Chapter III

Research Methodology

Research methodology is a systematic approach and techniques used to conduct research (Kothari, 2019). It encompasses the methods and procedures for data collection, analysis, and interpretation, ensuring that the research is reliable, valid, and objective. It encompasses the study area, sample selection, data collection methods, statistical techniques employed for data analysis, and hypothesis development. The methodological approach of the research covers the following aspects.

3.1 Research Design

The research design adopted in the study is presented as follows.

Locale of the Study

The Palakkad District in Kerala, India (Figure 1), has been selected as the study area. According to the Economic Review (2023), Kerala has consistently maintained its position as the most developed state in India based on key social development indicators, including exceptional literacy rates, reduced infant mortality rates, advanced healthcare infrastructure, and comprehensive educational systems.

The State of Kerala has implemented a comprehensive ecosystem to support entrepreneurship development through multiple strategic initiatives and institutional frameworks. The Government of Kerala allocates one per cent of its annual budget specifically for entrepreneurship development, making it the only Indian state with fiscal prioritisation (Government of Kerala, 2022). This commitment is operationalised through integrated support mechanisms, including financial assistance programs, technology business incubators, and specialised sector-focused initiatives. Further, Kerala Financial Corporation offers tailored financial products with favourable terms for first-Duration entrepreneurs (Kerala Financial Corporation, 2021), while the state has established over 40 technology business incubators within educational institutions, creating innovation clusters throughout the region (Directorate of Industries & Commerce, 2023). Additionally, Kerala addresses human capital development through targeted skill enhancement programs, notably the Young Innovators Programme within higher education institutions and the Women Entrepreneurship Development Programme, which has trained over 25,000 women

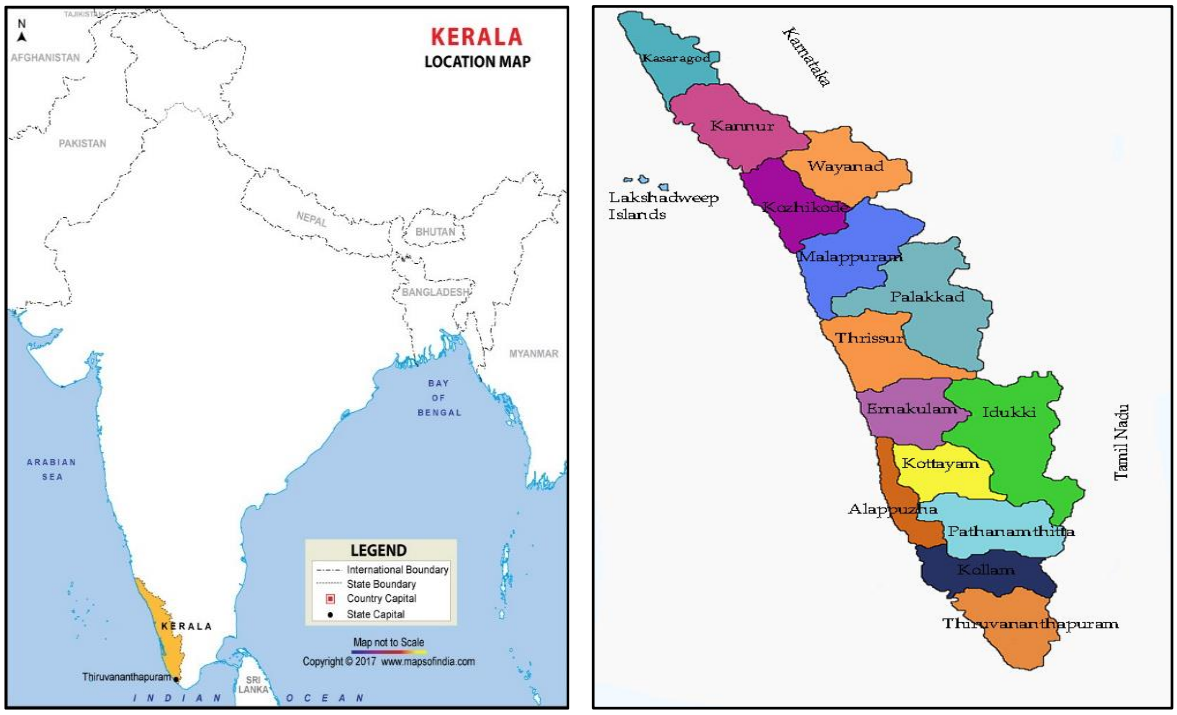
entrepreneurs since 2018 (Kerala State Women's Development Corporation, 2023). This multidimensional approach is augmented by digital infrastructure investments, including the Kerala Fibre Optic Network (K-FON) and Digital Kerala Platform, which collectively reduce structural barriers to entrepreneurship and enable digital business models across both urban and rural areas (IT Department, Government of Kerala, 2023). Thus, Kerala has strategically positioned itself as a digitally progressive state and has increased entrepreneurial opportunities beyond formal or organised sectors. These foundational elements create a conducive environment for entrepreneurial growth in the state.

The informal sector plays a crucial role in Kerala's economy, contributing approximately between 30 and 35 per cent to the state's Gross Domestic Product (GDP) and employing over 40 per cent of the workforce, particularly in areas including handloom, handicrafts, food processing, and small-scale representing a cornerstone of the state's economic activity (Kerala State Planning Board, 2022). Self-employed individuals make up the largest portion of the informal sector. Women contribute approximately 15-20 per cent to Kerala's informal sector output, representing a critical component of household incomes across the state. Their economic activity generates roughly 18 per cent of the informal sector's Gross State Domestic Product (GSDP) contribution.

Palakkad District, the industrial hub in Kerala, plays a crucial role in the state's economic and manufacturing landscape. Furthermore, the city has been designated as a key component of the Industrial Corridor Project, positioning it as an Industrial Smart City. This initiative has enhanced business and infrastructural opportunities and technological advancements to support industrial growth and entrepreneurship (NICDC, 2023).

Figure 2: Geographical Location of the study

India **Kerala**



Taluks of Palakkad District

Population

A population is a total group of individuals, items, or elements that exhibit shared characteristics relevant to the research objectives. It serves as the foundation for drawing conclusions and generalizing findings, making its precise definition and identification critical to the validity of the study (Casteel et al.,2021) In line with the objectives, the study targets women entrepreneurs in the informal sector of the Palakkad District, Kerala.

Research Methods

The Quantitative research incorporates both descriptive and analytical approaches in the study. The Descriptive methods document with analysing key characteristics of specific populations or groups (Tracy et al.,2024). Analytical research methods enable the systematic validation of hypotheses and the examination of variable relationships within empirical contexts (Pregoner, 2024)

Sample Framework

The sampling framework refers to the database encompassing all elements of the population from which a sample is selected.

For this study, the database of women beneficiaries from the informal sector who underwent vocational training with Jan Shikshan Sansthan (JSS), Palakkad, during 2021–2022 was utilized. Women entrepreneurs in the informal sector who were willing to participate in digital competency training and provide data through the questionnaire were identified as the sample of the study. The sampling design is depicted in Figure 3.

