows no significant differences, suggesting that the demographic background of students has less influence on digital technology attitudes.

Discussion of Findings

This study revealed that CTEVT institutions were the primary source of information for providing digital technology to Diploma in Agriculture students, with 54% highlighting this as their main source. Learning from friends is the second most

common source for getting digital technology information, covering about 24 percent of students who used this source to get knowledge about digital tools, followed by internet access, about 22 percent, and self-learning, about 6 percent. It highlights the huge responsibility of higher educational schools in the dissemination of digital agriculture concepts in the minds of students. Nowadays lot of institutions have already initiated digitalization in schools by establishing structured learning setups, resource availability, and other forms of guidance to facilitate understanding and favorable implementation regarding digital technologies in agriculture (Saikanth et al., 2020). Learning from friend interaction rests importantly in building up the learning process of students, indicating that knowledge and experience are easily shared between friends. This sharing makes practical understanding better and gives strength to the knowledge that was earlier introduced inside a classroom (Kumar et al., 2024).

Most of the students, about 56.4% of the students said moderate familiarity with digital tools, 33.1% said low familiarity, and only 10.4% said high familiarity. This shows that there is a large number of students who need more exposure and training in effectively using digital agricultural technologies. Recent studies have also explored this situation and thus emphasize the need for specific educational interventions aimed at raising the digital literacy levels of agriculture students. The integration of digital tools in agricultural education to fill the existing gap in familiarity has been advocated (Kumar et al., 2024). The findings of students' proficiency in using digital technology highlight that while students can utilize only basic digital tools effectively whereas there is a need for practical sessions, training, and other involvements to enhance skills in advanced digital applications for students, such as cybersecurity and digital marketing, which are very essential for modern agricultural practices. These results are also aligned with recent studies and emphasizing the gap in digital skills among students enrolled in diploma programs. Students frequently use smartphones and internet tools, but awareness and knowledge of digital applications used for agricultural purposes remain limited (Kumar et al., 2024). The limited training opportunities and practical experience make students' ability to fully utilize digital tools for agricultural planning and marketing (Eze et al., 2020). Students expressed highly positive attitudes toward digital technology. These findings are also verified by recent studies, highlighting the growing acceptance of digital tools among agricultural students. The importance of integrating digital tools

into agricultural education has the ability to bridge the science and technology and students. Also, the Digital Agriculture Laboratory at UC Davis works on raising food output by putting into mechanized ways that increase yields, showing that the integration of digital tools in today's farming (UCDavis, 2025). These results highlight the need for hands-on involvement of learners to further build on positive views and raise digital knowledge among students, which will prepare them for the increasing field of digital farming. among students, thereby preparing them for the growing landscape of digital agriculture. This study finds that there is good reach of students in smartphones and basic internet tools and social Media. There is a significant level of smartphones, social media, and basic internet tools accessibility among students. The increasing accessibility and affordability of smartphones and the internet in Nepal have significantly affected students' engagement with digital tools. There were 42.78 million of people who own smartphones in Nepal, more than the total population of 30.72 million, indicating that lots of people own more than one smartphone (Kemp, 2025). Nepal Telecom Corporation (NTC) and Ncell (a private company) both played in vital role in this transformation, where NTC reported that there are more than 13 million of people access to 4G internet by June 2025 (NTA, 2023). This increasing use of smartphones as well as internet access has enabled students to access educational materials, online learning, and digital communication tools, so, which can enhance their learning experiences and agricultural knowledge (NTA, 2024). Smartphones are widely accessible and user-friendly for all they also serve as effective platforms for accessing timely agricultural information, advisory services, and digital skills and decision-making capabilities (GSMA, 2024). This great penetration of smartphones and social apps can bridge the gaps by providing access farmers to information on science and technology in agriculture. Therefore, making students utilize digital tools for agricultural purposes is important (Kumar et al., 2024). This study also finds that there are significant differences in students' attitudes toward digital technology and their use of agricultural applications, access to smartphones, and use of basic computer applications such as MS Word, Excel, and PowerPoint. Additionally, this study indicated another significant relationship between students' familiarity with basic internet tools like email, WhatsApp, and Zoom and students' attitude toward digital technology. These findings indicated that active use of digital tools highly influences people positive attitudes toward their use of digital tools (Bohara & Gurung, 2025). Another similar study highlighted that

about 53 percent of rural farmers had high digital literacy have smartphones. This has been noted as an important factor in enhancing their access leads to digital literacy. Thus, digital literacy significantly affects farmers' adoption of digital tools in Nepal (Suvedi et al., 2017). These results from these studies highlighted the importance of digital skills and access to smartphones in influencing positive attitudes of students toward digital tools adoption in the agricultural sector.

