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**THE EFFECTS OF MICROFINANCE FACTORS,
SOCIAL CAPITAL AND VULNERABILITY ON
WOMEN-EMPOWERMENT IN SOUTHERN PUNJAB,
PAKISTAN**



**DOCTOR OF PHILOSOPHY
UNIVERSITI UTARA MALAYSIA
April 2019**

**THE EFFECTS OF MICROFINANCE FACTORS, SOCIAL CAPITAL AND
VULNERABILITY ON WOMEN-EMPOWERMENT IN SOUTHERN
PUNJAB, PAKISTAN**

By

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UUM
Universiti Utara Malaysia

**Thesis Submitted to the
School of Economics, Finance & Banking (SEFB),
Universiti Utara Malaysia (UUM),
in Fulfillment of the Requirement for the Doctor of Philosophy
2019**



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on Women-Empowerment in Southern Punjab, Pakistan**

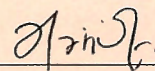
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ABSTRACT

Women-empowerment is one of the crucial issues worldwide. In Pakistan, women are bound to customs, norms, beliefs which are unique. These issues are found to promote social problems and hinder the economic contribution by Pakistani women. Due to these cultural issues, women are not allowed to take part in income generating activities like micro-enterprises and because of these issues, gender discrimination is increasing which increases the poverty level among women and decreases the women-empowerment. Consequently, the employment-to-population ratio of women is only 22.1% in Pakistan which is quite low. To address these issues, the current study highlighted microfinance as an effective medium with the support of three forms of capital (financial capital, human capital, social capital). These capitals are the key to the success of Pakistani women. The current study also examined the moderating role of vulnerabilities (social, economic, environmental, political) between microfinance factors and women-empowerment. Data was collected from female clients of microfinance institutes. By using area cluster sampling technique, Southern Punjab was divided into five various clusters and respondents were selected through random sampling technique. A survey was carried out, and 500 questionnaires were distributed in selected clusters. Partial Least Square (PLS)-Structural Equation Modeling (SEM) was used to analyze the data. The results of PLS analysis shows that microfinance factors namely micro-credit, micro-saving, micro-insurance and micro-training/skill development have significant positive contribution to women-empowerment. Moreover, it is found that social capital is also important to enhance women-empowerment. Vulnerabilities aspects such as social vulnerability, economic vulnerability, environmental vulnerability and political vulnerability have adverse effects on women-empowerment. Finally, this study could be beneficial for microfinance institutes, state bank of Pakistan and government in making the strategies to enhance women-empowerment by mitigating vulnerability issues.

Keywords: women-empowerment, microfinance, social capital, vulnerability

ABSTRAK

Pemerksaan wanita merupakan salah satu daripada isu global yang sangat penting. Di sesetengah tempat di dunia, seperti di Pakistan, kaum wanita lazimnya terikat dengan adat resam, norma, serta kepercayaan yang bersifat unik. Isu ini didapati mengakibatkan masalah sosial dan menghalang sumbangan mereka kepada ekonomi negara. Akibat daripada isu yang berkaitan dengan budaya, kaum wanita tidak dibenarkan untuk mengambil bahagian dalam aktiviti penjanaan pendapatan seperti perniagaan kecil. Natiujahnya, diskriminasi jantina mengalami peningkatan dan ini turut meningkatkan kadar kemiskinan di kalangan kaum wanita dan mengurangkan pemerksaan wanita. Nisbah pekerjaan dengan populasi wanita hanyalah sebanyak 22.1% di Pakistan dan ini dianggap agak rendah. Untuk menangani isu, kajian ini mengetengahkan mikrokeuangan sebagai satu perantara dengan dibantu oleh tiga bentuk modal (modal kewangan, modal insan, modal sosial). Kajian ini menekankan bahawa tiga bentuk modal berkenaan merupakan kunci kepada kejayaan wanita Pakistan. Ia turut meneliti peranan penyederhana iaitu kerentanan (sosial, ekonomi, persekitaran, politik) di antara hubungan faktor mikrokeuangan dan pemerksaan wanita. Data dikutip daripada pelanggan wanita di institusi mikrokeuangan. Menggunakan teknik persampelan kelompok, kawasan Punjab Selatan telah dibahagikan kepada lima kelompok dan responden telah dipilih menggunakan teknik persampelan rawak. Kaedah tinjauan telah dilaksanakan dengan 500 borang soal selidik diedarkan di kelompok-kelompok yang terpilih. *Partial Least Square (PLS)-Structural Equation Modeling (SEM)* telah digunakan untuk menganalisa data. Kajian merumuskan bahawa faktor mikrokeuangan seperti kredit mikro, simpanan mikro, insuran mikro, dan latihan mikro/pembangunan kemahiran memberikan sumbangan yang signifikan lagi positif kepada pemerksaan wanita. Di samping itu, kajian juga mendapati bahawa modal sosial juga penting untuk meningkatkan pemerksaan wanita. Aspek kerentanan seperti kerentanan sosial, ekonomi, persekitaran, dan politik pula merupakan faktor yang menghadkan pemerksaan wanita. Akhir sekali, dapatan kajian ini dapat memberi faedah kepada institusi-institusi mikrokeuangan, Bank Negara Pakistan, dan pihak kerajaan dalam membuat strategi untuk meningkatkan pemerksaan wanita.

Kata kunci: pemerksaan wanita, mikrokeuangan, modal sosial, kerentanan

ACKNOWLEDGEMENTS

First and foremost, (Alhamdulillah) all praises be upon ALLAH, Lord of the universe for all blessing that He has given to His creatures. And may his blessings, peace and favor descent in perpetuity on our beloved Prophet Muhammad S.A.W, who is mercy for entire world. Without the blessings, grace and guidelines of ALLAH, this dissertation could not have been written. It was not possible to achieve this journey without the blessings of ALLAH.

Second, I would like to render my utmost appreciation and gratitude to my supervisors, Respected Dr Hisham Bin Mohammad and Dr Hanita Binti Kadir Shahr. Their handwork, guidelines, advices, suggestions and precious comments throughout this journey make me capable to produce this research. No doubt, without the guidelines of my supervisors, this dissertation would not have been completed successfully.

Third, while finalizing this dissertation, the heart is full of tears and I cannot express my feelings, as the person who was with me at the time while starting this journey, now he is not with me. I would like to dedicate this achievement to my late father (Abdul Hameed). This journey was started due to the prayers of my father. Because of my father I have achieved the journey and all the future achievements will also be due to the prayers of my father. May Allah Almighty's blessings be upon my father and Allah SWT grants him Janat Ul Firdous (AMEEN).



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LIST OF ABBREVIATIONS

UNDP	United Nations Development Program
GMR	Global Monitoring Report
SHG	Self-Help Group
NGO	Non-Governmental Organization
USAID	United States Agency for International Development
CGAP	Consultative Group to Assist the Poor
IFC	International Finance Corporation
SEM	Structural Equation Modeling
IFAD	International Fund for Agricultural Development
SMEDAN	Small and Medium Enterprises Development Agency Nigeria
PKR	Pakistani Rupee (Pakistani Currency)
RBI	Reserve Bank of India
MC	Micro-Credit
MS	Micro-Saving
MI	Micro-Insurance
TSD	Micro-Training/Skill Development
SC	Social Capital
WE	Women-Empowerment
VLNA	Vulnerability
PLS	Partial Least Square
SEM	Structural Equation Modeling



CHAPTER ONE

INTRODUCTION

1.1 Introduction

The term microfinance is defined as the provision of savings, deposits, loans, payment services, money transfer and insurance services to the very poor and low-income households (Nasir & Farooqi, 2016). Microfinance institutions are those that take deposits, lend a very small amount to poor people, and provide non-financial services such as training to those who are unable to access traditional banking institutions (Nasir & Farooqi, 2016). These services are excluded from the traditional banking system (Iqbal, Iqbal, & Mushtaq, 2015). Microfinance institutions play an important role in strategies related to gender and development due to their active involvement in women-empowerment and poverty alleviation (Iftikhar, Khadim, Munir, & Amir, 2018; Sinha, Mahapatra, Dutta, & Sengupta, 2019).

Microfinance has evolved into a thriving global industry, and it is one of the fastest growing industries worldwide (Dichter, 2007; Garikipati, 2008; A. K. Ghalib, Malki, & Imai, 2015; Roy, 2011). It is an idea through which low-income people acquire financial services that enable them to come out of poverty (Ahlawat, 2016). Microfinance consists of various ideas and by using these ideas, low-income people gain the ability to reduce poverty by taking advantage of the financial services offered by the microfinance institutions (Ahlawat, 2016). These financial services are provided to the poor to enable them to meet their basic financial needs for daily use and other economic opportunities (Gupta & Rao, 2005).

The aim behind microfinance is to alleviate poverty and to empower its beneficiaries especially women through the provision of financial services such as microcredit, insurance, savings and non-financial services like training (Al-Shami, Razali, Majid, Rozelan, & Rashid, 2016). It is one of the key poverty reduction policies which had spread rapidly and widely for the last 20 years, and now operating in almost 60 countries around the world (Bateman, 2010). Again, the prime focus of microfinance institutions is to promote women-empowerment, because women are the most vulnerable group in the community and 70% of worldwide poverty involves women (Ahmed, 2018; Kabeer, 2012). In the recent decade, the empowerment of women has become a subject of great concern worldwide particularly in poor and developing regions (Malik, 2018).

Women-empowerment means equipping women to be economically independent, self-reliant as well as having positive self-esteem which enable them to face challenges and contribute to development activities (Kapila, Singla, & Gupta, 2016). The empowered women are always able to participate in any type of decision-making process (Yakeldevi, 2014). Therefore, most microfinance institutions have the central aim to empower women through various services such as microcredit, savings, insurance, training and social capital (Al-Shami et al., 2016).