Sampling Technique

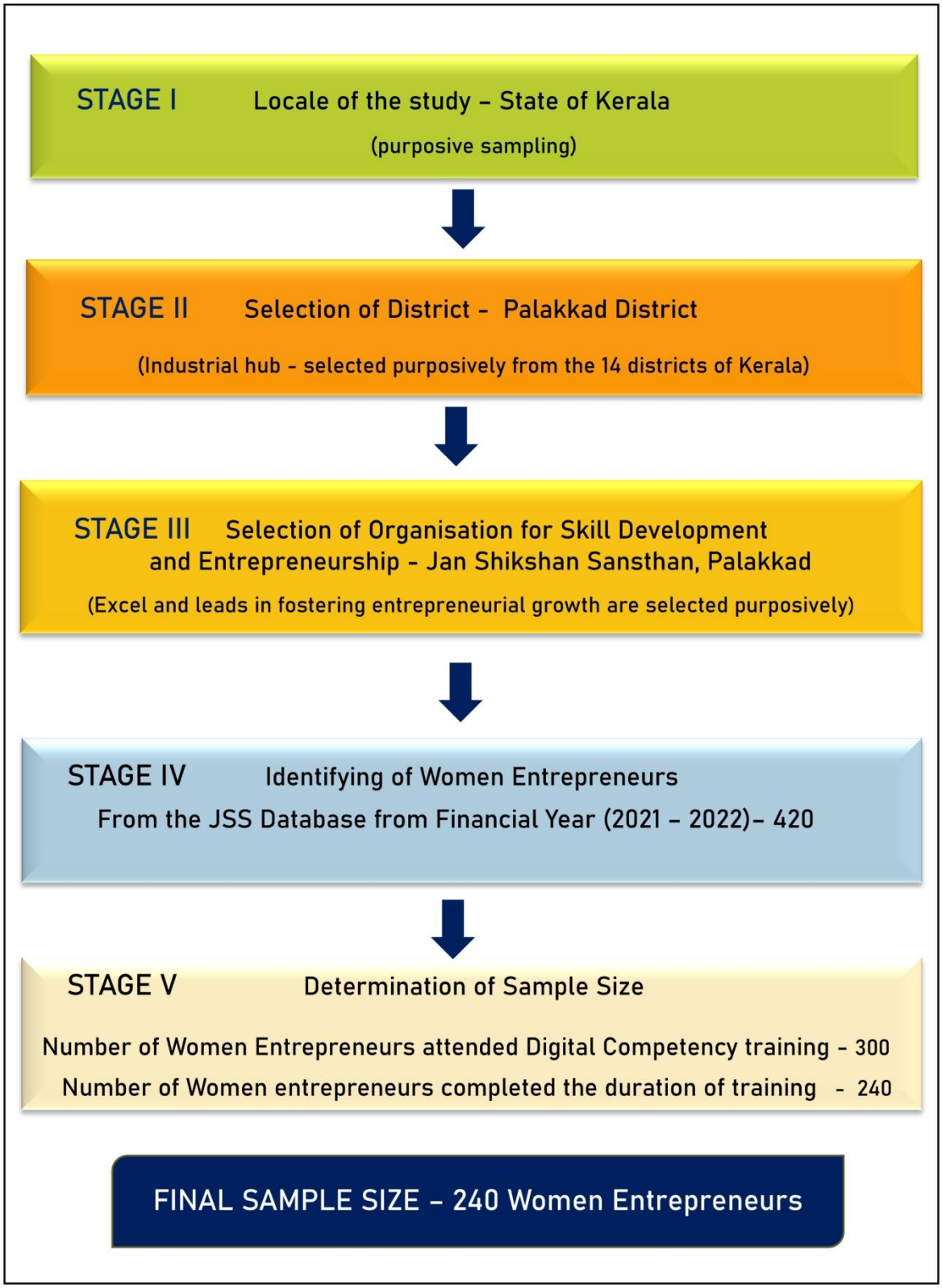
The sample respondents were selected by applying the Multistage Sampling technique.

In the first stage, the state of Kerala has been purposively selected. For administrative purposes, it is divided into 14 districts.

In the second stage, the Palakkad district, a hub of registered small and medium enterprises that witnessed the predominant emergence of informal entrepreneurs setting up tiny business units, is purposively selected from the 14 districts of Kerala.

In the third stage, JSS functions in the district of Palakkad have been identified to locate the sample respondents. Established under the Ministry of Skill Development and Entrepreneurship, Government of India. JSS has a solid presence in all districts of Kerala,

Figure 3 Sampling Design



promoting occupational skills and technical knowledge to marginalized groups, particularly women in the informal sector. JSS Palakkad stands out as one of the leading districts in fostering entrepreneurial growth, actively facilitating skill development, and empowering individuals to establish sustainable livelihoods that contribute to the local economy. It encourages local trade to flourish and creates new opportunities for the region's residents.

In the fourth stage, the database of women entrepreneurs in the informal sector who underwent occupational skill training with JSS, Palakkad, during the financial year 2021–2022, was obtained. A total of 420 women entrepreneurs from the informal sector benefited from the initiative. The researcher obtained permission from JSS to invite the same 420 respondents and provide training in digital competency to women entrepreneurs who completed their training in 2021-2022.

The fifth stage involves determining the sample size. With prior permission from JSS, the researcher invited 420 women entrepreneurs to participate in a training program on digital competency for business operations. Among the invitees, 300 women entrepreneurs accepted the invitation and actively participated in the 35-hour Digital Competency Training Program, designed to enhance their efficiency in business operations. A total of 240 women entrepreneurs completed the entire training program, forming the final sample size for the study.

The questionnaire was administered to women entrepreneurs to assess their digital competency before providing the Digital Competency training. After the training, the same questionnaire was administered to measure the improvement and effectiveness of the training.

A total of 240 women entrepreneurs who attended all sessions of the training program and participated in both the pre- and post-assessments for digital competency training constitute the final sample size of 240 respondents. Further, the Taluk-wise distribution of sample respondents is provided in Table 3.1

Table 3.1 Taluk wise distribution of Sample Respondents

Taluks in Palakkad	JSS trained Women Entrepreneurs (2021 -2022)	Number of sample Women entrepreneurs who participated in the Digital Competency training.	Number of sample Women Entrepreneurs who completed 35 hours of Digital Competency training.
Palakkad	96	65	52
Alathur	65	45	38
Ottapalam	71	46	38
Mannarkkad	73	55	43
Pattambi	61	42	36
Chittur	54	47	33
Total	420	300	240

Source: JSS Palakkad (2021-2022)

Sources of Data Collection

Primary and secondary data were used for the study. The primary data were collected using a well-structured questionnaire. The secondary data were employed to reinforce the empirical findings of the proposed study, obtained from previous studies, journal articles, textbooks, newspapers, reports, conference proceedings, and official websites.

Tools for Data Collection

The questionnaire for the study was designed based on a literature review (Appendix II). The questionnaire includes six sections. second section relates to digital infrastructural facilities available to women entrepreneurs. The third section includes the statements to assess the training intervention on Digital Competency given to the women entrepreneurs. The fourth section covers the determinants of technology adoption and actual usage, including Digital Competency, Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Condition, Behavioural Intention and Actual Usage of women entrepreneurs in the informal sector. The construct and the corresponding sources are displayed in Table 3.2.

Table 3.2 Research Constructs of the Study and Sources

Constructs	Sources
Digital Competency	Cheng &Wang (2025), Gupta et al. (2025), Sharma & Rao (2025)
Performance Expectancy	Venkatesh et al. (2003), Azab and Elsheriff (2025), Bedaduri et al. (2024)
Effort Expectancy	Thomas and Mathew (2023), Yuen et al. (2021), Eze et al. (2019)
Social Influence	Sumathi and Sunitha (2024), Naidu and Raj (2019), Hassan et al. (2020)
Facilitating Condition	Mohanraj and Kaur (2020), Nazir and Khan et al. (2024), Kamdmoug et al. (2020)
Behaviour Intention	Ali and Abdi (2023), Ncube and Kachere (2021), Patel and Singh (2018)
Actual Usage	Ilangovan and Menaka (2024), Njeri and Kimani (2024), Lekshmi and Varghese (2022)

Source: Compiled Data

Common Method Bias

Common Method Bias (CMB) occurs when measurement errors or survey design issues create artificial correlations between variables. CMB can distort results, making relationships appear stronger or weaker than they are. For PLS-SEM, CMB is detected through a full Collinearity assessment approach (Kock, 2015). VIF values should be lower than the 3.3 threshold (Hair et al., 2017; Kock, 2015). This is indicative that the model is free from common method bias

Validating the Content

Establishing validity is essential for ensuring the reliability and effectiveness of research instruments. Content validity, which measures the degree to which an instrument adequately covers the subject under investigation (Kothari and Garg, 2014), was a key focus in this study. The questionnaire on the Acquisition and Adoption of Digital Competency by Women in the Informal Sector was systematically developed to align with the study's objectives.

The validation process involved a critical review by a panel of experts, including digital literacy educators, subject specialists, and statistical experts. Their comprehensive feedback led to revisions that enhanced the questionnaire's clarity, relevance, and scope.

These refinements ensured that the finalized tool provided a robust framework for evaluating digital competency.

To address potential language barriers and facilitate better understanding among informal women entrepreneurs, the questionnaire was translated into Malayalam, their native language. This translation was carefully managed to preserve the original intent and accuracy of the content. The final version was meticulously reviewed by a Malayalam language expert, whose insights ensured that the linguistic nuances and cultural appropriateness were upheld, resulting in a coherent and accessible tool.

Ethical Consideration

Researchers are morally obligated to perform research objectively to ensure that available data are utilised to develop unbiased or fact-based research. Ethical responsibility is a crucial step of the study, which necessitates keeping on the leading edge of every research. Ethical practices are the guidelines that lead the researcher to do the study without deception, ensuring its authenticity. The present emphasis is shifting towards safeguarding respondents' rights and protection.

The researcher ensures that the respondents' information is kept secure and anonymous at every stage of the statistical survey. The assurance was given to the participants that their responses would not be linked to their identity would be a comforting factor that inspires them to share additional details.

The prior consent of selected women entrepreneurs in the informal sector who received training in digital competency had been obtained in advance. The research was completely discretionary for the entrepreneurs to participate. The respondents were allowed to interrupt their involvement with the researcher during the data collection. The researcher guaranteed to maintain the confidentiality of the data provided by the participants and refrained from gathering any personal information outside the scope of the study.

The study has received human ethical clearance from the Institutional Human Ethical Committee [Approval Number - **AUW/IHEC/COM-21-22/XPD - 2022 [Appendix V]**, affirming its compliance with fundamental ethical standards. This approval ensures that the research complies with established guidelines, safeguarding participant rights, confidentiality, and well-being throughout the study.

