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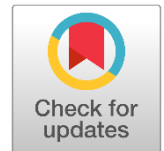
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# Exploration of Technology Adoption in Urban & Rural Women Entrepreneurs of Peshawar

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### ABSTRACT

Drawing upon Experiential Learning theory, this study aims to explore the adoption of technology amongst women entrepreneurs in rural and urban areas of Peshawar, Pakistan. 30 semi-structured interviews have been conducted from rural (Achini Paya) and Urban (Peshawar city) areas of Peshawar through purposive sampling. To analyze the data, a qualitative Content Analysis has been used in a two-step manifest coding and latent coding. The data results reveal those different dynamics (such as technology knowledge gap, economic and social constraints of urban and rural settings) affects women entrepreneurs' adoption of technology. Women in urban areas use mobile technology for business, albeit, with restricted exposure, while rural women entrepreneurs are not exposed to technology due to many factors particularly patriarchal structures. The study reveals that there is a lack of technology adoption, and the learning drive is mostly absent in women entrepreneurs from relatively marginalized communities.

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## 1. INTRODUCTION

In today's world, entrepreneurship is acknowledged as a fundamental element for economic growth and development (Zaki & Rashid, 2016; Dvorsky et al., 2018; Meyer & Synodinos, 2019). Entrepreneurship is defined by Ireland et al. (2001) as a situational societal phenomenon through which people and organizations create wealth by putting together distinctive bundles of resources to leverage marketplace possibilities.

Women-owned businesses are expected to be a rapidly expanding entrepreneurial sector that contributes to capital formation, poverty decrease, financial and social development through advancement, increased competitors, business variety, and the utilization of unutilized human capital (Goltz et al., 2015). Family members can perform an

important function in the achievement of a woman-owned business by assisting her with household obligations and offering empathic and financial support in a tough circumstance. Many researchers have previously emphasized the importance of family support (Neneh, 2017).

In Pakistan, women constitute 50% of the country's population and perform an important part in the country's economic growth. Nevertheless, due to the effect of socio-cultural norms, women in some parts of Pakistan seem denied of contributing to the economy (Romi, 2018). These norms serve as both drivers and obstacles in a given culture, allowing or restricting women's access to movement, education, and the ability to work. However, like other female entrepreneurs in the world, women entrepreneurs are also excelling at different levels. So far, the subject of women's entrepreneurship has been studied from both an urban and rural viewpoint in Pakistan. In terms of entrepreneurship, the urban sector displays organized and hierarchical structures, whereas the rural sector shows informal and unstructured trends in the process of changing and increasing.

Furthermore, women in Pakistan confront considerable hurdles that have proven to be a barrier to women's entrepreneurial activities. Women entrepreneurs have

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shown that a dearth of networking, an unfriendly or unfavorable regulatory and commercial setting, and inadequate training and growth are some of the primary causes causing their reluctance. Furthermore, one of the key obstacles limiting women's capacity to manage and lead enterprises is a lack of access to capital (Kazmi, 2018). However, the adoption of technology by women entrepreneurs in Pakistan is, in itself, poses a greatest and new challenge.

## 2. LITERATURE REVIEW

The present chapter extensively analyzes literature on women entrepreneurs globally and in Pakistan. Furthermore, section two of the chapter discusses the situation of women entrepreneurs in KP, Pakistan along with the discussion on a theoretical lens which helped to provide the foundation for this research.

### 2.1. Women Entrepreneurship Globally and in Pakistan

Women entrepreneurs are the rapidly growing type of entrepreneur in the globe, and they have piqued the interest of many academics, particularly in recent years (Qotb, 2016; Kamberidou, 2020; Khan et al., 2021). According to the growing literature, women can contribute significantly to business intention (Noguera, 2019) and economic growth (Kelley et al., 2017; Hechevarra et al., 2019) in aspects of generating new employment and rising GDP (Ayogu & Agu, 2015), with positive effects on lowering poverty and social marginalization (Langowitz & Minniti, 2007).