1.2 Background of the Study

Poverty is one of the most chronic issues worldwide (Chamhuri, Karim, & Hamdan, 2018) and it is even more alarming in most developing countries such as Pakistan. The female population is more affected by this issue, as poverty is more prominent amongst the female population as compared to the male population in most developing countries (Kabbeer, 2012) especially Pakistan. To overcome this chronic

issue, the phenomenon of microfinance was initiated in 1976, when Muhammad Yunus set up the foundation for microfinance by establishing a microfinance bank under the name of Grameen Bank as an experiment in Bangladesh (Khan & Rahaman, 2007). According to him, 5% of people come out of poverty every year with the help of microfinance. In the past, most poor people use informal channels that are available for them to get credit such as corporate societies, credit clubs and saving clubs. However, these methods are risky and unsafe. Furthermore, commercial banks do not give out loans to poor people rendering them to be unbanked and unable to obtain loans to fulfil their needs (Ayuub, 2013).

Over the last two decades, microfinance has evolved into a thriving global industry, and it is one of the fastest growing industries worldwide (Dichter, 2007; Garikipati, 2008; A. K. Ghalib, Malki, & Imai, 2015; Roy, 2011). It is an idea through which low-income people acquire financial services that enable them to come out of poverty (Ahlawat, 2016). It also improves the lives of the poor, as it can open new opportunities such as job creation and microenterprise development (Kienlein, 2016). Financial services like microcredit is one of the key products of microfinance service which offers small loans to poor people, to improve existing small-scale businesses and to start new ones (Kessy, Msuya, Mushi, Stray - Pedersen, & Botten, 2016). It is the provision of cash and a smaller amount of loan to self-employed people to improve their small businesses (Asiama & Osei, 2007). The existence of these small businesses, various job creations and improvements in the living standard of poor people are evidence that microfinance is an effective economic development tool (Balkenhol, 2018). As it is evident that women owned micro-enterprises creating 24% job opportunities in Pakistan.

Microfinance helps the development of the small business sector which has been identified as vital for job creation and for bringing equity to disenfranchised communities by facilitating participation in the formal economy (Solomon, Bryant, May, & Perry, 2013). It is an important tool in the fight against poverty (Grant, 2018; Kapila *et al.*, 2016) because it creates economic growth and jobs (Servet, 2016). Microenterprise programs can play a significant role in promoting savings among the poor populations (Khan & Rahaman, 2007). Domestic savings is important for the development of income generating activities, which are the key to economic growth (Dichter & Harper, 2007). Through this microenterprise program, microfinance takes part in economic development by increasing the growth of microfinance loans in developing countries (Donou-Adonsou & Sylwester, 2015).

Access to financial services such as micro-credit, micro-insurance and micro-savings has a positive impact on economic development (Adhikari & Shrestha, 2013) and microfinance provides access to these financial services (Nasir, 2013). In this aspect, it increases financial development by enhancing the growth of poor people in the financial prospectus (Mavrotas, 2009). It has been widely recognized that a well-functioning financial system is vital to economic growth (Shaw, 1973). It is one of the best alternatives for generating self-employment i.e. by helping poor people establish and expand existing microenterprises that generate additional income (Adhikari & Shrestha, 2013). Income from these microenterprises affect positively on per capita income and savings ability which enhances the economic development of the country (Kondo, Orbeta Jr, Dingcong, & Infantado, 2007).

Poverty alleviation is the main goal of microfinance institutions via financial services such as microcredit, insurance, savings and other non-financial services (Al-Shami *et al.*, 2016). Microcredit through microfinance institutions can reduce poverty and increase socio-economic empowerment (Kodamarty & Srinivasan, 2016). However, poor people do not have access to microcredit due to high collateral requirements (Flatnes & Carter, 2016) and because most of commercial banks do not consider poor people as their target market (Khan & Rahaman, 2007). In the past, most poor people resort to seeking help from other sources such as local shopkeepers, informal lenders and landlords to fulfil their financial needs, but these sources charge high-interest rates; meanwhile, savings was carried out via different informal channels like corporate societies, credit clubs and saving clubs (Khan & Rahaman, 2007). Furthermore, in many low-income countries, most of the people use informal ways to cope with economic hardship (Cohen, McCord, & Sebstad, 2005). In this case, microfinance acts as a substitute to informal credit due to the effectiveness of the instrument for poverty alleviation among people who are active economically, but are financially constrained and vulnerable (Morduch & Haley, 2002). It has a significant positive impact on poverty reduction (Iqbal *et al.*, 2015) and allows women to enter society with confidence and skills (Develtere & Huybrechts, 2005). It proves to be a key determinant in improving the living standards of poor people in many developing countries such as Pakistan, Bolivia, Indonesia and Bangladesh (Akram & Hussain, 2011) due to its positive effect on poverty alleviation (Garikipati, 2017).

The success of poverty alleviation efforts typically depends on their ability to properly identify and target the objective population (A. Ghalib, 2010). Ideally, microfinance institutions would like to identify such population and design targeted programs that

would reach them adequately (San Martin, 2001). To keep these points in view, microfinance targets one of the most vulnerable segments of the population which is women, as 70% of worldwide poverty inflicts women (Ahmed, 2018; Kabeer, 2012). Women entrepreneurs, especially in many developing countries, do not have easy access to microfinance for their entrepreneurial activity and as such exhibit lower business performance than their male counterparts (Ekpe, Mat, & Razak, 2010). Women are continuously being discouraged from getting involved in income generating activities (Uteng, 2011). That is why most microfinance institutions are particularly targeting women as their main objective (Al-Shami *et al.*, 2016).

Microfinance has now become an important tool for reducing poverty worldwide and one of the most important instruments used by developing countries for advancing their financial markets (Van Damme, Wijesiri, & Meoli, 2016). Microfinance institutions have significantly increased in the past few years. According to the World Bank, a total of 7,000 microfinance institutions are now in operation and spreading \$2.5 billion credits among poor people, with a total of approximately 16 million borrowers to date (Ayuub, 2013). However, the effect of microfinance to empower the female population is not up to the mark. The female population faces different challenges such as gender inequality, cultural issues and religious issues which increase poverty level. Microfinance is now focusing on gender equality and empowering the female population in most developing countries (World Bank-2011).

The promotion of gender equality among women enhances economic growth (Kesti, 2018). There is a significant relationship between women and economic development (Welsh, Kaciak, Memili, & Minialai, 2018). Women contribute to economic

development and the national Gross Domestic Product (GDP) at an incomparable level through their participation in micro-enterprises, especially in developed countries like the United States of America (Hammawa & Hashim, 2016). The contribution of women with their husband serves as an input to the overall household income, alleviating their tensions and facilitating their survival leading to the well-being of the household (Adnan, Akram, & Akram, 2015). Women's contribution is vital for the well-being of their families because women are likely to spend their income on education, food and health care for their children (Rehman *et al.*, 2015). They contribute to long-term economic developments of nations (American Jewish World Service, 2006).

In most developing countries, women suffer from poverty due to gender discrimination (Derera, Chitakunye, O'Neill, & Tarkhar-Lail, 2014). These forms of discriminations are also due to cultural influences and unequal distribution of social wealth such as education and health in different parts of the world (Siringi, 2011; Waring & Brierton, 2011). Because of this unequal distribution, women experience a lack of credit, savings, training and social capital for their businesses which drive them to seek help from microfinance institutions (Kithae, Nyaga, & Kimani, 2013).

According to the Nations Human Development Report (2011) by the United Nations, Pakistan as a developing country is ranked 115th out of 187 countries on the human development index (HDI) in terms of gender equality (Rehman *et al.*, 2015). Women's are unable to access the resources for their businesses due to the discrimination. Gender inequalities are normally shaped by many power inequalities that transect social, cultural, and economic structures (Garikipati, 2017). This

discrimination is common worldwide (Muravyev, Talavera, & Schäfer, 2009) and tends to go hand in hand (Labie, Méon, Mersland, & Szafarz, 2015).

Women in poor societies are often marginalized from contributing in economic, social and various cultural activities that are the norm for other people, and their access to fundamental rights may be restricted (European Commission, 2004). Different cultures have a different distribution of power with men making decisions in some areas and women making decisions on other issues; however, in male-controlled societies like Pakistan, the essential underlying gender-based division is that men have the larger share in decision-making as compared to the women (Khan & Noreen, 2012). These cultural differences may also impact decision-making activities; for instance, in a male-dominant society, women are subordinate to men and often remain as silent and inactive representatives (Wellalage & Locke, 2013). As a result, their impact is likely to be minimal (Thrikawala, Locke, & Reddy, 2016). In most developing countries such as Pakistan, women live in a joint family system, which makes it difficult for them to live their lives according to their own desire leading to their inhibited potentials (Thrikawala *et al.*, 2016).

Culture is also one of the contributors to gender-related discrimination which is a disadvantage against women (Osman, Ho, & Carmen Galang, 2011). The culture of existing society hinder the ability of women in facing challenging conditions (Swain & Wallentin, 2009). They are devalued by the prevailing culture, denied equal access to resources, and face various cultural restrictions in terms of physical mobility (Kabeer, 2012). Most of the times, women have to adhere to family culture which

bounds them to housewife and maternal duties while the men are required to provide financial sustenance for his family (Syed, Özbilgin, Torunoglu, & Ali, 2009).

Broadly shared belief systems in Pakistan function within most societies to differentiate categories of actors, define appropriate relationships and activities, and rationalise practices that create group-based inequality (Inglehart, Norris, & Ronald, 2003; Ridgeway, 2011). Moreover, it has long been recognized that family and religion have a strong influence on society and that shared beliefs in these aspects are tough to broader societal changes (Hakim, 2018; Inglehart & Baker, 2000). Certain religious beliefs and various types of cultural practices also deny single women from having basic human rights (Lohani, 2010). As a result, issues like poverty, hunger, and violence disproportionately affect members of these groups (Gurr, 2000).