Data Collection Period

The study was conducted from June 2021 to March 2022, with respondents taking 20 minutes to complete the questionnaire.

Pre-test and Pilot Study

A pre-test was conducted to assess the completeness of the questionnaire and make appropriate corrections. A pilot study with a convenience sample of 50 informal women entrepreneurs was conducted to verify the questionnaire's order, clarity, and phrasing, as well as to identify the response Duration. Appropriate statistical analysis was done to determine the relationship between the variables to determine the desirable outcome. Hence, the questionnaire was finalised, and these 50 responses were excluded from the final analysis.

In the process of the Pilot study, the sequence of the questionnaire items was reviewed and reorganized to reduce respondent fatigue and provide a better understanding.

The type of Information & Communication Technology (ICT) devices do you have and use at workplace question has been changed from categorical scale of yes or no to Likert scale with an inherent order, such as "Yes, and I use it," "Yes, but I don’t use it," and "No." Further, the average Duration required to complete the questionnaire was assessed to ensure it was reasonable, and it has been increased from 15 to 20 minutes. It was also decided to explicitly guide participants on how to answer each question.

Normality Testing

The One-Sample Kolmogorov-Smirnov test was conducted to determine the normality of data distribution across determinants of technology adoption and actual usage of technology, including Digital Competency (DC), Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Facilitating Conditions (FC), and Actual Usage (AU) shown in the Table 3.3 and 3.4. The results demonstrated that all constructs had significance values below 0.05 ($p = 0.000$), leading to the rejection of the null hypothesis, which assumes the data follows a normal distribution. Consequently, it was concluded that the data for all constructs deviates from a normal distribution, thereby necessitating non-parametric methods for subsequent analyses to ensure the reliability of the findings.

Table 3.3 One-Sample Kolmogorov-Smirnov Test for Dimensions of Digital Competency

Constructs	Normal Parameters		Most Extreme Differences			KS - Z	Asymp. Sig. (2-tailed)
	Mean	Std. Dev	Absolute	Positive	Negative		
Digital Proficiency	1.461458	.4881696	.350	.350	-.230	5.417	.000
Digital Productivity	1.435833	.4785431	.346	.346	-.200	5.362	.000
Information Literacy	1.440625	.4707619	.349	.349	-.235	5.402	.000
Data Literacy	1.440000	.4556296	.364	.364	-.228	5.638	.000
Media Literacy	1.487500	.4985626	.361	.361	-.219	5.587	.000
Digital Creation	1.412500	.4734035	.425	.425	-.255	6.578	.000
Digital Research and Problem-Solving	1.440000	.4892826	.381	.381	-.244	5.909	.000
Digital Communication	1.388542	.3922283	.348	.348	-.231	5.394	.000
Digital Collaboration	1.187500	.4869102	.242	.242	-.095	3.751	.000
Digital Participation	1.456667	.4687263	.352	.352	-.223	5.448	.000
Digital Learning	.954167	.6058611	.143	.143	-.079	2.214	.000
Digital Teaching	.881944	.6235335	.148	.148	-.105	2.298	.000
Digital identity management	1.425000	.4343727	.364	.364	-.227	5.647	.000
Digital Wellbeing	.684722	.5088687	.199	.199	-.125	3.090	.000

Source: *Computed Data (KS-Z -Kolmogorov-Smirnov, M- Mean, Std Dev- Std. Deviation)*

Table 3.4 One-Sample Kolmogorov-Smirnov Test for Determinants of adoption and Actual Usage of technology

Constructs	Normal Parameters		Most Extreme Differences			KS- Z	Asymp. Sig. (2-tailed)
	M	Std dev	Absolute	Positive	Negative		
BI	4.39	.66	.162	.132	-.162	2.502	.000
PE	4.21	.64	.155	.111	-.155	2.406	.000
EE	4.16	.70	.153	.116	-.153	2.374	.000
SI	4.10	.68	.152	.124	-.152	2.356	.000
FC	4.15	.69	.149	.112	-.149	2.308	.000
AU	4.02	.73	.140	.103	-.140	2.171	.000

Source: *Computed Data (KS-Z -Kolmogorov-Smirnov, M- Mean, Std Dev- Std. Deviation, BI – Behaviour Intention, PE- performance expectancy, EE- Effort Expectancy, SI- Social Influence, FC – Facilitating conditions, Actual Usage- AU)*

Reliability Test

Reliability refers to the accuracy and consistency of the measurement scale used to collect primary data. Reliability and internal consistency are tested through Cronbach's alpha values. An Alpha value greater than 0.70 is considered reliable (Nunnally. 1978). The reliability score for the study constructs is presented in Table 3.5

Table 3.5 Reliability Coefficient

Construct	Cronbach Alpha Value
Digital Competency	0.843
Performance Expectancy	0.892
Effort Expectancy	0.882
Social Influence	0.821
Facilitating Condition	0.890
Behavioural Intention	0.863
Actual Usage	0.863

Source: Computed Data

3.2 Development of Conceptual Framework

The conceptual framework gives the research an intuitive and rational direction. The variables included and their predicted relationships are comprehended by developing a conceptual framework. Based on the literature review of empirical study, UTAUT theoretical framework has been proposed to determine the Influence of antecedents of behaviour intention of entrepreneurs to adopt and use technology and its subsequent impact. The UTAUT model in the study encapsulates the independent variables relevant to the behavioural Intention of entrepreneurs towards technology adoption, which include DC, PE, EE, SI, and FC on BI. Further, the actual use of technology is identified as the dependent variable. The list of variables incorporated in the model is depicted in Figure 4.

Figure 4: Variables Identified

Independent Variable	Dependent Variable
Digital Competency **Performance Expectancy** **Effort Expectancy** **Social Influence** **Facilitating Condition**	**Behaviour Intention** **Actual Usage**

Independent Variables

In the present study, the adoption of digital competency involves the Influence of Digital Competency, Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions, identified as independent variables.

Digital Competency

Digital competency refers to the critical knowledge, skills, and attitudes necessary to effectively, critically, and responsibly use digital tools and technologies, including communication, collaboration, and problem-solving in personal and professional contexts.

Performance Expectancy

Performance Expectancy is the belief that using a particular technology or system will improve task performance, efficiency, and outcomes. It is a critical construct in the Unified Theory of Acceptance and Use of Technology (UTAUT) model. It has been consistently identified as a significant predictor of an individual's behavioural Intention to adopt and use technology (Venkatesh et al., 2003). This concept emphasises how individuals perceive the practical benefits of technology in helping them achieve their objectives, whether in professional, educational, or personal contexts. In a business environment, Performance Expectancy includes expectations about enhanced productivity, Duration-saving capabilities, improved quality of work, and the ability to achieve specific goals more effectively through technology. It represents their perception of how digital tools, including financial management software, marketing applications, or customer relationship platforms, can contribute to better business outcomes (Matharu et al.,2022).

Effort Expectancy

Effort Expectancy refers to the ease users can effectively learn and utilise technology or systems. It highlights the importance of intuitive interfaces and user-friendly designs that simplify adoption, especially for individuals with limited technical expertise. For informal women entrepreneurs, technologies with high effort expectancy, such as mobile banking apps or communication platforms, reduce the barriers to learning new systems. This ease of use encourages quicker adoption, minimises the need for extensive training, and allows entrepreneurs to focus on core business activities (Ahmad et al.,2023). By lowering the complexity of technology, effort expectancy enhances productivity, builds confidence, and fosters a willingness to adopt additional tools, thereby supporting business growth and operational efficiency.

Social Influence

Social Influence plays a significant role in technology adoption among informal women entrepreneurs, especially in contexts with strong community ties and networks. In the informal sector, technology adoption is often driven by recommendations,

encouragement, and the behaviours of peers, family members, or influential community figures. The adoption of digital tools, such as financial management applications or marketing platforms, by women entrepreneurs is positively influenced by the usage of these technologies among their peers who are successful or share similar business experiences within their social network (Ahmad et al., 2023) The perceived social approval and Influence from these trusted networks can reduce fears and uncertainties related to technology use, which are common barriers in the informal sector.

Facilitating Conditions

Facilitating conditions are the external factors that enable or support technology adoption and effective use. These include having access to the necessary resources, infrastructure, technical support, and knowledge to use a particular technology successfully. Facilitating conditions ensures users have the tools, assistance, and environment needed to overcome barriers to technology adoption. Further training programs, workshops, and community initiatives that provide guidance and build confidence in using technology also serve as important enablers.

Technical support is another vital facilitating condition. Women entrepreneurs in informal sectors often face challenges using technology due to a lack of expertise. Access to help desks, peer networks, or troubleshooting guides can address these issues and promote sustained usage. Additionally, favourable policies and financial support, such as subsidies or grants for adopting digital tools, can ease the transition to using technology.

Dependent Variable

The two key dependent variables have been identified: Behaviour intention and Actual Usage.