Nevertheless, the proportion of females who choose to seek an entrepreneurial profession is less than that of males (Elam et al., 2019), and this disparity grows as the nation's pace of growth rises (Coduras & Autio, 2013). It can be gauged from the fact that globally, 6.2 percent of female entrepreneurs possess developed enterprises, which is almost two-thirds the percentage of male entrepreneurs (9.5%). Sub-Saharan Africa (11.3 percent) and Asia (9.1 percent) have the highest rates, whereas MENA (4.5 percent), Europe (5.3 percent), North America (5.7 percent), and Latin America (6.5 percent) have the lowest rates (GEM, 2019).

Previous research has shown that a country's social, cultural, and institutional background influences women's entrepreneurial activities. A society's perspective regarding working women is shaped by culture and customs (Solesvik et al., 2014). Public standards require women to consider socio-cultural factors when beginning a regular employment or launching a new enterprise (Wach, 2015). Women are only allowed to work at home, even if they have a high level of education, and are limited to stitching, retail, and salon employment.

Despite these societal and cultural pressures, women in underdeveloped nations are compelled to establish their own businesses in order to meet home necessities (Jenning & Brush, 2013). Women's achievement is heavily influenced by their families' perceptions about them. Women in these nations turn to business in order to provide for their families' survival, healthcare, and education. Family members may play an important part in the success of a woman-owned business by assisting her with domestic tasks and offering emotional and financial support in a tough scenario. Previously, many academics emphasized the significance of family support (Neneh, 2017; Imbaya, 2012).

### 2.2. Women Enterprises and Technology Adoption

Information technology has always been an 'enabler' for women's emancipation, particularly in rural areas. It has delivered possibilities to their doorstep, and because of digitalization, new policies have emerged that relate ICT with gender inequalities. The use of digital technologies promotes creativity and empowerment, as well as serves as a catalyst for the entrepreneurial attitude. If one were to do ordinary business, it would also be important to emphasize the significance of the pandemic in generating a drive for digital tools (Chatterjee et al., 2020). As a result, women were equipped to address obstacles related to their enterprises since they could conduct operations from the protection of their homes using ICT tools and networking. Through social media and web-based applications and services, women now have quick access to their client database.

In terms of chances and obstacles, a country's socioeconomic advancement is slowed. **Women Entrepreneurship Globally** In addition, this digital isolation may be seen in nations that are technologically sophisticated overall. This is often due to lesser levels of education and competence in the region, and Pakistan's rural regions are no exception, owing to their isolation from urbanization. It is also stated that the digital gap cannot be blamed solely on technology or economic issues, but that many human characteristics, such as one's aptitude to absorb digital skills, must be considered. As a result, it is critical to implement digitization at the policy level in order to have a broader impact on the country's infrastructure, in accordance with the UN concept of 'keeping no one alone' (Räisänen & Tuovinen, 2020).

There is a significant correlation between entrepreneurship, creativity, and digitization for women-owned businesses. Pakistan is a troubled economy with restricted financial incorporation and other opportunities, particularly for women, and a key obstacle for SMEs is use of digitalization and helping to bring in innovation to goods and services so that female entrepreneurs can endure the competitors and the ecosystem's ever-growing market. According to their research, embracing ICT and innovation has a good influence on the entire productivity of the entrepreneur, and hence Pakistani female entrepreneurs must concentrate on strengthening their capacity to respond to digitalization (Zeb & Ihsan, 2020).

### 2.3. Qualitative Literature on Factors in Technology Adoption

Regarding the adoption of information technology, Orser et al., (2019) have used the perspective of entrepreneurship education and training program for women. The empirical results are derived from 21 semi-structured interviews (22 informants) with varying training competence in digital technology among female entrepreneurs. By implying an open-coding method of qualitative research, explanatory codes were allocated to significant statements first. Subsequently, to identify similar themes and structures, hermeneutic and pattern codes were given, which were then condensed to higher-order categories to guide the study questions.

### 2.4. Theoretical Framework

This section discusses the multiple theories used previously in the field of women entrepreneurship and technology adoption and experimental theory.