Another key finding of the study is no significant differences were found in students' attitudes toward digital technology and demographic factor such as gender, age, or type of course ($p > .05$), telling that demographic variables use less influence on attitudes toward digital technology. There are almost similar number of male students and female students enrolled in TVET institution (CTEVT, 2025b). Both male and female have almost similar access to smartphone (NTA, 2023). In this study, previous point mentioned that the more use of digital technology the more attitude toward digital technology also increases. This means that they access to smart phone are similar among male and female then the attitude toward digital technology also among them must be similar among them. Both male and female students exhibited comparable levels of enthusiasm and adaptability toward digital tools in agricultural education. All these studies highlighted the importance of providing digital resources and practical classes to develop positive attitudes toward digital technology among all students; however, there is no influence of any demographic factors on students' attitudes toward digital technology. The integration of digital technology into agricultural education is a global phenomenon with the preparing a workforce capable of addressing the issues in modern farming systems. Universities and vocational training institutions across the world have been increasingly revising and updating their curriculum by including data science, remote sensing, and geographic information systems (GIS), artificial intelligence in agriculture, and farm management software (Rose et al., 2021). This transformation reflects an acknowledgement that traditional agricultural practices are being increased, and in some cases transformed, by agricultural innovations, demanding a set of digital skills among agricultural graduates.

In the developed countries, agricultural educational institutions usually have state-of-the-art laboratories, precision agriculture tools, and a good digital infrastructure. Educational institutions from developed countries can provide detailed and proper practical training on digital agriculture. For example, universities in the

United States and Europe have created specific centers for research and study in digital agriculture as a way to encourage interdisciplinary collaboration between agricultural scientists, engineers, and computer scientists (European Commission, 2021; United States Department of Agriculture [USDA], 2020). These institutions are also collaborating with industry representatives to make sure their curriculum reflects the changing and demanding needs of the agricultural industry by offering students internships and practical assignments that will take students very close to the actual implication of digital farming.

Many countries in Asia are also making significant efforts towards integrating digital technologies in agricultural education with different strides and bottlenecks. For example, China, India, and Vietnam are investing heavily in the development of digital infrastructure as well as encouraging the application of digital tools within the field of agriculture for better advisory services (ADB, 2020). For example, a few agricultural universities in India have already initiated special courses on agricultural information and precision agriculture because this is an era where information-based decisions within agriculture are highly important. However, such courses cannot be adopted widely due to inadequate funding for facilities such as faculty and the absence of digital infrastructure within rural areas.

The country's agricultural education system, particularly at the diploma level, is at a critical stage where it can either adapt to the digital tools or risk producing graduates who are not ready for the future. The recent study stated that evaluating the knowledge about digital technology among students enrolled in the Diploma in Agriculture program, taking forward the larger regional and global address on why and how such responsive and digitally-enabled agricultural education can be effective. Understanding the detailed strengths and weaknesses of students in using digital tools can provide valuable insights for designing proper interventions that align with both national development policies of digital agriculture.

Chapter Summary

Firstly, I explained the main findings as a result of this study in this chapter. The meaning of study’s key findings about digital technology among third-year Diploma in Agriculture students from Surkhet district. Most of the Students expressed positive attitudes toward digital technology and had high access to smartphones and social media. Attitudes were significantly related with the use of agricultural apps, smartphone ownership, and proficiency in digital tools, whereas demographic factors

such as gender, age, and course specialization had little influence. These findings suggest that practical exposure and active engagement with technology are more important than demographic characteristics in shaping positive attitudes toward digital technology in agriculture. After the explanation of all these major findings, I made a discussion based on which I developed model explaining the students' choice of academic program.

CHAPTER VI
RECAPITULATION, CONCLUSION, IMPLICATIONS, AND REFLECTION

In this chapter, I have provided an inclusive recapitulation of the study's purpose, objectives, methodology, and key findings. I have compiled all findings of this study together in this chapter to provide valuable insights for further study, policy refinement, curriculum update, etc. Findings from this study align with current educational criteria addressing the growing need for digital tools and technology integration in the agricultural sector in Nepal. Lastly, I have provided some insightful recommendations to strengthen digital readiness, bridge existing gaps, and guide future studies for policymakers, stakeholders, and researchers in agriculture.