The general belief in many societies is that an increase in the female to male ratio in a household increases the household's poverty (Rehman *et al.*, 2015). This overall pattern is very much in the interest of the male and rooted in patriarchal traditional belief; women have very limited access to different resources due to conventional discriminatory practices, and this generally certifies male privilege (Khan & Noreen, 2012). Decisions on education, marriage of children and market-related transactions in major assets tend to be within the male domain (Kabeer, 1999). Moreover, most of the societies believe that a man should decide how much money a woman can spend on herself, whether his wife or partner should work outside the home, and whether his wife or partner should go out with her friends (Ahmad, Riaz, Barata, & Stewart, 2004). As a result, these beliefs brought poverty, hunger and violence (Gurr, 2000).

Beliefs also have different factors that hinder women's contribution to the economy and access to resources for development, especially in most developing countries (Ablorh, 2011). Socio-cultural beliefs and norms create gender discrimination (Jinia, 2016). These beliefs include low preference to females as compared to males on different grounds such as the male will contribute to the family income, but the female will not; the male will provide assistance to ageing parents, but the female will not. Female education is often viewed as a threat and daughters are considered as a liability to the family. All these beliefs may become obstacles in driving women contribution (Keister & Sherkat, 2014).

For instance, after the death of the husband, women are bound by several ancient and traditional norms, cultures and beliefs (Thapa & WHR, 2010). In different religions and societies, the women usually do not inherit assets from their parents mainly when their brothers are still alive, and the traditional belief behind this phenomenon is that land should not transfer outside of the patriarchal family (Khan & Noreen, 2012). As a result, by internalizing patriarchal beliefs, the women may not view themselves as economic actors; an associated lack of self-efficacy may lead them to shy away from microfinance even in the absence of pressure (DeVault, 1999).

These barriers also create social as well as economic problems such as an increase in poverty level within the society and a decrease in economic development contribution. At present, high percentage of world poverty inflicts women (Ahmed, 2018). This high percentage shows the amount of human resources being wasted. In Pakistan, the women could be economically utilized through the running of micro-enterprises as women can play a key role in the stability, survival, growth and

development of those micro-enterprises, thus solidifying their positive role in the country's economic development (Iqbal *et al.*, 2015). Women could also be utilized economically by giving them the access to financial resources and by improving their bargaining power at the household level, as a result of increased financial contributions, and by building solidarity, self-esteem as well as self-efficacy through various group activities with other women.

These social and economic barriers also create other problems at the household level as well as national level. Social problems cause violence as in many rural areas, traditional cultural norms continue to perpetuate the subordination of women, whilst gender-based violence is widely accepted as a social norm (Jewkes, Levin, & Penn-Kekana, 2002). Social empowerment is seen as a solution which contributes to the decrease in domestic violence (Kim *et al.*, 2007).

Economic problems also create many other issues at the household level as well as national level as inequality in loan distribution i.e. more to men but less to women in the same community with the same lending group decreases the economic activity of the women and leads them to greater poverty or limited business capacity (Cheston & Kuhn, 2002). All these elements ultimately lead to disempowerment. These issues could be managed by increasing women-empowerment level through microfinance institutions.

Women-empowerment indicates preparing women to be economically strong, self-reliant, with good confidence which allows women to face any difficult situation and to contribute in development (Kapila *et al.*, 2016). The economic development of a

country normally depends on both working males and females (Yasmeen & Karim, 2014). Women-empowerment and economic development are closely related to each other, and the empowerment of women will benefit the development of the country (Duflo, 2012). Women living in developed countries have more decision-making power and thus are contributing more to their national income as compared to most women living in developing countries (Yasmeen & Karim, 2014). In Pakistan, almost 40% of the total female population are facing poverty, and 30% are considered to be economically and socially poor (Rehman *et al.*, 2015).

Women are the integral part of every society (Nasir & Farooqi, 2016) as they play a vital role in the economic development of their families as well as communities (Ekpe *et al.*, 2010). Women are important elements in every society as they contribute to the growth and development of the country (Nasir & Farooqi, 2016). Participation of women in income generating activities is key to the economic growth which requires a certain level of women-empowerment. Women-empowerment is very important for the growth as well as the development of the country; however, it is very disappointing that women participation in decision-making and other activities of social life is very low (Nasir & Farooqi, 2016). Although in Pakistan, many government and private institutions are working towards enhancing women-empowerment, a lot of important issues remain unresolved. Many of the outcomes are not up to the mark and the women are still poor as well as vulnerable compared to the men due to low women-empowerment (Sujatha Gangadhar & Malyadri, 2015).

Literature provides conflicting evidence that women-empowerment may or may not partially be achieved with the help of microfinance, especially in Muslim countries

(Al-Shami *et al.*, 2016) as gender discrimination is more prevalent in developing countries (Derera *et al.*, 2014). Other issues such as cultural barriers, faulty beliefs and traditions which are against women-empowerment are more drastic in developing countries. Hence, these issues need to be properly addressed within the said context in developing countries especially Pakistan. Microfinance services have a significant positive relationship with women-empowerment (Leach & Sitaram, 2010).

Microfinance is a powerful tool to enhance women-empowerment in all aspects of the family decision-making process, economic decision-making, mobility as well as legal awareness (Sujatha Gangadhar & Malyadri, 2015). Microfinance scheme plays a vital role in smoothing consumption and recovering loss from shocks (Puhazhendi & Badatya, 2002). It enables women to enhance empowerment by reducing poverty and vulnerability through different microfinance services including micro-credit, micro-saving, micro-insurance, micro-training and social capital (Herath, Guneratne, & Sanderatne, 2015).

Microcredit access through microfinance can generate more income and other livelihood opportunities for women (Alam, Alam, Mushtaq, & Leal Filho, 2018). It has a significant positive link with women empowerment through poverty alleviation (Nader, 2008) and socio-economic empowerment (Kodamarty & Srinivasan, 2016). To target women is the key feature of microcredit because women are a more reliable client for microfinance institutions as compared to men, and women have more potential for development (Pitt & Khandker, 1998). Microfinance entails the offering of small loans to poor people to improve their existing small-scale business (Kessy *et al.*, 2016) and a provision of cash and a smaller amount of loan to self-employed

people to improve their small businesses (Asiama & Osei, 2007). Such type of credit when properly utilised for business operations can lead to empowerment (Olu, 2009).

Women-empowerment can be achieved when microcredit is provided in an integrated pack with another service like insurance (Garikipati, 2008). Micro-insurance is the protection of people with low income against specific hazards in exchange for regular premium payments proportionate to the likelihood and cost of risk involved (Churchill, 2006). It acts as an instrument to avoid risk and to enhance women empowerment because it reduces the vulnerability (shocks) of poor people (Amudha, Selvabaskar, & Motha, 2014). Insurance enhances women-empowerment by elevating the standard of living of poor people (Kishor, Prahalad, & Loster, 2013) and by reducing their poverty level (Rao, 2008). Furthermore, micro-saving is one of the services of microfinance that enhances women-empowerment. However, women in most developing countries also lack savings (Akanji, 2006; Mkpado & Arene, 2007) which is important to enhance women-empowerment (Bernard, Kevin, & Khin, 2016).

Nevertheless, financial capitals such as micro-credit, micro-saving and micro-insurance are not sufficient for empowerment; human capital and social capital such as micro-training and social networks respectively are also needed (Atmadja, Su, & Sharma, 2016; Fiona Leach & Sitaram, 2002; Stevens, 2012; Tundui & Tundui, 2014). Training is one of the important microfinance factors which provides skills as well as experience to women entrepreneurs (Akanji, 2006). It improves women-empowerment as it has a significant positive relationship with micro-enterprise success (Solomon *et al.*, 2013). However, women entrepreneurs in many developing

countries lack training (IBRU, 2009). Social capital also has a significant effect on women-empowerment as it is a prominent evolving tool for socio-economic transformation, economic growth and sustainable community development around the world (Mafukata et al., 2015). Despite this fact, many developing countries are lacking in social connections (Olomola, 2002). In literature, most of the studies did not consider the significance of social capital (Herath *et al.*, 2015). Promotion of gender equality at family and society level by providing women with access to resources will result in great development (World Bank, 2011). Indeed, there is a global pattern where various beliefs foster discrimination about the inferiority of women, minorities, and other social categories (Zhao & Wry, 2016).

All these constraints such as gender discrimination, cultural barriers, beliefs and vulnerability hinder the utilization of human resources related to women. Various beliefs limit the contribution of women to the economy and access to resources for development, especially in developing countries (Ablorh, 2011), where the culture of the existing society limit the ability of women (Swain & Wallentin, 2009) and hinder the performance of women especially in developing countries such as Pakistan.

In Pakistan for instance, out of the population of 212 million, 48.63% are made up of women (Pakistan Census, 2017). However, the employment-to-population ratio of the women is only 22.1% (Pakistan Bureau of Statistics, 2013), which is quite low as compared to the total population. All these issues lead towards the low women-empowerment in Pakistan. In a result, it leads to the minimum contribution of Pakistani women towards nation's economy as compared to the other developed and developing countries.

Moreover, in Pakistan it was found that out of the total of workforce in rural areas, 60% to 78% are made up of women. However, men are five times more likely to own farmlands as compared to women, due to which women are unable to access more income and employment opportunities (UNDP 2012). The Global Monitoring Report also revealed that a very small amount of land is owned by women worldwide (GMR 2014). Additionally, women lack social capital (Kithae et al., 2013). Social capital is based on a connection among individuals (Putnam, 2000) and is one of the most crucial development tools (Kifle, 2007) particularly for socio-economic development (Mafukata, Dhlandhlara, & Kancheya, 2015). However, as previously mentioned, women lack social capital due to gender discrimination. Therefore, women are one of the most vulnerable groups who need to be empowered especially in most developing countries such as Pakistan.