## 2.5. Theories Used In the Field of Women Entrepreneurship and Technology Adoption

The psychoanalytic theory considers gender discourse and asserts that sexuality has an influence on human psyche. According to the argument, girls do not have power or other good experiences in a male-dominated society. These mental experiences are reflected in women's physical expression and psychology. Women choices are more impacted by their previous experiences (Hollander, 2018). Taking chances is one of the most important aspects of entrepreneurial operations; without accepting risks, entrepreneurs cannot advance in their careers. However, due to their risk-averse mindset, women are less capable of taking risks as entrepreneurs than males (Pettersen et al., 2017).

Raheem et al., (2019) attempted to analyze several socio-economic aspects impacting women entrepreneurship in their study by applying liberal feminist theory. According to the findings of the study, there is a considerable association between social and economic aspects and women's success during entrepreneurial activities. However, they said that the judicial and organizational infrastructure in KPK is inadequate and does not support the success of women businesses.

## 2.6. Framing a Theoretical Lens and Operationalizing in Terms of Urban and Rural Entrepreneurs

The study's empirical settings lend itself well to several theories as explained above with the Experiential learning theory (ELT) deemed as a better fit. An outline of the ELT is presented below:

### 2.6.1. Experiential Learning Theory

Learning by performing is quite possibly the most efficient technique to improve an individual's talents and skills (Cope and Watts, 2000). According to the previous study, entrepreneurial learning is entirely experiential (Politis, 2005). As a result, learning theories present a core theoretical lens through which to investigate the learning processes of female entrepreneurs in the face of unknown external shocks. This study adheres to the notion of experiential learning, which defines learning as "the procedure by which knowledge is formed through the conversion of experience" (Kolb, 1984, p. 41). According to this theory, after an event, the individual thinks on the experience, which helps turn the experience into knowledge and influences individuals' future behaviors.

Stated theory argued that due to advancement in technology, use of social media, has shaped the entrepreneurial knowledge which helps the female entrepreneurs to alter their business operations and create endurance in the face of adversity. As, they can run home based business and after having the knowledge of ICT, their business can be advanced. As stated, previous section regarding the theories being used, the family orientation theory, psychoanalysis theory and liberal feminist theory do not fit in the context of the present study.

The family orientation theory states that due to a person's family background which has a great impact on his values and character, so it acts as a powerful source of influence whether he becomes an entrepreneur or not. But it is not standard formula that if family carries the interest of business even then any member can run business. It can be argued that one's circumstances and self-interests are key

factors which push person to engage in business. According to the psychoanalysis theory, girls do not have power or other good experiences in a male-dominated society. Though these can be barriers for women to adopt technology to run their business, but the fact of transition cannot be denied. World is changing so do the situation of Pakistani society too. Therefore, we can find number of women entrepreneurs in Pakistan.

The present research investigates the underpinning problems which are being faced in technology adoption among female entrepreneurs using a qualitative lens in the context of urban and rural area of KP. This theory provided the base for this study as there are many learning barriers which women entrepreneurs are facing. Whereas it further states that possible events can trigger knowledge. However, it can be argued that with the help of knowledge and process of learning regarding the technology, women entrepreneurs can advance.

## 3. RESEARCH METHODOLOGY

A qualitative research methodology has been used for this research. The philosophy driving the research is interpretivism that takes social phenomenon to be subjective in nature. It is assembled by social actors and people's perspectives of it, and people with diverse backgrounds, presumptions, and perspectives contribute to the continuing development of reality in their larger social context through social interaction (Wahyuni, 2012). Consequently, the objective of interpretivist research is to gather and comprehend participants' "social constructions" of that truth to develop a deep knowledge of reality (the participant's perspectives of the world). The opinions, activities, beliefs, and behavior of the participants serve as an expression of these social constructions. In social and organizational situations, social constructs are employed to uncover deeper meaning and understandings (Creswell, 2014). As a result, interpretivism adopts an epistemological attitude that acknowledges the social context of study and other factors; in contrast to positivism, interpretivism does not hold that the world is ordered or quantified. As, these numerous realities mainly rely on other processes for meaning, they are more challenging to comprehend in terms of stable realities (Lincoln & Guba, 1985; Neuman, 2000). Since, the aim of the study is to explore the factors effecting the adoption of technology by women entrepreneurs, the interpretive approach was suitable.