Recapitulation

In this study, the knowledge, attitude, and practice of digital technology among Diploma in Agriculture students were assessed to evaluate their digital readiness. The main aim involved in this study was to assess students' knowledge, attitude, and practices with digital agricultural technologies which included identifying sources of first exposure, evaluating student's knowledge and awareness in digital tools for agriculture, analyzing attitudes toward digital technology for agriculture, and checking the relationship between demographic factors and digital skills. Similarly, finding out the relationship between digital technology usage and attitude toward digital technology among students. A quantitative research method was adopted, including 163 students (46% female, 54% male), with only third-year students selected as third-year students have already went through entire curriculum and ready to enter workforce. For data collection, a structured questionnaire was applied and analyzed through both descriptive statistics and inferential statistics including, independent t-tests, and one-way ANOVA test. The major findings of the study revealed that only a small number of students have strong knowledge about digital agricultural technologies, while most of the students had limited awareness or understanding. Student's knowledge in using essential tools such as MS Word, Excel, PowerPoint, and internet was generally low whereas the use of agricultural mobile applications and smartphones was significantly higher among students. Most students were first introduced to digital technologies in agriculture through their educational institutions, and almost all students had access to smartphones and were actively

using social media. Additionally, students' attitudes toward digital technologies were significantly depends upon by access to smartphones, agricultural applications, and knowledge with MS Office tools. However, demographic factors such as age and gender did not show a statistically significant relationship with the attitude toward digital technology in agriculture. From all these findings, it can be concluded that while students have basic awareness and knowledge of digital technology through smartphones and apps but there is a gap in skills with core digital tools and applications usage required for agricultural practice. Furthermore, positive attitudes toward digital technology are also completely dependent upon hands-on access and usage, indicating the need for practical session. As demographic variables showed no significant difference, interventions should focus on curriculum enhancement, practical trainings, and resource availability to strengthen the digital skills of future agricultural professionals.

Conclusion

In conclusion, this study assessed the level of knowledge, attitude and practices of students in using digital technologies from Surkhet district. The findings from this study indicate that knowledge and Practice of digital tools remain low in students despite having their own smartphones and good internet access. Similarly, the actual use of digital applications for agricultural purposes was also found to be limited, highlighting a clear gap between access resource and ability to use digital technology effectively. However, the attitude of students toward digital technology was generally positive.

This study emphsize significant role of schools in introducing digital technologies to the diploma in agriculture program for agricultural purposes aligns with previous findings. There is a requirement for structured training and practical sessions for students to ensure that students can apply their digital skills and knowledge to effective agricultural practices. The practical, hands-on learning environments significantly improve students' ability to use digital tools in farming systems. Therefore, this study indicates that digital skills and attitudes are dependent on programs, such as training sessions, institutional guidance, and practical exposure of students, rather than the demographic background of students.

This study also highlights that students showed they have a basic awareness, knowledge, and a positive attitude toward using digital tools and technologies. The knowledge of digital technologies among students remains insufficient for meeting

the current demands of modern agriculture in the job market. The transformative potential of digital agriculture may not be fully realized. Without intentional integration of digital literacy and applied learning opportunities into the agricultural curriculum, the change is not possible. Overall, this study contributes to understanding the current status of the digital readiness of students and provides insights to support targeted digital capacity building initiatives.

Implications

The findings of this study provide significant implications for stakeholders in agricultural education, policy development, and workforce in Nepal. As digital agriculture becomes increasingly vital in all sector, addressing gaps in students' knowledge, attitudes, and practices is very essential to ensure a digitally skilled agricultural workforce.

The Council for Technical Education and Vocational Training (CTEVT) institutions should slightly change in the Diploma in Agriculture curriculum by integrating practicals on digital tools for better digital agriculture advisories. The special focus must be on agricultural mobile applications for digital agriculture advisory services, farm management, and digital marketing tools for value chain integration. The agricultural applications play a vital role in bridging the new science and technology information to farmers for better decision-making and capacity building in commercial farming practices. According to this study, students possess a very positive attitude toward the use of digital technologies in agriculture, providing best foundation for intervention of digital tools. Every institution should introduce targeted digital literacy programs for first-year students, focusing on essential skills such as internet research for crop and pest management and basic software such as MS Word, Excel and PowerPoint usage.