Pakistan started its movement within the sector of microfinance with two programs namely, Agha Khan Rural Support Program (AKRSP) and Orangi Pilot Project (OPP) (Pokhriyal, Rani, & Uniyal, 2014). Pakistan has a large population of 200 million, and 44% out of this population is living below the poverty line, having a daily income of only USD2 (GMR 2015). The Pakistan Microfinance Network revealed that microfinance institutions are serving only 4 to 7% of the total population (Pakistan Microfinance Network, 2014). Poverty is experienced by almost 40% of the women where 30% are considered to be economically and socially poor (Rehman, Moazzam, & Ansari, 2015).

Women-empowerment has been the subject of intense discussion in the development circle as poverty mainly inflicts women (Hussain, Mahmood, & Scott, 2018). “The government of Pakistan had failed in driving women empowerment initiatives for the past 63 years (Yasmeen, 2015). That is why women are one of the most affected and helpless segments of society in Pakistan. Although many measures have been taken by the Pakistani government, a large portion of women in urban and rural areas are still living in dire conditions as cited by Yasmeen (2015)”. The status of women in Pakistan is one of the greatest obstacles to the progress of women-owned businesses in the country (Roomi & Parrott, 2008). According to Hausmann, Tyson, and Zahidi (2008), Pakistan is ranked higher than other countries in terms of deference to sex prejudice. According to Muhammad, Shaheen, Naqvi, and Zehra (2012), the economy of Pakistan depends on activities like agriculture, farming, and husbandry, but almost 48.63% of the population consists of females (Pakistan Census, 2017) who are mostly employed as domestic helpers and being housewives (Sathar & Kazi, 2000). This condition of the female population varies from region to region within Pakistan. The females living in different cities and developed areas are less poor. On the other hand, females living in rural and less developed areas such as Southern Punjab are poorer and living in vulnerable conditions.

Southern Punjab is one of the least developed areas in Pakistan having different villages as well as deserts and nearby rivers. It consists of more than ten underdeveloped cities with many rural areas. Within the region of Southern Punjab, Bahawalpur is a city, which is ranked as the 12th largest city in Pakistan and is also the capital of Bahawalpur State. Bahawalpur is situated at the South of the Sutlej River and consists of a large desert called the Cholistan where a group of hardcore

poor people are living. It is one of the largest districts of Pakistan covering an area of 24,830km². According to the population census (1998) in Pakistan, the population of Bahawalpur was recorded at 2.411 million with a growth rate of 3.88% per year. Now, the current population there is above 4 million — and these people are living in the desert area facing numerous challenges such as water scarcity, food shortage, windstorms and climate change causing them to live in total vulnerability.

The other areas of Southern Punjab consist of nearby rivers which cause flooding during rainy seasons. These floods, windstorms, water scarcity, and climate changes disturb the agriculture areas of the poor people and destroy their micro-enterprises dragging them towards further vulnerabilities. Apart from environmental vulnerability, social, political and economic vulnerabilities also affect women becoming the reasons for low women-empowerment in this area.

The issues related to environmental vulnerability could be overcome through the existence of microfinance institutions, currently operating in Southern Punjab. For instance, in the Bahawalpur region, 55 microfinance institutions consisting of banks, Non-Profit Organizations (NGOs) and others are already in operation. According to the Pakistan Microfinance Review (2016), 143,456 people had obtained credit from these microfinance institutions amounting to PKR 4.707 billion. The total of active savers in this area is 429,579, and the total of their savings is PKR 3.00 billion. The total of people with insurance policies is 210,922, and the total of their insurance premium is PKR 5.039 billion. Therefore, the average loan per active borrower is PKR 32,812 whilst the average savings of these people is PKR 6,984. However, no

significant improvement had been recorded in the poor people's standard of living due to the numerous environmental, social, political and economic vulnerabilities.

Additionally, apart from these issues, in Southern Punjab Pakistan, women also face various vulnerabilities in different regions of Pakistan caused by environmental, social, political and economic factors that drag them deeper into poverty. Because of these issues, poor women become poorer causing a decline in women-empowerment. An example of this is the scenario when certain environmental factors destroy a micro-enterprise developed by a woman who funded the business using micro-credit which still needs to be repaid despite the failed business. In such scenario, the woman's poverty level increases while her sense of empowerment declines. The household survival is now in jeopardy due to the elevated risks and challenges (Bali Swain & Floro, 2014). Moreover, according to Piers Blaikie, Cannon, Davis, and Wisner (2004), social, economic and political vulnerabilities also affect poor people. Social vulnerability is based on gender discrimination. Gender discrimination is a huge issue in many developing countries (Harper, Jones, Ghimire, Marcus, & Bantebya, 2018) like Pakistan where men play a dominant role than women especially in the decision-making process and other economic related activities (Derera *et al.*, 2014). Social vulnerability such as gender discrimination based on culture and other beliefs hinder the contributory potential of women. Economic vulnerability limits the participation of women in micro-enterprise. Moreover, Southern Punjab is politically vulnerable due to the low level of women-empowerment and inappropriate measures of government.

Thus, this study highlighted that microfinance is available for poor women but due to vulnerability factors women-empowerment is not achieved in Southern Punjab, Pakistan. Hence, vulnerability factors such as social, economic, political and environmental are the responsible factors of low women-empowerment. Hence, these observations from previous studies form the base and justification for future studies in Southern Punjab Pakistan.

These problems could be handled through microfinance institution's services such as micro-credit, micro-savings, micro-insurance, micro-training and social capital. As Shane (2003) attributes that low performance among women is due to the absence of social capital, savings, credit, education and training. Therefore, women-empowerment could be achieved through microfinance services (Leatherman & Dunford, 2010), particularly in most developing countries where women are facing difficulties with credit access (Iganiga, 2008; Iheduru, 2002; Kuzilwa, 2005; Nwoye, 2007; Okpukpara, 2009).

Therefore, three forms of capital are the key to empower women community by promoting women micro-enterprises. Due to not having significant level of human capital, poor women could not utilize financial capital in effective way. In this case, both financial and human capital are needed to empower these women. Moreover, social capital is much beneficial in case of any emergency and to handle vulnerability shocks. The missing of one of the capital components may lead to the failure of women micro-enterprise which shall drag them towards serious poverty. Thus, this is the pioneer study which highlights the importance of three forms of capital. These capitals should be employed together to empower women community.

Thus, poverty is one of the most chronic issues in Pakistan, especially in the area of Southern Punjab. The female population is the most inflicted with poverty due to gender discrimination, cultural issues, beliefs and religion. There is an unequal distribution of social and economic wealth among men and women. The females are continuously discouraged from getting involved in income generating activities such as micro-enterprises. Furthermore, in Southern Punjab, women living in poverty are also facing various vulnerabilities such as social, economic and political injustices, climate change and natural disasters. Despite the help being extended by microfinance institutions, the effect on the target group is still minimal.

To sum up, women-empowerment is a crucial issue in most developing countries, especially Pakistan. However, the phenomenon of women-empowerment is not properly acknowledged in Pakistan and need to be addressed in depth. In Pakistan, women face different issues such as gender discrimination, cultural issues, different beliefs and traditions which hinder their contribution at the domestic and country level. These issues are evolving to be a constraint in women-empowerment. As women are a crucial part of society, the well-being of families, communities and economic growth of the country is at stake without women-empowerment. Microfinance has been identified to play an important role in enhancing women-empowerment. Microfinance services such as micro-credit, micro-saving, micro-insurance, micro-training and social capital can facilitate the achievement of women-empowerment. These services are significant in reducing poverty among women and promoting women micro-enterprise which in turn contribute to the well-being of families and economic growth of the country.

1.3 Problem Statement

In most of the developing countries like Pakistan, the women-empowerment level is quite low. In Pakistan, women's contribution to the nation's economic growth seems to be not well-acknowledged, and there is low performance among women in economic growth due to certain obstacles such as high poverty, high unemployment rate, low household income and societal discriminations (Ekpe *et al.*, 2010). Pakistani women contribution to economic development is quite low as compared to other countries. In the United States (US), women contribute 23% to 98% to the GDP and contributed almost USD 3 trillion to the economy and employ 23 million people (Ernst & Young's, 2010). Women entrepreneurs contribute 50% to the annual GDP and 54.1% to the total employment in the US; 75% to the total employment with 55% to the GDP in Indonesia, and 44% to the GDP with 56% to the total employment in Malaysia through micro-enterprises (Evbuomwan, Ikpi, Okoruwa, & Akinyosoye, 2012; Norizatun, Abdul Halim, & Chong, 2011). However, as compared to these countries, Pakistani women contribute approximately 25% to 30% to the economy (Ul-Hameed, Mohammad, & Shahr, 2018). In Pakistan, women-owned micro-enterprises only make up 28% and these micro-enterprises create 24% of job opportunities at a lower level as compared to the other countries. With regards to financial decision-making, only 37% of the women in the country are involved. Thus, this comparison indicates that there is low women-empowerment in Pakistan which

requires special intention. Low women contribution is also one of the indications of high poverty level among Pakistani women.

Most Pakistani women have lack of resources to start their businesses. Women in business, on the other hand have lack of credit, savings, training and insurance which drives them to seek loans from microfinance institutions (Kithae *et al.*, 2013). Most of the time, women are granted less credit as compared to men (Brana, 2013; Fletschner, 2009). Due to lack of credit, saving and insurance activities, women cannot start their businesses (Bernard, Kevin, & Khin, 2016). Women that have access to credit cannot run their micro-enterprises due to lack of training opportunities (Kuzilwa, 2005). Lack of credit, saving, insurance and training push women to take part in microfinance institutions. Microfinance institutions provides the opportunity for women to participate in income generating activities which increases the women social and economic empowerment (Hameed, Mohammad & Shahar, 2018). Thus, this study will examine the effect of the microfinance services, namely financial capital (micro-credit, micro-savings, micro-insurance) and non-financial capital (micro-training/skill development), contributing factors towards women-empowerment in Southern Punjab, Pakistan.