The population of the study was purposefully selected women entrepreneurs from Peshawar city and rural area of Achini Payan. Achini Pyn is in Khyber Pakhtunkhwa, Pakistan, and lies about 92 miles (or 148 kilometers) west of Islamabad, the country's capital. There was also a limitation as official statistical data regarding the ratio of female entrepreneurs in Peshawar city and Achini Payan is not available, so to gather the sample size, purposive and snowball sampling techniques have been used. First, through purposive sampling, beauty salons in Peshawar were visited who also referred (snowball technique) other female enterprises. Moreover, some of the respondents also shared social media profiles of other Peshawar based women entrepreneurs. On the other hand, gathering of data from rural area was difficult because unlike urban cities rural women do not have any physical shops or any public set ups. So, all the respondents as samples were gathered through acquaintances which further (Snowball sampling) helped to get access to respondents. In total 30 interviews

were conducted: 15 each from urban and rural area. There were no other preconditions for selection of sample except, female gender, urban and rural location and owning a business.

### 3.1. Data Collection

The data were collected through semi-structured interviews. Semi-structured interviews, according to Bernard (2012, p. 182), include much of the unrestrained aspect of unstructured interviewing, but semi-structured interviewing is built on the usage of an interview guide. This is a set of questions and subjects that must be addressed in a certain sequence. An interview schedule was used as a guide. The use of appropriate data gathering tools helps in ensuring the accuracy of the data while analyzing. This method gave the researcher the freedom to investigate and clarify answers given by respondents. All the interviews took more than 1.30 hours and conducted in the natural setting. However, it almost took two months to collect data.

The data obtained through semi-structured interviews were analyzed through qualitative content analysis. A prior design is needed for content analysis (Neurendorf, 2002). Before the data collection and analysis, the prior design enables the researcher to create their coding system.

This study involves inductive coding categories so qualitative technique helps in the generation of themes for analysis. That is why, coding was done after the data collecting process. The data has been gathered through recorded interviews which were transcribed, and notes were collected during various situations. As, the study incorporates qualitative content analysis, the interviews were coded using manifest and latent coding. For instance, manifest coding which extracted from the data are lack of technology, lack of exposure to technology etc. Whereas latent coding examples are major themes extracted from manifest coding like technology knowledge gap etc.

These are essential techniques of content analysis. Manifest coding is utilized because it has a good level of validity. Typically, the emphasis of quantitative content analysis is always on manifest coding by measuring frequency and strength of the text, while the goal of qualitative content analysis is not limited to manifest coding. It further aids the generation of themes for latent analysis.

The next phase is latent analysis of the themes that were developed in three steps. Latent coding aids in the comprehension of "the underlying, implicit meaning in the content of a document" (Neuman, 2011, p.375). So, the first stage is to read the interviews, which were then read again to obtain a more in-depth grasp of the language and expressions. Notes were taken to aid with the development of the themes.

### 3.2. Discussion

The present study aimed to understand the gap between technology adoption in urban and rural women entrepreneurs. The analysis of data showed that there is clear difference of opportunities for urban and rural women entrepreneurs. For instance, education is one of the main and essential components for learning technology. The lack of education is not a hindrance and education level have no effect on the sort of business in which female entrepreneurs engage (Sigdel, 2016) but due to lack of education, it is

difficult to understand how to incorporate technology in business. As, the awareness of technology is significant for the growth of even small-scale business and when rural women entrepreneurs stay in the dark regarding the emergence of new technologies, new techniques of manufacturing, marketing, and other governmental backing, this will enable them to thrive due to a dearth of adequate education (Mishra, 2015). However, due to usage of mobile and internet, urban women entrepreneurs have higher level of exposure to market and develop business. The biggest barrier in establishing prospects for self-reliance and self-employment has been shown to be digital literacy (Brown & Desire, 2020). This can also be clearly reflected through the experiential learning theory; advancement in technology is helping many educated urban women entrepreneurs through social media. On the hand, uneducated women of rural areas though lack the formal education but learning from environment is also one of the components of informal education. For instance, many rural respondents informed about the usage of mobile phones for their

Families play a significant impact in limiting or preventing women entrepreneurship in many patriarchal communities in the developing globe. Theoretically, the present research contributes in following way; ELT has not been used previously for technology adoption. However, the current study has used ELT as a theoretical base to indicate that experiential learning helps to learn about anything. Likewise, this theory can further be used on other aspects of adoption by entrepreneurs. This will widen the application of ELT.