Behaviour Intention

Behavioural Intention to adopt technology is an individual's propensity or willingness to engage and utilise a specific technology influenced by their perceptions of its utility, ease of use, and the social context in which it operates. It serves as a predictive measure of actual technology usage, capturing the extent to which individuals are inclined to incorporate digital tools into their regular activities. This Intention is shaped by various factors, including the perceived advantages of the technology, the effort required to learn and use it, external influences such as encouragement from peers, family, or societal norms and the technical support received by informal women entrepreneurs (Rahman et al.,2021)

Among informal women entrepreneurs, behavioural Intention is a pivotal determinant in adopting digital technologies. Entrepreneurs are more likely to integrate digital tools into their business operations if they perceive that these tools can enhance operational efficiency, expand market access, and improve profitability. Positive reinforcement through accessible training programs, user-centric technology design, and the visible success of peers who have benefited from adopting technology can further strengthen their Intention. Conversely, barriers such as apprehension about technological complexity, lack of confidence in digital skills, and insufficient access to supportive resources diminish this inclination**.**

Actual Usage

Actual usage of technology refers to the practical application and consistent use of digital tools, platforms, or systems in daily activities, particularly within business operations. Unlike behavioural Intention, which measures the likelihood of adopting technology, actual usage represents the tangible integration of technology to achieve specific goals. It encompasses activities such as using mobile payment systems, managing business processes through software, and leveraging digital platforms for marketing and customer engagement (Venkatesh et al., 2012).

For informal women entrepreneurs, actual usage is critical to unlocking the benefits of digital transformation. It enables streamlined processes, enhanced productivity, and expanded market reach. Research indicates that entrepreneurs who actively use technology are more likely to achieve financial efficiency, improve customer satisfaction, and enhance decision-making capabilities through access to real-time data (Ahmad et al., 2023). However, barriers such as inadequate digital literacy, lack of infrastructure, and limited access to affordable technology can hinder actual usage despite high behavioural Intention (Kumar & Sharma, 2025).

Hypotheses Development

The technology adoption model for Women Entrepreneurs in the Informal Sector identifies relationships from diverse research. The constructs and their relationships are discussed in the following section.

Digital Competency and Performance Expectancy

The relationship between digital competency and performance expectancy is integral in understanding technology adoption, especially in the context of entrepreneurship. Digital competency refers to an individual's ability to effectively use digital tools, while

performance expectancy refers to the belief that technology will improve one's performance or productivity (Venkatesh et al., 2003). Individuals with higher digital competency are more likely to perceive technology as beneficial, thus enhancing their performance expectancy (Laar et al., 2020). Entrepreneurs with strong digital skills view technology as a valuable asset that can significantly boost business performance. These entrepreneurs recognise that digital tools can help them streamline operations, improve decision-making, and expand market reach A study by (Panigrahi et al.,2021).

Digital competency increases, and individuals gain the confidence to explore and utilise technological solutions that will contribute to better business outcomes. Moreover, Dwivedi et al. (2022) found that digital competency is pivotal in shaping performance expectancy for women entrepreneurs, particularly in informal sectors. This relationship is critical for fostering technology adoption, as a stronger sense of performance expectancy can lead to a greater willingness to integrate digital tools into business operations. The relationship is tested through the formulating hypotheses.

H4: Digital competency Positively influences the Performance Expectancy of Select Women entrepreneurs in the Informal Sector

Digital Competency and Effort Expectancy

The relationship between digital competency and effort expectancy is vital in understanding technology adoption, particularly among small-scale entrepreneurs, including women in the informal sector. Effort expectancy refers to the perceived ease of technology use, a key factor influencing adoption (Venkatesh et al., 2003). Digital competency, encompassing the skills necessary to use digital tools effectively, directly impacts this perception. Higher digital competency often leads to lower effort expectancy, as individuals with stronger digital skills find technology easier to use (Laar et al., 2020). For instance, women entrepreneurs with higher digital competency are more likely to adopt business management tools and e-commerce platforms, perceiving them as user-friendly and valuable for business enhancement (Panigrahi et al., 2021).

Studies suggest that confident users with strong digital skills experience lower perceived effort in adopting digital technologies, which leads to higher adoption rates (Chatterjee et al., 2021). For informal women entrepreneurs, improving digital competency through training can reduce barriers to technology adoption, making digital tools more accessible (Dwivedi et al., 2022). In conclusion, enhancing digital competency lowers the

perceived effort needed to use technology, facilitating its integration into business operations for informal women entrepreneurs, thus promoting broader adoption of digital solutions.

The relationship is tested through the formulating hypotheses.

H_5: Digital Competency positively influences Effort Expectancy of select women entrepreneurs in the Informal Sector

Performance Expectancy and Behaviour Intention

The expectation of performance improvements is a critical determinant of technology adoption, as individuals are more inclined to utilise IT innovations if they believe these tools will enhance their productivity and provide tangible benefits (Venkatesh & Zhang, 2010). Entrepreneurs tend to prioritise the benefits that new opportunities can provide to improve their enterprise's performance (Holzmann & Gregori, 2023). Hence, several studies claim a predominant Influence of performance expectancy towards the technology adoption intention of entrepreneurs (Olasina et al., 2015; Al Saedi et al., 2020). In contrast, an inverse relationship between performance expectancy and behaviour intention was found. (Camilleri et al., 2024; Moghavvemi et al., 2017) The relationship is tested through the formulating hypotheses.

H_6: Performance expectancy positively influences the behavioural Intention of select women entrepreneurs in the Informal Sector

Effort Expectancy and Behaviour Intention

The ease of using an information system is a key concern for users. A system that is overly complex or has a difficult-to-navigate interface can deter users from adopting it (Byun & Finnie, 2011). Perceived ease of use can enhance user performance, as the convenience and confidence gained from handling the system can positively influence their Intention to use (Tannady et al., 2024; Chong, 2013). Hence, effort expectancy is the second important predictor of technology adoption. In contradiction, a negative relationship between Effort expectancy and Behaviour intention was found in studies (Ali et al., 2024; Kabra et al., 2017). This relationship is tested through the formulation of hypotheses.

H_7: Effort expectancy positively influences the behavioural Intention by select women entrepreneurs in the informal sector

Social Influence on Behaviour Intention

Individuals' behaviours, feelings, and beliefs are often influenced by their peers, superiors, and the opinions of other important people they value (Kelman, 1958; Venkatesh et al., 2003). Social Influence has been a key factor incorporated in major technology adoption models, with varied conceptualisations such as subjective norms, social capital, group norms, and social identity shaping technology adoption behaviours (Lorenz & Buhtz, Chopdar et al., 2018; Chao, 2019). Consequently, social Influence has been regarded as a predictor of behavioural Intention to adopt new technologies. Conversely (Trivedi et al., 2022; Nassar et al., 2019) claim a negative relationship between Social Influence and behavioural Intention to adopt the technology. This relationship is tested through the formulation of hypotheses.

H8: Social Influence positively influence behavioural intention of select women entrepreneurs in the Informal Sector

Facilitating Condition on Behaviour Intention

Ensuring the availability of adequate resources is crucial for unlocking the full potential of information technology and driving its widespread adoption (Onaolapo & Oyewole, 2018). It encompasses the availability of financial resources, software, and hardware and, most importantly, upskilling to get updated to technology (Venkatesh et al., 2003). The empirical evidence from prior studies (Shahadat et al., 2023; Purwanto et al., 2020) indicated that facilitating conditions have positively influenced the behavioural Intention of select women entrepreneurs in the Informal sector to adopt the technology. In comparison, the study (Utomo et al., 2021; Abubakar & Ahmad, 2013) diminishes the Influence of facilitating conditions on behaviour intention to adopt the technology. This relationship is tested through the formulation of hypotheses.

H9: Facilitating Conditions positively influence the behavioural Intention of select women entrepreneurs in the Informal Sector to adopt the technology.

Behaviour Intention and Actual Usage

Behavioural Intention refers to an individual's willingness or plan to engage with a particular technology, driven by perceived usefulness, ease of use, and social influences (Venkatesh et al., 2003). It predicts actual usage, the extent to which a person incorporates and interacts with the technology in their daily activities (Davis, 1989). While behavioural Intention is a key determinant, the gap between Intention and actual usage can arise due to

external factors such as accessibility, resource availability, and training (Bhati et al., 2022). For informal women entrepreneurs, behavioural Intention plays a critical role in shaping the likelihood of adopting digital tools. Positive behavioural intentions, driven by the perceived benefits of technology, often lead to greater technology adoption. However, actual usage is contingent on facilitating conditions, such as training programs and digital infrastructure access, enabling individuals to translate their intentions into practice (Liao et al., 2020). Therefore, while behavioural Intention provides insight into a user's willingness, actual usage is a more reliable indicator of successful technology adoption, highlighting the importance of ensuring supportive conditions that foster the transition from Intention to practice (Sadiq et al., 2021). The relationship between behavioural Intention and actual usage underscores the importance of fostering positive attitudes toward technology and addressing external barriers that can influence the realisation of these intentions. Thus, ensuring adequate training, support, and resources is essential for bridging the gap between intention and actual usage in the context of technology adoption among informal women entrepreneurs.