Additionally, social capital is also an important contributing factor towards women-empowerment. Social capital also has a significant effect on women-empowerment as it is a prominent evolving tool for socio-economic transformation, economic growth and sustainable community development around the world (Mafukata *et al.*, 2015). Because of unequal distribution, women experience lack of social capital for their businesses which drive them to seek help from microfinance institutions (Kithae,

Nyaga, & Kimani, 2013). As Shane (2003) attributes that low performance among women is due to the absence of social capital. Poor people in most developing countries lack social connections (Olomola, 2002) which lead to low empowerment. Thus, this study will identify the contributing effect of social capital towards women-empowerment in Southern Punjab, Pakistan.

Moreover, apart from various contributing factors, vulnerability factors such as social vulnerability, economic vulnerability, environmental vulnerability and political vulnerability may give negative effect on women-empowerment level. It is reported that Southern Punjab Pakistan is the most vulnerable region having low women-empowerment due to numerous vulnerability factors such as social, economic, political and environmental. Social vulnerability is grounded on discrimination, which causes economic vulnerability due to male dominance and less access to resources such as credit, saving, insurance and training. Inappropriate measures of Pakistani government and community lead to increase in political vulnerability in Southern Punjab. Environmental vulnerability consists of flooding, heavy rain, storms, diseases, water shortage, food scarcity, desertification, pollution and social erosion (Al-Khatib, 2000; Stewart, 2007) which causes harm to women micro-enterprises. All these issues lead towards increase in poverty level among women community. Bahawalpur (a part of Southern Punjab) the rate of poverty has fallen from 69.64% to 55% (Chaudhry, 2009). According to Afzal, Rafique, and Hameed (2015), Southern Punjab is one of the highest poverty-related areas as compared to other parts of Pakistan. It is suggested by the literature that there is a need to study women-empowerment in this area (Yasmeen, 2015). Thus, this study will investigate whether vulnerability factors limit the positive contribution of microfinance factors and social capital towards

women-empowerment. In other words, in the case of Southern Punjab, does vulnerability factors play as moderating variables between microfinance factors and women-empowerment, and also between social capital and women-empowerment.

1.4 Research Questions

The problem statement section revealed several key issues on women-empowerment. Therefore, this section identifies and highlights the research questions for the study.

1. What are the factors contributing to women-empowerment? From this research question, the following sub-research questions are raised:
 - 1.1 Does micro-credit contribute to women-empowerment?
 - 1.2 Does micro-saving contribute to women-empowerment?
 - 1.3 Does micro-insurance contribute to women-empowerment?
 - 1.4 Does micro-training/skill development contribute to women-empowerment?
2. Does social capital contribute to women-empowerment?
3. Does vulnerability moderate the relationship between the microfinance factors and women-empowerment?
4. Does vulnerability moderate the relationship between social capital and women-empowerment?

1.5 Research Objectives

The research questions, in turn, lead to the research objectives of the study as follows:

1. To examine whether the microfinance factors contribute to women-empowerment. This research objective leads to the following sub-objectives:
 - 1.1 To study whether micro-credit contributes to women-empowerment.
 - 1.2 To study whether micro-saving contributes to women-empowerment.
 - 1.3 To study whether micro-insurance contributes to women-empowerment.
 - 1.4 To study whether micro-training/skill development contributes to women-empowerment.
2. To study whether social capital contributes to women-empowerment.
3. To examine whether vulnerability moderates the relationship between the microfinance factors and women-empowerment.
4. To examine whether vulnerability moderates the relationship between social capital and women-empowerment.

1.6 Scope of the Study

The current study is limited to Southern Punjab of Pakistan. Punjab is one of the states of Pakistan, and Southern Punjab is the part of this state shown in Figure 1.1 and Figure 1.2. As discussed in the background of the study, one part of this area consists of a desert known as the Cholistan. This area consists of many villages containing the majority of poor people. Hence, this area has a good potential for the development of microfinance institutions. As mentioned above, 55 microfinance institutions are already operating in this area (Pakistan Microfinance Review 2016); however, they

have a very low effect on the lives of the poor people. This is one of the points of intention to focus on this area.

Additionally, the current study covers the key services of microfinance institutions namely micro-credit, micro-saving, micro-insurance and training/skill development. With the microfinance factors, social capital is also considered apart from social vulnerability, economic vulnerability, environmental vulnerability and political vulnerability.



Figure. 1.1
Map of Pakistan

which consists of networks between people that are helpful in any adverse conditions. Therefore, the current study fills the literature gap by considering three types of capital which have not been formally documented by other researchers. The study highlights the importance of the three capitals in enhancing women-empowerment, which is particularly beneficial for practitioners as they need to understand that the absence of any of the three will result in the non-achievement of the women-empowerment objective and the futility of the other capitals.

Furthermore, this study attempts to fill another gap by introducing various factors that limit the microfinance contribution towards women-empowerment. These factors are based on vulnerability. Therefore, this study is also significant because it highlights the role of the vulnerability factors (social, economic, environmental, political) on women-empowerment particularly in Southern Punjab Pakistan. Microfinance institutions need to know the correlation between these issues and their contribution towards determining the successful achievement of women-empowerment.

Most of prior studies focused on the effect of microfinance services on vulnerability; however, in some rare cases, the literature formally documented the impact of vulnerability on microfinance services. Most of the studies emphasised the role of microfinance to mitigate poverty; however, the effect of vulnerability on women-empowerment is missing in literature. Thus, this study is a pioneering study to fill the literature gap by examining the effect of vulnerability on the relationship between microfinance services and women-empowerment. The results are important for microfinance institutions, the state bank of Pakistan and the government of Pakistan as they reveal the reasons why women are still living in vulnerable conditions.

Vulnerability has been indicated as the factor that limits the positive contribution of microfinance services and affects negatively on women-empowerment.

In summary, the current study highlights the significance of three types of capital namely financial capital, human capital, and social capital in enhancing women-empowerment. Apart from these positive factors, this study also revealed the adverse factors (e.g. natural disasters, food scarcity, water scarcity, floods, windstorms, climate changes, gender discrimination, economic issues, political issues) which hinder the contribution of women both socially and economically. Additionally, the current study also presented how these adverse factors limit the positive effect of microfinance services.

1.8 Organization of the Thesis

This research is divided into five chapters. Chapter One provides a brief explanation of the thesis. This chapter consists of the introduction, research background, problem statements, research questions, research objectives, the significance of the study, and lastly the organization of the thesis.

Chapter Two provides the review of literature relating to women-empowerment and other microfinance factors such as micro-credit, micro-saving, micro-training and micro-insurance. It also provides a review of the literature on social capital. The relationship between each of the microfinance factor with women empowerment is also subsequently discussed apart from the role of the vulnerabilities.

Chapter Three provides details of the methodology and techniques applied to collect and process the related data. Firstly, it describes the research framework development adapted for the study. Next is the discussion of the research design sub-topic that provides information about the research design as well as sources of data, the design of the questionnaire as the research instrument for this study as well as the data collection and sampling method. Besides the above, this chapter also provides the statements of the research hypothesis and the data analysis procedures applied to test these hypothesis statements.

Chapter Four consists of the results of the data analysis, responses of participants and a summary of the findings of all the hypotheses. It is mainly based on preliminary data analysis and PLS-SEM to check the reliability, validity and relationship between the independent, dependent and moderating variables. It presents the results of the hypotheses and provides a brief discussion on the findings.

Lastly, Chapter Five discusses the contributions of the research to the body of knowledge as well as to the practitioners. This includes the limitations of the study and the suggestions for future similar research. Figure 1.3 illustrates the systematic diagram of the contents of this thesis.