Instructors can play a very critical role in transferring digital knowledge to students. Continuous professional development programs should be implemented to strengthen faculty members' digital skills. One of the major barriers for adopting digital tools and technology are: limited access to digital infrastructure, such as Network, computer labs in schools and high-speed internet. The Government of Nepal must prioritize digital infrastructure in education by providing proper computer labs for students, introducing the educational mobile applications and upgrading classrooms (Smart classrooms) for a better learning experience. Addressing these

gaps will decrease the digital barriers and provide better learning opportunities for students.

The partnership with different Agri tech companies, industries, and agricultural extension service providers must be very strong to provide students with better exposure to advanced digital tools and industry practices by offering students with internship programs, real-world job market experience. This initiative helps to bridge the gap between theoretical knowledge and practical demands in the agriculture sector. Collaborative initiatives, such as an internship program in industry and collaboration sessions with industry, aiming to bridge the gap between academic learning and real-world practical use of digital technology for students. These results of this study also align very closely with the Digital Nepal Framework 2019, which fosters interpretation technology to drive better economic growth of the country, improvement of service delivery across all sectors of Nepal, including agriculture as well. Integrating my study's recommendations into national level strategy have ability to transform digital technology for agricultural purposes. To make policy frameworks more efficient and effective, there should be set targets for digital literacy and capacity building of students enrolled in the Diploma in Agriculture program. Curriculum revisions, teachers training, and digital literacy programs should be taken as priority interventions under the framework.

The future studies should adopt another study to track how digital literacy and skills levels evolve and how they influence students' career outcomes of students, entrepreneurial skills assessment, and contributions of digital technology to the agricultural sector. In future, the measurement of the effectiveness of curriculum interventions, instructor training programs, and industry partnerships is highly needed. Also, qualitative research is needed to study socio-economic cultural practices, and educational barriers affecting the integration of digital tools and technologies in agricultural education. Action research also could be conducted within institutions to test innovative teaching methods by using digital technology, such as online learning from ZOOM meetings and Google Meet and measure their impact on digital skills. The future studies should investigate more about gender inclusivity, access to digital infrastructure, and socio-economic background in shaping digital adoption.

Development Organization, especially working in the agriculture sector in Surkhet district, should introduce structured digital agriculture program targeting

students with an emphasis on practical skills and digital tools. This program helps to create awareness, early exposure, and skill development of students. Furthermore, this initiative should be handed over to local institutions such as schools, cooperatives, or local government for sustaining this initiative.

My Reflection on this Journey

My dissertation journey has been a memorable learning experience for me. As a researcher, I started this study with the curiosity of understanding students' knowledge, attitude, and practice regarding digital tools and technology in agriculture. By reviewing the literature, policies, and curriculum, I found that there were limited studies specifically focusing on digital technology knowledge and skills of agriculture students in Nepal, which made me realize the importance of this study. There were other studies conducted in other countries, but those studies focused on basic digital literacy of farmers, which highlighted a critical gap in the Nepalese context. So, this study aimed to address this issue. Throughout my entire journey, I have learned several key lessons during my study. Talking about my learnings first, quantitative research needs proper patience and discipline during data collection and data analysis in SPSS. Second, selecting suitable statistical tools must be identified properly to study research questions and generate insightful results. Thirdly, proper explanation and reporting of findings emphasize that the summary is very crucial for creating insightful conclusions.

Lastly, this study has created pathways for future researchers in the digital agriculture sector. There is a high need for exploring long-term impacts of digital literacy programs, socio-cultural barriers to technology adoption, and strategies to enhance practical skills among students.

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APPENDIXES

Official Letter

Kathmandu University
School of Education

4 March 2025

To Whom It May Concern

Mr. Bobin Thapa (KU Reg. no. 033122-22) has been studying Masters in Technical Vocational Education and Training (MTVET) at the School of Education of this University since August 2022. For the completion of his Dissertation, he is conducting research on *"Factors Affecting the Adoption of Digital Agricultural Apps by Student": A Survey of Diploma in Agriculture Students "*.

In the course of his research, he is currently visiting different places where he needs to consult libraries, research centers, educational consultants, schools, related government and non-government organizations, school and private institutions. He is collecting data for his research from educationists, practitioners, policy makers, development activists and educational administrators.

Therefore, I would like to request the concerned organizations and personalities to cooperate him on his research activities.