This relationship is tested through the formulation of hypotheses.

H10: Behaviour Intention positively influences the actual usage of technology by select women entrepreneurs in the informal sector

Digital Competency and Actual Usage

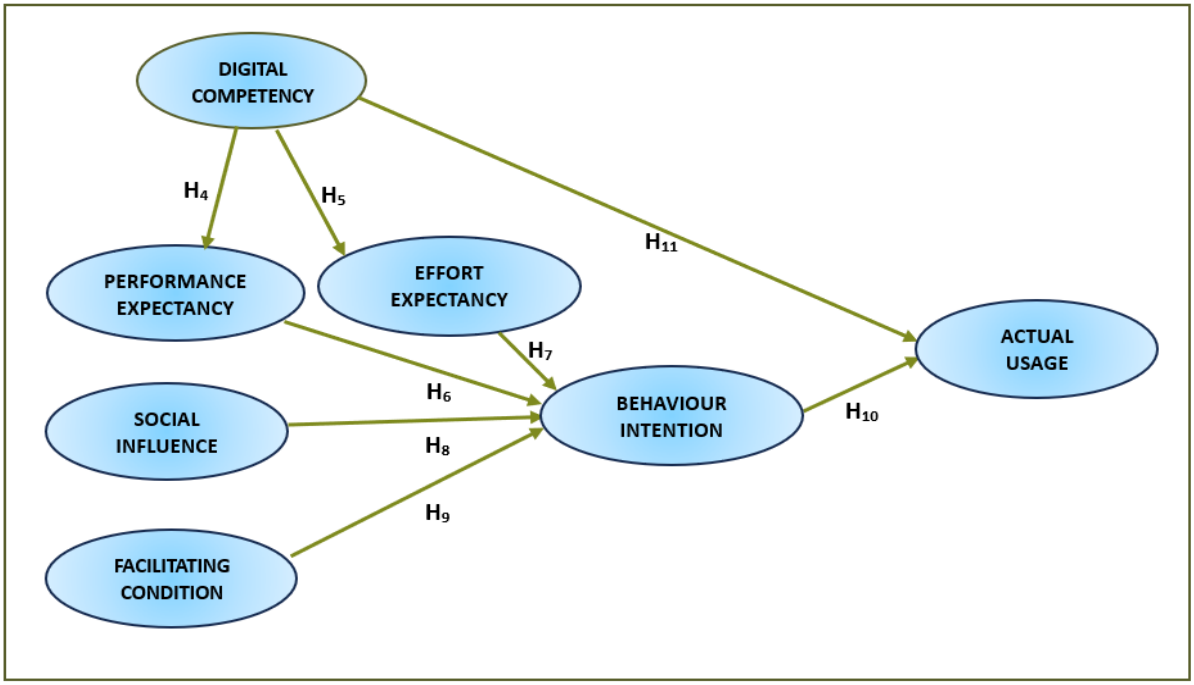
Digital competency and actual usage are key factors in understanding technology adoption, especially in business contexts. Digital competency refers to the skills, knowledge, and confidence necessary to use digital tools (Ferrari, 2013) effectively. Higher digital competency often results in increased actual usage of technology, as individuals with greater proficiency are more comfortable integrating digital tools into their routines (Laar et al., 2020). Increased digital competency lowers the barriers to technology adoption. It enables more efficient use of business management software, e-commerce platforms, and digital marketing tools, enhancing business operations and growth (Panigrahi et al., 2021). Conversely, limited digital skills can hinder adoption and consistent usage, as technology appear too complex (Bhat et al., 2021).

Studies indicate that digital competency significantly predicts actual usage, as those with higher digital skills are more likely to continually use digital technologies (Chatterjee et al., 2021). Targeted training that enhances digital skills can help bridge the gap between

initial adoption and sustained usage (Laar et al., 2020). Therefore, increasing digital competency is essential for the initial adoption and long-term, effective technology use in business operations (Chatterjee et al., 2021). The link between digital competency and actual usage is central to successful technology adoption, particularly for informal women entrepreneurs, where digital skills directly influence the integration and sustained use of digital tools in business practices. This relationship is tested through the formulation of hypotheses.

H11: Behaviour Intention positively influences the Actual Usage of technology by select women entrepreneurs in the Informal Sector

Figure 4: Conceptual Model of the study



Source: Compiled data

Framework of Analysis

- Descriptive Statistics were applied to categorise respondents based on socio-demographic and business profile, awareness, and use of business applications in business operations before and after training, registration under the e-shram Portal before and after training.
- Rank analysis was used to identify hurdles in technology adoption by the respondents.
- Wilcoxon sign test was used to assess the impact of digital competency training intervention among select women entrepreneurs in the informal sector.

- Mann-Whitney U test and Kruskal-Wallis test applied to test whether significant mean differences exist between digital competency across socio-demographic and business profiles of women entrepreneurs in the Informal Sector.
- Structural Equation Modelling (SEM) to test the antecedents of technology adoption.

Implementation of Training Intervention Programme

The growing emphasis on digital inclusion as a driver of economic growth amplifies the need for digital competency interventions. Research shows that digital competency can enhance women's confidence, decision-making abilities, and economic independence, contributing to broader societal development (World Bank, 2020)

A training intervention program focused on integrating digital competency into business operations is essential to bridge these gaps and empower women entrepreneurs to thrive in a rapidly digitalising economy. It is a strategic initiative to equip them with the skills and knowledge to overcome barriers in integrating technology into business functions and enhancing their entrepreneurial capabilities.

The training content and modules were meticulously developed based on a comprehensive training needs assessment. A seven-day training program was organized, encompassing an induction module on entrepreneurship development and practical hands-on training sessions. The training methods employed included interactive Lectures, group discussions, brainstorming sessions, lecture-demonstrations, hands-on activities, and video presentations. These methods were strategically selected based on the nature of each session, with careful consideration given to the preferences of the trainees and the recommendations provided by the trainers. The training blueprint is portrayed in Table 3.7.

The training programs were conducted at the JSS Institute in Palakkad and were personally facilitated by the researcher

Digital competency was assessed before the training and based on that, the training module was tailored according to their needs and business activities. After the training, usage was assessed after three months to ensure that they integrated these technologies into their business. After the training, the actual usage of the technology was assessed three months later to evaluate the participants' ability to integrate these digital tools into their business operations. This approach ensures a more accurate understanding of sustained technology adoption and real-world application (Venkatesh et al., 2003; Gefen, 2003; Dwivedi et al., 2019). Assessing usage after a period also helps identify barriers and support

mechanisms necessary for the long-term utilisation of the acquired skills (Chatterjee et al., 2021).

Training Methodology

The program was structured to provide participants with ample flexibility while respecting public holidays in the state of Kerala. The training program on Digital Competency was successfully conducted over thirty-five hours, with each session spanning 5 hours daily from 09:30 AM to 3.00 PM, including half an hour allotted as lunch break. Initially, 300 participants attended the program, organized into 8 batches, with approximately 38 participants in each batch. The training sessions were designed to ensure focused and interactive learning experiences for all attendees. The classes are evenly distributed to ensure smooth training, and the schedule of the Digital competency training batch is shown in Table 3.6, and the blueprint of the training module is shown in Table 3.7

Table 3.6 Schedule of Digital Competency Training Batch-wise

Batch No and Size	Week 1	Week 2	Week 3	Week 4
1 (37)	Sunday, June 20, 2021 & Saturday, June 26, 2021	Wednesday, June 30, 2021 & Sunday, July 4, 2021	Saturday, July 10, 2021 & Sunday, July 18, 2021	Thursday, July 22, 2021
2 (37)	Saturday, July 24, 2021 & Sunday, July 25, 2021	Wednesday, July 28, 2021 & Saturday, July 31, 2021	Sunday, August 8, 2021 & Wednesday, August 11, 2021	Saturday, August 14, 2021
3 (38)	Sunday, August 22, 2021 & Saturday, August 28, 2021	Wednesday, September 1, 2021 & Sunday, September 5, 2021	Saturday, September 11, 2021 & Sunday, September 19, 2021	Wednesday, September 22, 2021
4 (37)	Saturday, September 25, 2021 & Sunday, October 3, 2021	Wednesday, October 6, 2021 & Saturday, October 9, 2021	Sunday, October 17, 2021 & Wednesday, October 20, 2021	Saturday, October 23, 2021
5 (38)	Sunday, October 24, 2021 & Saturday, October 30, 2021	Wednesday, November 3, 2021 & Sunday, November 7, 2021	Saturday, November 13, 2021 & Sunday, November 21, 2021	Wednesday, November 24, 2021
6 (37)	Saturday, November 27, 2021 & Sunday, December 5,	Wednesday, December 8, 2021 & Saturday, December 11, 2021	Sunday, December 19, 2021 & Wednesday, December 22, 2021	Saturday, January 1, 2022