## 4. CONCLUSION AND RECOMMENDATIONS

The results obtained through data indicates the significance of incorporating the technology in entrepreneurship. Moreover, the adoption of technology is associated with education and training in both urban and rural women entrepreneurs. Research on technology adoption and female entrepreneurship in Pakistani culture is still developing so this study intends further to add in the debate. The study's findings indicated that most of the rural women entrepreneurs are not literate. This is main hurdle to adopt technology meaning in their businesses. Education is often regarded as one of the most effective investments in the development and enhancement of human capital. Entrepreneurs may find that education-derived knowledge may help them enhance their business efficiency. Many research have showed that education is a crucial factor of women entrepreneurs' success, productive growth, yearly turnover (or annual sales), and job expansion (Becker, 2009; Inmyxai, 2010). On the other hand, lack of technology knowledge even among educated urban women entrepreneurs is critical. As data results showed that many participants are afraid regarding cyber related crimes.

Besides education, social cultural norms of the country are also significant as Pakistan is patriarchic society. No matter whether it is rural setting or urban, women in both spheres face difficulty in technology adoption. Another significant aspect is the exposure of technology between both genders. Male entrepreneurs face less issues as compared to women. Another hurdle is time constraints and lack of availability of proper IT training for women entrepreneurs.

As far as urban women entrepreneurs are concerned, technology has also some limitations which become

obstacles. For them for example, social media, although functioning as a stimulant for female entrepreneurs, is not without its challenges. While giving an easy access platform for vendors and buyers, it has also made it easy for imitation. This growing tendency has also made genuine purchasers increasingly concerned about the authenticity of the items, making it difficult for businesses to gain their confidence (Genç & ksüz, 2015). The virtual aspect of social networking platforms also creates trust difficulties. It might be difficult for businesses to build trust in the features and quality of their items, making discussions more time consuming and laborious than a physical transaction. Cybercrime has also been identified as a disadvantage that might represent a severe danger to the existence of an online firm for female entrepreneurs.

Because the usage of a mobile phone is most convenient for female entrepreneurs, rapid access to markets is feasible, which adds favorably to their success. Furthermore, they are not required to attend internet cafes, which further empowers them and contributes to their success. Networking has brought about a dramatic transformation in female entrepreneurship by providing chances for women who are unable to work outside the home. Women are not only improving their families' lives by using these networking technologies, but they are also adding to the advancement of society as a whole, which is the most astounding advantage. However, on the other hand, in the rural areas, women entrepreneurs have limited access to technology and in most of the cases even usage of mobile is not allowed. This signifies towards the patriarchal norms which relates the women exposure to technology as against the honor.

#### 4.1. Recommendations

Entrepreneurship is a “one (wo)man show” in which the support system serves as a driving force. As a result, societies should work together to assist and encourage female entrepreneurs who manage small businesses and are their sole source of income. The government and relevant authorities need to listen closely to women's concerns and unique challenges due to urbanity and rurality. Uniform support to women entrepreneurs may not work well and thus segmented support will be required for rural, urban, literate, and illiterate women entrepreneurs

Another step toward changing ICT adoption behavior is to raise knowledge about the usefulness of ICTs. Gender-inclusive, user-friendly assessments and curriculum, for example, may encourage women to study ICTs that correspond with their business objectives. Gender inclusive entrepreneurship training for trainers, clients, and policymakers may aid in the examination of biased preconceptions regarding ICTs. For the rural areas, government should initiate the programs which educate people about the use of technology for business purpose. As this study is cross-sectional study, so longitudinal study can be conducted in future by adopting quantitative scales.

#### Competing Interests

The authors have declared that no competing interests exist.

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