Prof. Bal Chandra Luitel, PhD
Dean

Questionnaire on Knowledge Assessment of Digital Technology of Diploma in Agriculture Students in Surkhet, Nepal

क. पृष्ठभुमि

१. उमेर - i) १८ मुनि ii) १८-२३ iii) २३ माथि
२. लिंग: i) पुरुष ii) महिला iii) अन्य
३. अभिभावकको शैक्षिक स्थिति र व्यावसायिक स्थिति

विधार्थीको सम्बन्ध	शैक्षिक योग्यता	पेशा
आमा		
बुवा		

४. कृषिमा डिजिटल प्रविधिसँग कत्तिको परिचित हुनुहुन्छ ? i) खासै छैन ii) ठिकै iii) राम्रो सँग
५. डिजिटल कृषि प्रविधि बारे पहिलो पटक कहाँबाट थाहा पाउनु भयो ? i) विद्यालय ii) इन्टरनेट iii) आफै iv) साथीभाई v) अन्य .....

ख. डिजिटल प्रविधिको ज्ञान

आफुलाई ज्ञान भएको कुरालाई (√) चिन्ह लगाउनुहोस

इन्टरनेट अनुसन्धान	कृषि जानकारी	कृषि सम्बन्धि जानकारी	सञ्चार/सञ्जाल
Microsoft Word	Text Eidt/Format	Create Table	Graphics (Word Art/Image)
Micro soft Excel	Edit Sheet	Analyze Data/Formula	Present Charts
Microsoft PowerPoint	Create Slide	Design Slide	Animation
मोबाइल एप	Agriculture Advisory	Weather Forecast	Fertilizer Calculator

	(disease and Pest)		
मौसन जानकारी	Mobile Apps	Internet	TV/Radio
सामाजिक संजाल	WhatsApp/Viber	Email	Zoom/ Google Meet
डिजिटल बजारीकरण	हो, मसँग डिजिटल मार्केटिङको राम्रो बुझाइ छ ।	मैले यसको बारेमा सुनेको छु तर यो कसरी काम गर्दछ भन्ने निश्चित छैन ।	होइन, म कृषिमा डिजिटल मार्केटिङसँग परिचित छैन।
साईबर सुरक्षा	भाइरस	ह्याकिंग	ठग/स्क्याम

ग. डिजिटल प्रविधि तर्फको मनोवृत्ति (आफु सहमतिमा हुने उत्तरमा (√)चिन्ह लगाउनुहोस्)

	एक दमै सह मत	सह मत	निष्प क्ष	असह मत	धेरै असह मत
१. भविष्यमा कृषि गतिविधिहरूलाई अभिलेख राख्न र विश्लेषण गर्न **Microsoft Word** र **Excel** उपयोगी हुन्छ।					
२. कृषिका लागि मोबाइल एपहरूले खेतीलाई सजिलो र प्रभावकारी बनाउँछ।					
३. राम्रो खेती निर्णय गर्न मौसम पूर्वानुमान महत्त्वपूर्ण छ।					
४. सामाजिक सञ्जाल अन्य किसानहरूसँग जडान गर्न र ज्ञान साझा गर्न एक शक्तिशाली उपकरण हो।					
५. डिजिटल औजारले खेतीलाई थप उत्पादक र प्रभावकारी बनाउनेछ।					
६. कृषि समस्याको समाधान खोज्न इन्टरनेट आवश्यक छ।					
७. डिजिटल मार्केटिङ कृषि उत्पादनहरू सिधै उपभोक्ताहरूलाई बेच्ने एक बहुमूल्य माध्यम हो ।					
८. साइबर सुरक्षा खेती अभिलेख र अनलाइन लेनदेनको सुरक्षाको लागि महत्त्वपूर्ण छ।					
९. **Microsoft PowerPoint** खेती विचारहरू प्रस्तुत गर्न र ज्ञान साझा गर्न धेरै उपयोगी छ।					
१०. बाली उत्पादन र खेती खर्च ट्र्याक गर्न एक्सेल प्रभावकारी छ।					

घ. डिजिटल प्रविधिको प्रयोग (आफु सहमतिमा हुने उत्तरमा (√)चिन्ह लगाउनुहोस्)

१. के हजुरसँग आफ्नो स्मार्ट फोन छ ?

i) छ ii) छैन

२. के हजुरसँग आफ्नो ल्यापटप छ ?