Batch No and Size	Week 1	Week 2	Week 3	Week 4
	2021			
7 (38)	Sunday, January 2, 2022 & Saturday, January 8, 2022	Wednesday, January 12, 2022 & Sunday, January 16, 2022	Saturday, January 22, 2022 & Sunday, January 30, 2022	Wednesday, February 2, 2022
8 (38)	Saturday, February 5, 2022 & Sunday, February 13, 2022	Wednesday, February 16, 2022 & Saturday, February 19, 2022	Sunday, February 27, 2022 & Wednesday, March 2, 2022	Sunday, March 6, 2022

The form of the training module is presented in [Appendix – II], glimpses of the training intervention in [Appendix – III] and outcome of training with digital presence of entrepreneurs trained is shown in [Appendix – IV]

Table 3.7 Blue Print of Digital Competency Training

Sessions	Coverage of Topics
Session 1 **Duration –** 5 Hours **Instructional strategies** Lectures and Group discussions **Teaching Materials used** Digital Presentations Feed Back Forms	**Session 1.1 Digital Transformation for Small Entrepreneurs (1 Hour)** ***Training Objective:*** To provide small entrepreneurs with an understanding of digital transformation concepts, its importance, challenges, and the role of digital competency in business operations. ***Learning Outcomes:*** 1. Define digital transformation and its key concepts: digitalisation, digitalization, and digital transformation. 2. Understand why digital transformation is essential for business growth and competitiveness. 3. Recognize the importance of adopting digital tools to overcome business challenges. 4. Identify barriers for implementing digital transformation effectively. ***Agenda :*** 1. **Welcome and Introduction** ▪ Brief overview of the whole training session. ▪ Why digital transformation matters for small entrepreneurs. 2. **Understanding Digital Transformation** ▪ Definition and key concepts: **Digitalisation:** Converting physical processes into digital formats (e.g., printed invoices to PDFs). **Digitalization**: Using digital technology to improve processes (e.g., chatbots for customer service). **Digital Transformation**: Cultural, operational, and

Sessions	Coverage of Topics
	strategic changes to make businesses digitally driven. Real-life examples for better understanding. 3. **The Need and Importance of Digital Transformation** ▪ Benefits for small entrepreneurs: Streamlined communication and global reach. Reduced operational costs and errors. Effective use of analytics and user data. Safer cloud-based data storage. ▪ Discussion on how these benefits directly apply to their businesses. 4. **Challenges of Digital Transformation** Common barriers: Cost constraints, resistance to change, lack of skills, cybersecurity risks, infrastructure issues. 5. **Importance of Digital Competency** ▪ Skills needed to use digital tools effectively: Efficient task completion, informed decision-making, security awareness. ▪ Examples: Using e-commerce platforms (Flipkart, Shopify), digital marketing tools, and analytics. ▪ How digital competency supports long-term growth **Session 1.2 Digital Competency (4 hours)** ***Training Objective:*** Equip entrepreneurs with a solid understanding of digital competency to enhance business productivity, information management, and problem-solving capabilities using practical digital tools and concepts. ***Learning Outcomes:*** By the end of this session, participants will be able to: 1. Define and understand the concept of digital competency. 2. Identify key dimensions of digital competency relevant to entrepreneurial activities. 3. Recognize the importance of ethical practices, copyright laws, and data security in their digital activities. 4. Develop Duration management strategies to engage in digital learning efficiently. 5. Create and maintain a strong, professional digital identity for their business. 6. Adopt practices that promote digital well-being, safety, and sustainability ***Agenda:*** **1. Understanding Digital Competency** ▪ Definition and overview. ▪ Importance in modern entrepreneurship. ▪ Dimensions of digital competency **1) Digital Proficiency and Productivity:** a. Communication: WhatsApp group management.

Sessions	Coverage of Topics
	b. Payments: Use Google Pay for transactions. c. Task Management: Scheduling with Google Calendar. d. Reminders: Use phone apps for inventory updates. **2) Information Data and Media Literacy** a. Evaluating sources and organizing data: Google Drive/DigiLocker. b. Copyright awareness: Do's and don'ts for legal use of media. c. Basics of data collation, management, and analysis: Excel for reports. d. Importance of secure data sharing. e. Curating and creating content: Canva/InShot for promotional media. f. Evaluating media for customer engagement. **g. Ethical Practices and Security in the Digital World** h. Copyright laws: Practical relevance for entrepreneurs. i. Data security basics: Passwords, encryption, and ethical data usage. j. Real-world scenarios: Discussion on ethical dilemmas and practical solutions. 3) **Digital Creation and Problem Solving** a. **Definition and Importance**: Discuss the role of digital artefacts in modern businesses. b. **Key Examples**: i. Writing: Creating blog posts or captions (Microsoft Word). ii. Imaging: Designing posters or logos (Canva). iii. Video: Short promotional videos (InShot). iv. Audio: Recording podcasts or voiceovers (Audacity). Participants brainstorm a promotional artefact they could create for their business. c. **Digital Problem-Solving and Research** d. **Using Digital Evidence**: i. Credible sources and evaluating data relevance. ii. Example: Researching customer preferences or competitor strategies. e. **Practical Tools**: i. Data collection: Google Forms. ii. Data analysis: Excel. iii. Research platforms: Google Scholar, Statista. f. Group discussion on using research tools to solve a common business challenge. 4) **Digital Communication, Collaboration, and Participation** i. **Digital Communication**: 1. Key tools: WhatsApp, Gmail, Zoom.

Sessions	Coverage of Topics
	2. Example: Strategies for asynchronous and synchronous communication. ii. **Digital Collaboration**: 1. Tools: Google Docs, Trello. 2. Example: Real-Duration document collaboration. iii. **Digital Participation**: 1. Platforms: LinkedIn, Reddit. 2. Benefits of engaging in online communities. iv. **Activity**: Role-play exercise simulating a collaborative task using a shared platform. b. **Best Practices for Digital Engagement** c. Effective communication tips (e.g., clarity, tone, visuals). d. Ethical collaboration: Respecting community guidelines and digital etiquette. e. Inclusive participation: Promoting safe and welcoming spaces. **5) Understanding Digital Learning (30 minutes)** a. **Definition and Importance**: i. Digital learning overview. ii. Benefits for entrepreneurs: access to tailored, flexible, and affordable learning. b. **Platforms and Tools**: i. Examples: YouTube, Udemy, Coursera, LinkedIn Learning, Skill India. c. **Activities**: i. Participants brainstorm digital learning opportunities for their specific business needs. ii. Practical tips for organizing and reflecting on learning (e.g., using Google Calendar and Evernote). **6) Managing Duration and Tasks for Digital Learning (20 minutes)** a. **Duration Management Strategies**: i. Dedicate specific hours for learning. ii. Implement techniques like the Pomodoro method. b. **Procrastination Reduction**: i. Environment optimization and task chunking. ii. Individual task: Participants map out a one-week learning schedule. **7) Digital Identity and Well Being** a. **Definition and Importance**: i. Digital identity as an extension of personal branding. ii. Benefits: customer trust, professional

Sessions	Coverage of Topics
	networks, and new opportunities. b. **Steps to Build a Positive Identity**: i. Create and complete profiles on relevant platforms (LinkedIn, Instagram). ii. Use professional photos, highlight achievements, and maintain consistency. c. **Monitoring and Improving**: i. Analytics tools for monitoring engagement. ii. Removing outdated content. d. **Activity**: i. Participants outline the key elements for their ideal digital profile. **8) Promoting Digital Well-being and Safe Practices** a. **Key Topics**: i. Digital relationships and community involvement. ii. Safe online behaviors: strong passwords, two-factor authentication, and professional conflict resolution. iii. Environmental consciousness: reducing digital waste and eco-friendly practices. b. **Activity**: i. Small group discussion: Challenges and solutions for maintaining digital well-being. ii. Examples: Collaborating with local communities using online tools or promoting green practices.
Session 2 Duration – 5 Hours **Instructional strategies** Lectures Hands on Practice and Group discussions **Teaching Materials used** Digital Presentations	**Session 2.1 Understanding Smartphone Features (2 Hours- Theory and Practical)** ***Training Objective:*** To equip participants with the skills and confidence to effectively use smartphones and computers for achieving tasks efficiently, staying updated with ICT developments, and troubleshooting problems. ***Learning outcomes:*** 1. Confidently navigate smartphone settings and features for business use. 2. Understanding basics of computer 3. Utilize essential apps for communication, payments, and marketing. 4. Organize and manage files and data effectively. 5. Troubleshoot common smartphone issues ***Agenda:*** **1. Smartphone operations** **Activities**: **Settings Navigation**: Enable Wi-Fi, mobile data, and Bluetooth.