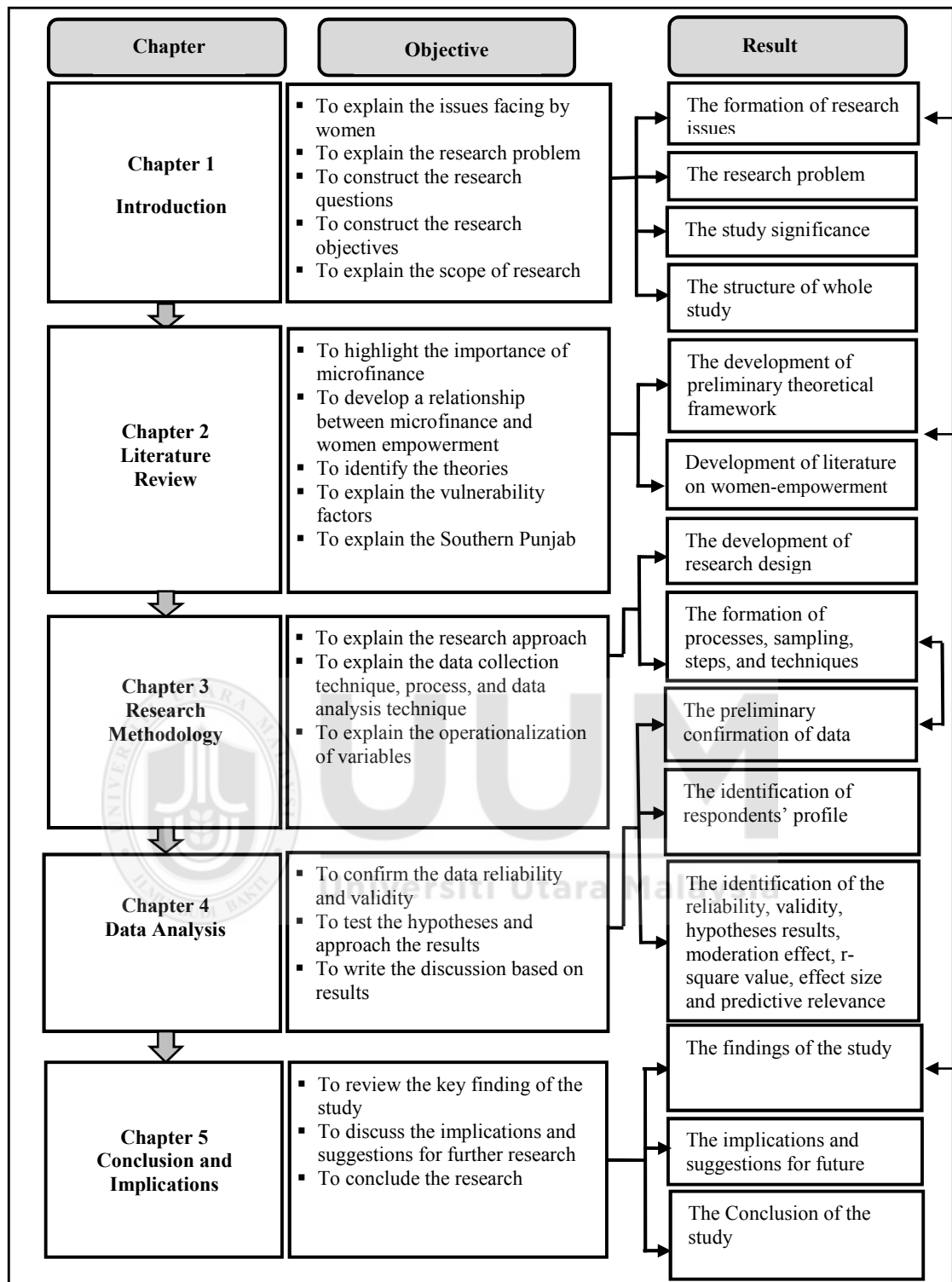


Figure 1.3
Structure of the Thesis

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The first section of this chapter begins with a review on the concept of microfinance which highlights the lending model of microfinance institutions. It also highlights the outreach of microfinance institutions worldwide and their background in Pakistan. Additionally, this section underlines the concept of microfinance in relation to women-empowerment.

The second section of this chapter begins with the theoretical discussion and development of a link between women-empowerment and two theories namely Mayoux's Feminist Empowerment Theory and the Relational Theory of Risk. The former describes how microfinance factors are helpful towards enhancing women-empowerment whilst the latter describes how environmental vulnerability affects women-empowerment.

In the third section of this chapter, the relationship between women-empowerment and microfinance factors namely micro-credit, micro-saving, micro-insurance and micro-training is discussed, apart from the relationship between social capital and women-empowerment. Additionally, an empirical review on the relationship between microfinance factors and women-empowerment as well as a discussion on the relationship between the microfinance factors and women-empowerment with vulnerability are also presented.

The fourth and final section of this chapter discusses the multiple causes of vulnerability in Southern Punjab, Pakistan. Furthermore, this section also describes the poverty profile in Southern Punjab i.e. the focus area of this study.

2.2 Enterprise Business Financing

Access to finance has been widely recognized to be one of the major constraints faced by small businesses (Ezezew, 2019; Lader, 1996; Msuya, 2019). A World Bank investigation revealed that about 90% of small enterprises studied demonstrated that access to credit is the main constraint to new investments (Parker, Riopelle, & Steel, 1995). According to Levy (1993), there is limited access to financial resources accessible to smaller enterprises than larger organizations which effect adversely on their low growth and development. This stems from the fact that small enterprises have limited access to capital markets due to various factors such as inability to provide appropriate collateral, lack access to relevant business information, and the higher costs associated with intermediation for small enterprise (Abor & Biekpe, 2006).

Generally, there are two types of financing. These include debt finance where money is borrowed from external lenders, such as a bank. Next is equity finance which involve in investing money, or funds from other stakeholders, in exchange for partial ownership. Debt financing have various collateral requirements (Aleszczyk, De George, Ertan, & Vasvari, 2018). Generally, many small enterprises are unable to meet the collateral requirement of debt financing. In that case, poor people could not obtain loan from either financial institutions or traditional financial markets. In this

situation, microfinance institutions provide good platform for poor people to obtain small amount of loan to be invested in their micro-enterprises.

Therefore, poor people obtain loan from microfinance institutions to facilitate their micro-enterprises. Moreover, they also being financially supported from various stakeholders such as family, friends and relatives. Thus, debt financing may not be possible due to the inability of the poor to meet debt obligation.

2.3 Microfinance

Microfinance is one of the ideas through which low-income people receive financial services that would enable them to reduce their level of poverty (Ahlawat, 2016). These financial services may include savings, insurance, credit, leasing, equity transaction, money transfer or any other type of financial services which enable the customers to fulfill their daily financial needs as well as to gain economic opportunity (Gupta & Rao, 2005). Microfinance is deemed as a poverty reduction tool and is primarily focused on women entrepreneurs (Evelyn & Osifo, 2018) because women have been identified to be inflicted by poverty more than man (Kapila *et al.*, 2016).

The lending concept of these microfinance institutions consists of group lending and individual lending. There are two types of group lending namely joint liability group (JLG) and self-help group (SHG) (Hameed, Mohammad, & Shahar, 2018; Singh & Padhi, 2017). In JLG, a group of people consisting of 5 to 10 members will get together to apply for a loan (Nasir, 2013). The loan could be in group form and individual form against a mutual guarantee. Meanwhile, SHG comprises a group of 10 to 20 members from a homogeneous class who come together voluntarily to achieve a particular goal which can be social or economic in nature (Nasir, 2013). This concept

is normally used by poor people who pool their savings, and then mobilize this saving among the group members with the aim of taking care of each other's welfare, especially in the case of women. The procedure begins with the members making internal transactions via their bank accounts to support each other i.e. a move that increases their credibility. NGOs will then start to support this group by linking with banks for financial support. Figure 2.1 below illustrates the microfinance lending model.

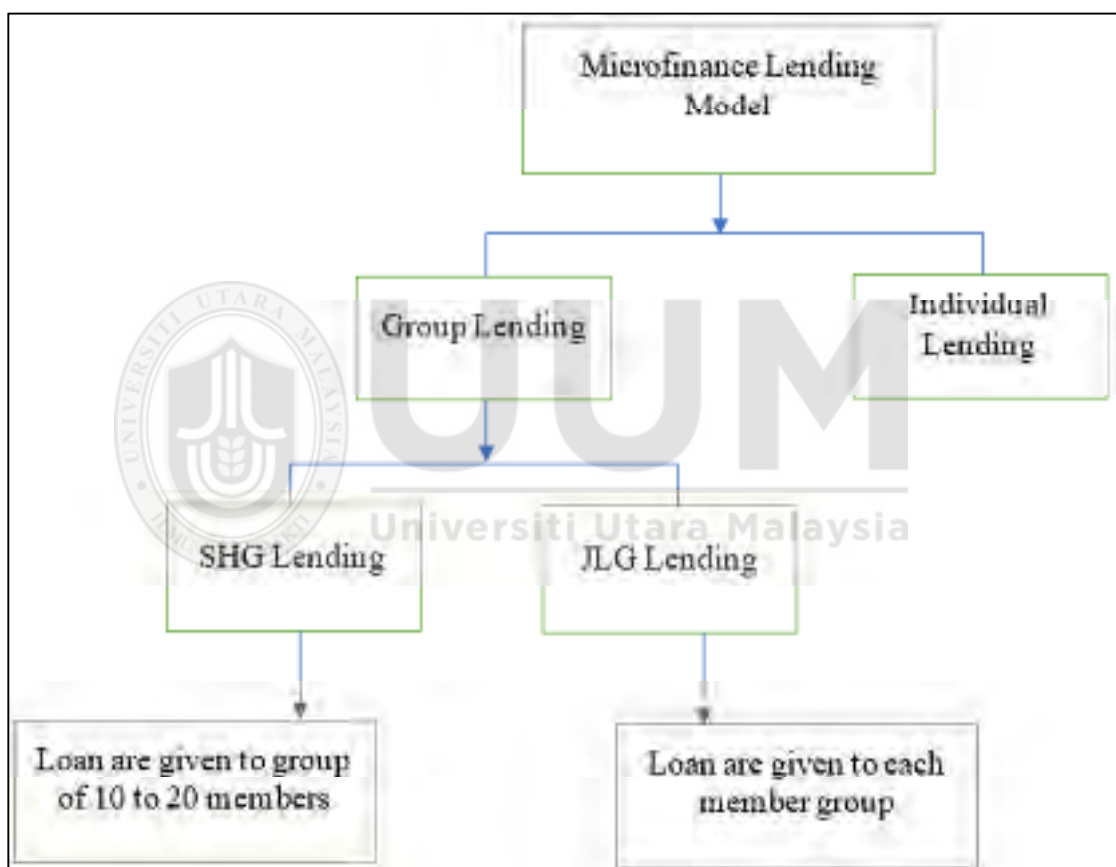


Figure. 2.1

Microfinance Lending Model

Source: Nasir and Farooqi (2016)

The number of microfinance institutions have been increasing significantly for the past few years. According to the World Bank, there is a total of 7,000 microfinance institutions operating worldwide and allocating \$2.5 billion credits among poor people, with a total number of borrowers of approximately 16 million (Ayuub, 2013).