i) छ ii) छैन

३. हजुरले इन्टरनेट कतिको चलाउनु हुन्छ ?

i)कहिले पनि चलाउदिन ii) कहिले कहिँ iv) धेरै जसो v) सधै चलाउछौ

४. हजुरले डिजिटल प्रविधि कता धेरै चलाउनु हुन्छ ?

i) विद्यालय ii) घर iii) दुवै

५. हजुरले धेरै जसो कुन चाही उपकरण प्रयोग गर्नु हुन्छ ?

i) ल्यापटप ii) समार्ट फोन iii) कम्प्युटर iv) ट्याब्लेट

६. हजुरको इन्टरनेट के का प्रयोग गर्नु हुन्छ ?

i) मनोरञ्जन ii) शिक्षा iii) सम्बाद iv) अन्य _____

७. के हजुरको विधालयमा प्रयोग गर्नका लागि पर्याप्त कप्यूटर छन् ?

i) छन् ii) छैन

यदि छन् भने त्यी कम्प्युटरहरुको अवस्था कस्तो छन् ?

(१ देखि ५ सम्म रेट गर्नुहोस) _____

७. हजुरले **Microsoft Word** कतिको चलाउनु हुन्छ ?

i)कहिले पनि चलाउदिन ii) कहिले कहिँ iii) धेरै जसो iv) सधै चलाउछौ

८. हजुरले **Microsoft Excel** कतिको चलाउनु हुन्छ ?

i)कहिले पनि चलाउदिन ii) कहिले कहिँ iii) धेरै जसो iv) सधै चलाउछौ

९. हजुरले **Microsoft PowerPoint** कतिको चलाउनु हुन्छ ?

i)कहिले पनि चलाउदिन ii) कहिले कहिँ iii) धेरै जसो iv) सधै चलाउछौ

१०. के हजुर तलका कुनै मोबाइल एप सँग सम्बन्धित हुनुहुन्छ ?

i) **GeoKrishi** ii) **SmartKrishi** iii) कुनै पनि छैन iv) अन्य_____

११. हजुरले यी एपहरु कतिको प्रयोउ गर्नु हुन्छ ?

i) कहिले पनि चलाउदिन ii) कहिले कहिँ iii) धेरै जसो iv) सधै चलाउछौ

१२. यदि मोबाइल एप प्रयोग गर्नु भएको छ भने, कुन कारणको लागि प्रयोग गर्नु भएको छ ?

i) मनोरञ्जन ii) शिक्षा कृषि सम्बन्धि जानकारी iv) अन्य _____

१३. कृषि सम्बन्धि मौसम जानकारी हेर्न हजुरले कुन डिजिटल प्रविधिको प्रयोग गर्नु हुन्छ ?

i) कृषि एप ii) इन्टरनेट iii) टि भी/ रेडियो iv) म प्रयोग गर्दिन

१४. मौसम जानकारी हजुरले कतिको हेर्ने गर्नु भएको छ ?

i) सधै ii) हप्तामा एक चोटी iii) महिनामा एक चोटी

१५. के हजुरले कृषि जानकारी हेर्न सामाजिक संजाल प्रयोउ गर्नु हुन्छ ?

i) गर्छु ii) गर्दिन

१६. *यदि गर्नु हुन्छ भने कुन गर्नु हुन्छ ? (सबै गर्नुहुन्छ भने सबैमा टिक लाउनुहोस)*

i) फेसबुक ii) युत्युब iii) व्हाट्सएप iv) अन्य.....

१७. यदि गर्नु हुन्छ भने के प्रयोगका लागि

i) मनोरञ्जन ii) शिक्षा iii) सम्बाद (Communication) iv) अन्य .....

१८. के तपाईंले कहिल्यै साइबर-सम्बन्धित समस्याहरूको सामना गर्नुपरेको छ (उदारण:scams or hacking)?

i) छ, धेरै चोटी ii) छ, कहिले काही

iii) छैन तर मलाई पूर्ण जानकारी iv) खासै परेन

१९. हजुरहरुले साइबर-सम्बन्धित समस्याहरूको पर्यो भने पहिलो काम के गर्नु हुन्छ ?

i) नजिकैको प्रहरीमा सम्पर्क गर्छु ii) इन्टरनेटको कार्यालयमा

iii) अरु साथीहरुबाट जानकारी लिन्छु iv) खासै मतलब गर्दैन