Sessions	Coverage of Topics
Instructional Manuals Feed Back Forms	Customize notifications and display settings. **Contact Management**: Save, organize, sync, and share business contacts. **Basic Security Features**: Set up PINs, patterns, or biometric locks for device security. Enable two-factor authentication for business apps. Business security applications:- Kaspersky antivirus Avast antivirus McAfee **File Management** Saving, moving, and sharing documents **Managing applications** Installing, Updating, Uninstalling **Troubleshooting basics** Fixing common issues (app crashes, connectivity problems). **Session 2.2 Understanding Computer basics ((2 Hours- Theory and Practical)** ***Training objective :*** Equip participants with the fundamental skills to confidently navigate computers for day-to-day business and personal use, including settings and file management ***Learning Outcome :*** ▪ Gain practical knowledge about using a computer, such as managing folders, saving files, and troubleshooting. ▪ Apply hands-on skills to improve productivity and secure devices ***Agenda :*** **Computer Basics** 1. **Starting and Navigating the Computer:** Turning it on, understanding desktop elements (taskbar, icons, Start menu). 2. **Using File Explorer:** Opening, creating, organizing folders, and managing files. 3. **Saving a File:** Opening an application (Notepad or Word), typing a message, and saving it. 4. **Troubleshooting Basics:** Restarting the computer and fixing common issues. **Practical** • **Hands-On Tasks:** Turn on a computer and log in. Navigate File Explorer, create a folder, and move files into it. Save a file in different formats. Restart the computer and troubleshoot connectivity settings**.**

Sessions	Coverage of Topics
Session 3 **Duration –** 5 Hours **Instructional strategies** Lectures Hands on Practice and Group discussions **Teaching Materials used** Digital Presentations Instructional Manuals Feed Back Forms	**Session 3.1 Introduction to Digital Communication and Collaboration (1 Hour)** ***Training Objective:*** To understand the importance of digital communication and collaboration and be proficient in using key tools to enhance marketing efforts. ***Learning Outcomes:*** • Understand the benefits of digital communication and collaboration for business operations. • Identify popular digital communication and collaboration tools. **Agenda:** 1. **Digital Communication and Collaboration for Business Operations** • Benefits for Businesses: Efficiency, Global Reach, Cost-Effectiveness • Brief discussion 2. **Popular Digital Communication and Collaboration Tools** • Overview and live demonstrations of: o Instagram, WhatsApp Business, Gmail, Google Meet, Zoom **Session 3.2: Hands-on Practice with Digital Communication and Collaboration Tools (4 Hours)** ***Learning Outcomes:*** ▪ Gain practical experience using digital communication and collaboration tools. ▪ Apply tools to enhance business operations and marketing efforts. ***Agenda:*** 1. **Practical Exercises** a. **WhatsApp Business:** i. Setting up a business profile ii. Using messaging tools and automated replies iii. Managing customer interactions b. **Instagram:** i. Creating and optimizing a business profile ii. Posting and engaging with followers iii. Using Instagram Stories and Reels for marketing c. **Google Meet** i. Setting up and joining meetings ii. Managing participants and sharing screens d. **Gmail:** i. Creating and managing email accounts ii. Composing, sending, and organizing emails iii. Using labels, google calendars

Sessions	Coverage of Topics
Session 4 **Duration –** 5 Hours **Instructional strategies** Lectures Hands on Practice and Group discussions **Teaching Materials used** Digital Presentations Instructional Manuals Feed Back Forms	**Session 4.1 Digital Financial Management (1 Hour)** ***Training Objective****:* To empower informal women entrepreneurs by equipping them with the necessary skills to effectively manage their business finances using My BillBook, Vyapar, and MS Excel. This training aims to improve business operations, and support informed decision-making. ***Learning Outcomes:*** • Understand the importance of digital financial management for small businesses, especially for women entrepreneurs. • Identify key components of digital financial management tools for business ***Agenda:*** **1. Introduction** ▪ Welcome and introductions ▪ Overview of session objectives and agenda **2. Digital Financial Management for Small Businesses** ▪ Importance for women entrepreneurs 3. **Basics of Digital Financial Management** ▪ Overview of key components: tracking expenses, managing invoices, and analyzing financial data. ▪ Overview of My BillBook, Vyapar, and MS Excel. ▪ Key features and benefits of each tool. **Session 4.2 Hands-on Practice on Digital Financial Applications for Business (4 Hours)** ***Learning outcomes :*** ▪ Gained practical experience using My Bill Book, Vyapar, and MS Excel. ▪ Apply tools to manage business finances effectively**.** ***Agenda:*** **1. Downloading and Installing Applications** ▪ Guided step-by-step instructions for downloading and installing the apps on smartphones. ▪ Ensuring all participants have the apps installed and ready to use. **2. Setting Up Accounts for Applications** **3. Step-by-step guide to registering and setting up accounts on each application** My BillBook: Creating a business account and entering basic business information. Vyapar: Setting up a business account and adding initial inventory details. MS Excel: Opening Excel and creating a new workbook Demonstrating basic transactions and features of the applications. Data Entry, Invoicing, budgeting, reporting, and sharing

Sessions	Coverage of Topics
Session 5 **Duration** – 5 Hours **Instructional strategies** Lectures Hands on Practice and Group discussions **Teaching Materials used** Digital Presentations Instructional Manuals Feed Back Forms	**Session 5.1 Digital Financial Transactions (1 Hour)** ***Training Objective:*** Equip informal women entrepreneurs with digital financial literacy to conduct secure transactions, manage finances, and drive business growth, promoting financial inclusion and sustainable development. ***Learning Outcomes :*** ▪ Understand the key players in the digital financial ecosystem. ▪ Identify various types of digital financial transactions. ▪ Recognize the importance of security and privacy in digital transactions. ▪ Be aware of common threats in digital transactions and how to mitigate them**.** ***Agenda:*** 1. **Digital Financial Ecosystem basics** Key Players (banks, fintech companies, regulators). 2. **Overview of Digital Financial Transactions** Definition and types (online banking, mobile payments, e-wallets, USSD, PoS Terminals, Bank Prepaid cards etc). Benefits and challenges. 3. **Security and Privacy in Digital Transactions** What is the need of Security and Privacy concern Common threats in digital transactions (phishing, hacking, identity theft etc). **Session 5.2 Hands-on Practice on Digital Payment Applications and Internet Banking (4 Hours)** ***Learning Outcomes :*** ▪ Successfully set up and navigate internet banking platforms and digital payment apps on their devices. ▪ Confidently perform hands-on transactions (sending and receiving) using demo accounts and supported applications like Google Pay, Bhim, and PayTM. ▪ Understand security measures and best practices for safe online banking and digital payments ***Agenda:*** ▪ Introduction to internet banking platforms (e.g., HDFC Bank Net-Banking, ESAF Net Banking, SBI Online) ▪ Step-by-step guide to downloading and setting up accounts. ▪ Participants set up apps and Internet banking on their devices with the support of the researcher. ▪ Hands-on practice with making and receiving transactions using demo accounts. Google Pay, Bhim, PayTM

Sessions	Coverage of Topics
Session 6 **Duration** – 5 Hours **Instructional strategies** Lectures Hands on Practice and Group discussions **Teaching Materials used** Digital Presentations Instructional Manuals Feed Back Forms	**Session 6.1 E-Commerce Applications for Business (1 Hour)** ***Training Objective:*** Understand the importance of e-commerce in expanding reach and streamlining business operations. Learn how to use platforms like Amazon, Flipkart, Etsy, Swiggy, Zomato, and local aggregators to list products, manage orders, and grow sales. ***Learning Outcomes:*** ▪ Explain how e-commerce platforms can help expand their customer base and streamline operations. ▪ Set up and manage an account on one or more e-commerce platforms. ▪ Create product/service listings with appropriate descriptions and images. ▪ Handle orders and engage with customers effectively. ▪ Use promotional tools and analytics to monitor and grow their business. ***Agenda:*** 1. Introduction to E-Commerce ▪ Define e-commerce and its importance in modern business. ▪ Discuss the rise of platforms like Amazon, Flipkart, Etsy, Swiggy, Zomato, and local aggregators. 2. Overview of E-Commerce Platforms ▪ Amazon & Flipkart: For product-based businesses. Highlight marketplace features and customer reach. ▪ Etsy: For handcrafted or niche products. Discuss its focus on creative businesses. ▪ Swiggy & Zomato: For food-related businesses. Cover features like menu listing and delivery management. ▪ Local Aggregators: Emphasize community support and targeting local markets 3. Importance of GSTIN, and PAN Card in E-commerce ▪ What is GSTIN ▪ Its importance for E-Commerce operations ▪ Voluntary GSTIN ▪ How to get GSTIN (steps) **Session 6.2 Hands-On Activity: Setting Up Accounts (4 Hours)** ***Learning outcomes:*** ▪ Set up an account on a relevant e-commerce platform (Amazon, Flipkart, Etsy, Swiggy, Zomato, or local aggregators) and customize their business profiles with details like logos, descriptions, and contact information.