2.4 Microfinance Institutes in Pakistan

Pakistan started a movement in the sector of microfinance with two programs namely Agha Khan Rural Support Program (AKRSP) and Orangi Pilot Project (OPP) (Pokhriyal *et al.*, 2014). Pakistan is one of many developing countries with a high poverty rate, which renders the vital importance of microfinance there. Pakistan has a total population of 200 million people where 44% are living below the poverty line, earning only US\$2 for their daily income (Global Monitoring Report, 2015). The Pakistan Microfinance Review reveals that microfinance institutions are serving only 4-7% of the total population (Pakistan Microfinance Network, 2014). Therefore, massive micro financing is required in Pakistan and the Pakistani Government is now paying attention towards developing microfinance institutions. The Pakistan microfinance bank ordinance was passed in 2001, and now microfinance has become the primary tool for reducing poverty in Pakistan. Since then, the Pakistani Government has started to support the development of other private microfinance institutions in its effort to alleviate poverty (Ayuub, 2013). Since the number of microfinance institutions in Pakistan has been well documented to be insufficient in serving poor people, the step to undertake more microfinance research in the country is well justified. Table 2.1 below shows the profile of Pakistani microfinance institutions in general.

Table 2.1
Profile of Microfinance Institutes in Pakistan

	2016 – Q-2
Number of Branches/Units	3,130
Number of Districts Covered	99
Penetration Rate (%)	20.3
Active Borrowers	4,161,247
Gross Loan Portfolio (PKR Millions)	108,881
Number of Loans Disbursed	1,227,858
Disbursements (PKR Millions)	46,069
Average Loan Size (PKR)	37,520
Number of Savers	15,755,451
Value of Savings (PKR Millions)	77,311
Average Saving Balance (PKR)	4,907
Number of Policy Holders	5,530,894
Sum Insured (PKR Millions)	128,886

Source: Pakistan Microfinance Review (2016) [PKR = Pakistani Rupee, 1 USD\$ = 135 PKR]

According to the Pakistan Microfinance Review (2017), there are 3,533 branches of microfinance institutions operating in Pakistan with 5.5 million active borrowers, 15.7 million savings account holders, approximately 5.5 million policyholders. However, as mentioned above, out of the population of 200 million, 44% or 88 million are living below the poverty line. The aforementioned figures of the number of active

borrowers and policyholders give the perspective that microfinance institutions in the country are only serving a small part of the entire population.

2.5 The Underpinning Theories

To understand a phenomenon, theories serve as a lens in research (Ngofa, 2014). Theories are “interrelated sets of variables formed into preposition or hypothesis that point to the relationship of magnitude or direction among variables” (Creswell, 2009). For this purpose, Mayoux’s Feminist Empowerment Theory and the Relational Theory of Risk are used to understand the relationship between microfinance and socio-economic empowerment of women in the Southern Punjab region of Pakistan.

2.5.1 Mayoux’s Feminist Empowerment Theory

The Mayoux (1998b) feminist theory is one of the most prominent theories discussing women-empowerment. This theory focuses on enhancing women advancement in the context of socioeconomic status in developing countries. It is also based on women-empowerment, equity and equality within the societies (Mayoux, 2005), as it reduces gender discrimination (Ul-Hameed *et al.*, 2018). This theory aims to explain poverty alleviation among women with the help of self-sustainability, which will contribute to providing more socio-economic rights to women to be equal to the men.

The Mayoux (1998b) theory primarily consists of practical and strategic gender needs. Practical gender-specific needs of men or women are aimed at fulfilling immediate perceived needs such as food production, household work and women biological role for reproduction. Strategic gender needs entail the rising over male dominance

(Mayoux, 2005) which include having equal rights, access to credit, household decision making, land ownership and labour participation.

This theory describes that women-empowerment can only be achieved when factors and barriers relating to socioeconomic aspects are adequately addressed. Therefore, microfinance has an aim to empower women with different policies which favour self-sustainability and poverty reduction. The achievement of women-empowerment dictates that women strategic needs should not be transferred to the background of cash possessions (Mayoux, 2005). Women should not be restricted to cash and should have access to credit, land ownership rights, participation in labour and equal rights with their male partner.

This theory interlinks microfinance to women-empowerment. Mayoux managed this by finding and linking three ‘paradigms’ namely financial self-sustainability paradigm, poverty alleviation paradigm and feminist empowerment paradigm, as shown in Figure 2.2. The first paradigm theory is related to the “financial systems approach” and it offers commercial-oriented and packaged financial services for the poor who are economically active (Kabeer, 2005). It also includes a model which supports microcredit as a tool for women empowerment, particularly economic empowerment (Basu, 2008). This increased economic empowerment will lead towards more social empowerment and enhance the well-being of women (Mayoux, 2005). In the second paradigm, microfinance is viewed as an integrated program for poverty reduction (Mayoux, 2005). The central assumption of this paradigm is that increased access to microfinance among women will enable them to contribute to the household income, increase the well-being of the household, and contribute to other

interventions that will automatically increase the well-being of the female community (Mayoux, 2000). The third paradigm focuses on the socio-economic empowerment of women (Mayoux, 2000). It focuses on poor women and women who are capable of playing a role of change (Mayoux, 2005).

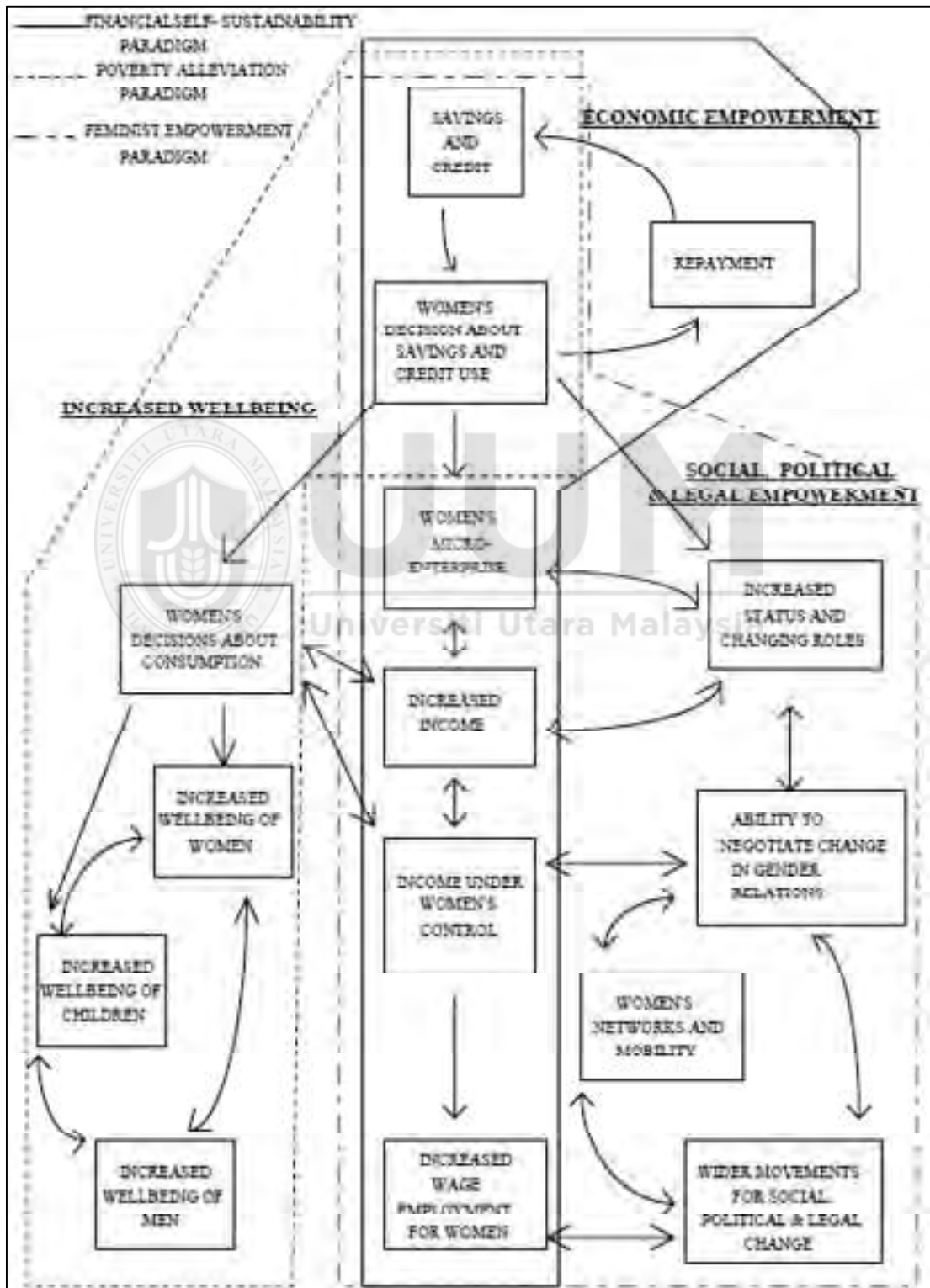


Figure 2.2*Virtuous Spirals: Paradigms Compared*

Source: Mayoux (2002)

To better understand the theory of Mayoux, Freier (1968) drew similarities about the powerless and disadvantaged situation of labourers in Chile in the 1960s. To judge the concept of inequality, Freier developed the theory of empowerment (Holst, 2006; Hur, 2006), which is based on the powerlessness of the said labourers. According to Freier, people of lower-class face problems such as freedom of choice or slavery. Freier examined that society will be more progressive if the people are empowered with the right to be a part of the decision-making process. Freier's opinion resembles Mayoux's theory of "equity, equality and empowerment" (Ngofa, 2014). Freier suggested that people should be treated equally and should have the right to control their own lives to be able to experience an enhanced life.

In the context of the current study, this theory is selected because of different reasons. Firstly, the Mayoux theory focuses on developing countries such as Pakistan. Secondly, this theory focuses on gender inequality, a phenomenon which is common in Pakistan. Thirdly, this theory focuses on poverty reduction among women which is another common phenomenon in Pakistan particularly in the Southern Punjab region.

Finally, the justification for using Mayoux's Feminist Empowerment Theory for this study is the integral understanding that it provides to the concept of women-empowerment in terms of socioeconomic status. Evidence shows that microfinance enhances the socio-economic empowerment of women by considering the strategic and gender needs of the women.