Sessions	Coverage of Topics
	▪ Create and upload product listings with appropriate descriptions and images or design food menus and manage delivery Duration slots for their business. • Guide participants through creating accounts on an e-commerce platform relevant to their business. For product sellers: Amazon, Flipkart, Etsy. For food businesses: Swiggy, Zomato. For local businesses: Any relevant aggregator. • Show how to customize profiles and add business details. 4. Listing Products/Services • Teach participants how to: Upload product images with descriptions (Amazon, Flipkart, Etsy). Create food menus and manage delivery slots (Swiggy, Zomato). Use local aggregators for promoting neighbourhood services. 5. Managing Orders and Communication • Demonstrate: Order handling and tracking. Responding to customer queries and reviews. Handling cancellations and refunds.
Session 7 **Duration** – 5 Hours **Instructional strategies** Lectures Hands on Practice and Group discussions **Teaching Materials used** Digital Presentations Instructional	**Session 7.1 Understanding and Using Storage Applications (2 hour)** ***Training Objective:*** Equip participants with the skills to effectively use storage applications (Google Drive, DigiLocker, and mobile cloud storage) for organizing, storing, sharing, and securing their personal and business data. ***Learning Outcome:*** ▪ Understand the concept and importance of digital storage for personal and professional use. ▪ Navigate and utilize Google Drive, DigiLocker, and mobile cloud storage effectively. ▪ Perform key operations like organizing, sharing, and securing data using these platforms. ▪ Apply hands-on techniques to troubleshoot and optimize storage solutions. ***Agenda:*** **1. Introduction to Digital Storage** Definition and importance of digital storage. Overview of Google Drive, DigiLocker, and mobile cloud storage. **a. Google Drive** i. Features and Benefits. ii. Step-by-Step Guide on Using Google Drive. iii. Hands-On Activities.

Sessions	Coverage of Topics
Manuals Feed Back Forms	**b. DigiLocker** i. Features and Benefits. ii. Step-by-Step Guide on Using DigiLocker. iii. Hands-On Activities. **c. Mobile Cloud Storage** i. Features and Benefits. ii. Step-by-Step Guide on Using Mobile Cloud Storage Solutions. iii. Hands-On Activities **Session 7.2 Creative Applications for Marketing and Website Building (3-Hour)** **Training Objective:** Enable beginners to use free and user-friendly creative applications like Canva, InShot, and beginner website builders (e.g., Wix or WordPress) to design marketing content and create basic websites to enhance their business presence. ***Learning Outcomes:*** ▪ Use Canva to design marketing posters, logos, and social media posts. ▪ Edit and create promotional videos using InShot. ▪ Create and customize a basic website using Wix or WordPress. ▪ Apply creative techniques to produce visually appealing digital content for marketing and websites. ***Agenda:*** 1. **Introduction and Overview** ▪ Welcome participants and introduce the session objective. ▪ Brief discussion on the importance of creative applications in marketing and building an online presence. 2. **Designing Marketing Content with Canva** • Introduction to Canva: Free templates for posters, logos, and social media posts. • Key features: Drag-and-drop editor, customizable elements, access to free fonts, images, and color palettes. • Applications in marketing: Creating social media graphics, posters, and promotional materials. **Practical Activity-** **1.Step-by-Step Guide to Canva**: Sign up at canva.com or download the app. Explore templates: Select templates for posters or social media posts. Customize designs: Add and edit text. Insert and adjust images (upload your own or use Canva's library). Customize colors and fonts. Download or share the design.

Sessions	Coverage of Topics
	Hands-On Task: Create a promotional poster for an upcoming sale or event. Share your design with the group and receive feedback. **2. Editing Videos with InShot** Introduction to InShot: Free, beginner-friendly video editing app. Key features: Trimming, splitting, and merging video clips. Adding text, music, and stickers. Exporting videos in different resolutions. **Practical Activity** **1. Step-by-Step Guide to InShot:** Download and open the InShot app. Import video clips from your device. Edit videos: Trim unwanted sections and merge clips. Add text, music, and stickers to enhance visuals. Export the edited video. **2. Hands-On Task:** Create a short promotional video for your product or service. Add a title and background music, and save it to your gallery. **3. Building a Basic Website with Wix or WordPress** Overview of free website builders (Wix, WordPress): Pre-designed templates for easy customization. Adding text, images, and contact forms. Publishing websites for free. **Step-by-Step Guide to Wix or WordPress:** Create an account using your email. Choose a template based on your business type. Customize the site: ▪ Add a logo, text, and product images. ▪ Insert a contact form and about page. ▪ Publish the website. **2. Hands-On Task:** Create and customize a simple homepage. Add your logo, tagline, and a contact form

The Challenges faced during the training

The challenges can affect the effectiveness of the program and the overall learning experience. Some of the challenges a trainer faces during the intervention of digital competency training include:

Diverse skill levels among women entrepreneurs in the informal sector from varied backgrounds, this diversity made it difficult to deliver content that is engaging and accessible to everyone. Further Limited Engagement and Participation to engage in

activities, particularly due to lack of confidence and unfamiliarity with digital tools. Additionally, resistance to change can stem from a lack of trust in technology or fear of failure. Overcoming these mindsets requires patience, empathy, and a thoughtful approach to build confidence and demonstrate the benefits of digital tools.

Operational Definitions of the concepts used in the study

Acquisition

Acquisition refers to obtaining or gaining possession of a particular skill, knowledge, asset, or resource. In digital competency, acquisition entails how individuals or groups, such as informal women entrepreneurs, gain essential skills and knowledge required to use digital tools, technologies, and platforms effectively. It involves learning and internalizing technical abilities, understanding digital systems, and developing the confidence to use these competencies in practical applications (European Commission, 2020)

Acceptance

Acceptance refers to the attitude or willingness to embrace a new technology. It is the initial phase in which an individual or organisation evaluates the technology, perceives its usefulness, and develops a positive attitude toward using it. Acceptance is influenced by perceived ease of use, utility, and social Influence, but it does not necessarily mean the technology is being used regularly (Davis, 1989; Venkatesh et al., 2003).

Acceptance is a precursor to adopting and using technology, reflecting the initial decision to try or integrate the technology into one's routine activities. For informal women entrepreneurs, acceptance can be shaped by factors such as exposure to successful technology usage, training programs, and support from peers or family, making it a critical step before the technology can be fully integrated into their business practices.

Adoption

Adoption refers to the process through which individuals or organisations begin to accept, integrate, and consistently use a new idea, product, service, or technology as part of their routine practices. It signifies a transition from initial awareness or trial to the regular and sustained use of the innovation to meet specific needs or objectives (Rogers, 2003; Liu et al.,2019).

In the context of digital technology, adoption involves not only the decision to utilise digital tools but also integrating these tools into workflows and decision-making

processes. For informal women entrepreneurs, adoption include actively using mobile payment apps, e-commerce platforms, or digital marketing tools to enhance their business operations. The adoption process is influenced by various factors such as perceived usefulness, ease of use, social influences, and the availability of support and infrastructure (Venkatesh et al., 2003)

Informal Sector

The informal sector consists of all unincorporated private enterprises owned by individuals or households engaged in selling and producing goods and services operated on a proprietary or partnership basis with less than ten total workers. They are not regulated under legal provision and do not maintain regular accounts (NCEUS, 2023).

Digital Competency

Digital Competence involves the 'confident, critical and responsible use of, and engagement with, digital technologies for learning, work, and social participation. It is defined as a combination of knowledge, skills and attitudes. (Council Recommendation on Key Competences for Lifelong Learning, 2018).

Performance expectancy

Performance Expectancy is the degree to which an individual believes using a specific technology will enhance their job performance or lead to desired outcomes. It reflects the perceived usefulness of the technology in improving efficiency, productivity, or effectiveness in achieving personal or business goals.

Effort Expectancy

Effort expectancy refers to the degree of ease associated with using technology. It encompasses the user's perception of how simple or intuitive the technology is to learn and use, which can influence their willingness to adopt it.

Social Influence

Social Influence is how an individual perceives that important others (e.g., family, peers, or societal norms) believe they should use a particular technology. It reflects the role of external pressure or encouragement in shaping technology adoption behaviour.

Facilitating Condition

Facilitating conditions refer to the availability of resources, infrastructure, and support that enable individuals to use technology effectively. It includes technical

assistance, access to equipment, and the presence of organisational or external support systems.

Behaviour Intention

Behavioural Intention is an individual's willingness or motivation to use a specific technology in the future. It is influenced by perceptions of the technology's benefits, ease of use, and social pressures and strongly predicts actual usage.

Actual Usage

Actual usage refers to the real-world application and engagement with the technology. It represents how an individual integrates technology into daily activities, reflecting the outcome of prior intentions and enabling factors.