2.5.2 Relational Theory of Risk

The Relational Theory of Risk is the underpinning theory that could explain the effect of vulnerability on women empowerment. This theory is based on three elements: an object at risk, a risk object, and a relationship of risk (Boholm & Corvellec, 2011). *An object at risk* is an object recognized with some values and is considered to be at stake. It is an object with different identity traits like values and the need for protection. On the other hand, *a risk object* is an entity that threatens the object at risk. It is an object that consists of different identity traits related to danger and harm. Finally, *a relationship of risk* is the relationship established between a risk object and an object at risk. For instance, one object is seen to be threatening the other object's value between two objects.

What establishing an object at risk, a risk object and a relationship of risk are repeatedly reframed and redefined, and vary over time (Fuentes & Fuentes, 2015). Fuentes and Fuentes (2015) further described that different groups and communities can identify the same phenomenon as an object at risk and a risk object at the same time. This risk narrative produces a particular network comprising of an object at risk, a risk object and a relationship of risk (Boholm & Corvellec, 2011).

According to Hilgartner (1992), definitions of risks consist of at least three conceptual elements: firstly, an object deemed to “pose” the risk; secondly, putative harm, and thirdly, a linkage alleging some form of causation between the object and the harm. In this study, an ‘object’ is not only to be understood in a mere material sense. Here, an

object refers to any physical, cultural as well as social artefact as explained by Boholm and Corvellec (2011). It could be a natural phenomenon such as environmental changes within the context of natural disasters i.e. an undesirable event (Ylönen, 2018).

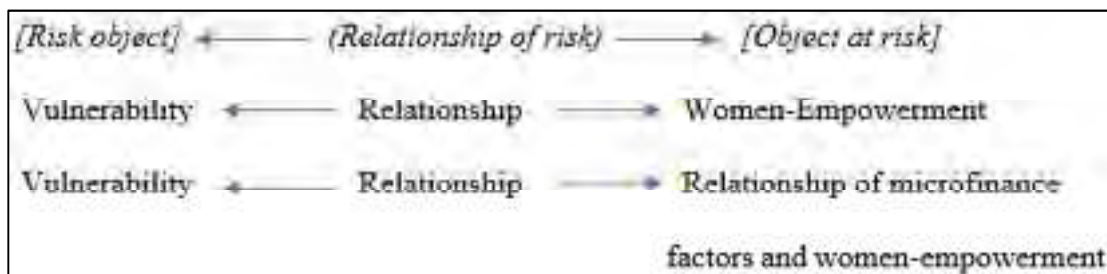
According to Boholm and Corvellec (2011), risk objects resemble hazards i.e. it refers to something that is acknowledged as dangerous. In the context of the current study, risk object is a type of vulnerability which consists of different hazards such as natural disasters, climate changes, physical hazards and any other dangerous objects related to the environment (Banerjee & Jackson, 2017; Birkmann, 2006; Cardona, 2013; McEntire, Gilmore Crocker MPH, & Peters, 2010). Vulnerability also consists of social, economic and political factors. Social vulnerability includes gender discrimination through culture, beliefs and norms; economic vulnerability includes insufficiency of financial resources whilst political vulnerability is based on inappropriate measures defined by the government (Banerjee & Jackson, 2017; Stewart, 2007). According to the assumptions of the risk relational theory, an object must be dangerous, and is not only labelled as dangerous to the thing which already exists. An object at risk is an object ascribed with some value, which could be in monetary terms (Bourdieu, 2003). In the context of the current research study, the relationship between microfinance factors and women empowerment is considered as an object at risk as this relationship poses some value to enhance women-empowerment. Additionally, women-empowerment is also considered as an object at risk.

Relationship of risk refers to the relationship which an observer establishes between a risk object and an object at risk, before threatening the value of the latter object (Boholm & Corvellec, 2011). A relationship of risk does not simply occur; it is one of the semantic associations between objects (Van Loon, 2013). This relationship is not based on actual happenings; it is hypothetical or imaginary and might occur if certain conditions are met (Boholm & Corvellec, 2011). In this relationship, risk object could affect as well as modify the object at risk (Corvellec, 2011). In the context of the current study, the relationship of risk is firstly between “vulnerability” (risk object) and “relationship of microfinance factors and women-empowerment” (object at risk). Secondly, the relationship of risk is defined by the relationship of “vulnerability” (risk object) and “women-empowerment” (object at risk). In this case, vulnerability as a risk object will modify the relationship between women-empowerment and microfinance factors or simply women-empowerment.

Finally, in the context of the current study, this theory can be explained with the help of the equation below:



Source: Boholm and Corvellec (2011)



Source: Developed by the current study

2.6 Women-Empowerment

'Empower' as cited by Rehman *et al.* (2015) means "to give somebody the power or authority to do something or to give somebody more control over their life or the situation they are in." Empowerment is one of the continuous processes in which poor/powerless people become aware of their condition, and so they organize themselves, get access to opportunities as they set their own agenda, solve their problems, gain skills and develop self-reliance (Saraswathy Amma, Panicker, & Sumi, 2008). It is one of the processes in which relations of power transform among individuals as well as social groups (Batliwala, 2007).

Women-empowerment is one of the processes in which women get more control over resources, human and intellectual resources involving knowledge, idea, information, financial elements like money or access to money, and decision-making power at the domestic, community, and national fronts (Jamal *et al.*, 2016). Generally, it is linked to intermediation and enterprises development which has a lasting effect on financial independence (Shaheen, Hussain, & Mujtaba, 2018).

In most developing countries like Pakistan, women-empowerment is low due to different reasons such as lack of access to resources, lack of credit, lack of training, lack of savings and insurance, and other issues related to gender discrimination, culture and religion. According to Akanji (2006), women who are involved in enterprises have poor financial performance as compared to their male counterparts. The reason for this low performance is that the women do not have social capital, savings, credit, education and training (Shane, 2003) particularly those in developing countries who are facing the issue of credit shortage (IBRU, 2009; Lakwo, 2006; Okpukpara, 2009). This also contributes to the reason why the rate of female

involvement in the informal sector is higher than the formal sector like microfinance (Akinyi, 2009). Lack of credit pushes the women to get credit from microfinance institutions (Kuzilwa, 2005) or any other informal sources such as clubs, societies and relatives.

To reveal the main causes of low women-empowerment, different studies had been carried out to explore this phenomenon. One study revealed that in most developing countries, women are poor due to gender discrimination (Derera *et al.*, 2014). These discriminations are also due to the culture of social wealth distribution like education and health (Siringi, 2011; Waring & Brierton, 2011). Microfinance institutions have been indicated to be able to reduce gender discrimination (Mayoux, 2006). Therefore, this study discusses the link between microfinance and women-empowerment through different microfinance factors like credit, savings, insurance, training and social capital.

Women-empowerment can be attained by providing women access to wealth, property, locations for trade, information technology and support from their male family members especially in male-controlled societies like Pakistan. According to Hausmann *et al.* (2008), Pakistan is ranked 134th out of 135 countries with respect to gender prejudice. According to Muhammad *et al.* (2012), the economy of Pakistan depends on cultivation activities like agriculture and farming, but almost 48.63% of the country's population consists of females who, according to Sathar & Kazi (2000), are mostly employed as domestic helpers.

Based on the discussion above, it could be concluded that women in Pakistan are facing different problems such as gender discrimination, inequality in wealth distribution, limited access to services provided by microfinance institutions and other issues related to unique cultural beliefs. Although microfinance services have a significant positive influence on women-empowerment, women in most developing countries like Pakistan have very limited access to these services causing them to be unable to start their own businesses i.e. one of the hurdles in achieving women-empowerment.

2.7 Dimensions of Women-Empowerment

Women-empowerment is one of the multidimensional contextual ideas that entail an integrated approach to development. Without an integrated approach for all the states and various international aid agencies, women-empowerment will never get proper attention (Jinia, 2016).

Various authors such as Kabeer (1999), Malhotra, Schuler, and Boender (2002) and Mosedale (2005) mentioned that empowerment consists of a complex and multidimensional process which can be interpreted in various ways by different people. The said dimensions include human capital, financial, material or physical, psychological, familial or interpersonal, political, legal, socio-cultural and agricultural elements (Alsop, Bertelsen, & Holland, 2005; Malhotra *et al.*, 2002; Mayoux, 2006; Mosedale, 2005). Other studies such as Alsop and Bertelsen (2006) point out that women-empowerment occurs at many levels, covers a range of dimensions and materializes through a variety of different processes.

Page and Czuba (1999) described that empowerment has three essential components namely multi-dimensional, social and process. The first component refers to the occurrence of empowerment within several dimensions including psychological, sociological, and economic at several levels including individual, level, and community. The second component refers to the occurrence of empowerment in relation to its social links with others. The third component describes empowerment as a process because it may continue without any final goals. Kabeer (1999) on the other hand described women-empowerment as consisting of three dimensions namely resources, agency and achievement. Resources, including social resources, indicate access and future claims to the material i.e. that it is a part of social and economic empowerment as it covers all resources related to both. Agency focuses on decision-making, negotiation, and manipulation which belongs to social empowerment. Achievements indicate the well-being of the outcomes of choice. Hence, all these dimensions belong to the social and economic dimensions which are in line with the current study.

Malhotra *et al.* (2002) provided various dimensions of women-empowerment including economic, socio-cultural, legal, interpersonal, political and psychological dimensions — the current study selected social and economic dimensions. Stromquist (2015) also discussed several dimensions related to the social life of women which are in line with the current study.

Malhotra and Schuler (2005) listed the most frequently used dimensions of women-empowerment namely: economic, legal, socio-cultural, political, familial or interpersonal and psychological. All these dimensions fall under social and economic

dimensions. According to Malhotra and Schuler (2005), each dimension has different indicators to measure. Economic empowerment consists of control over income, access to family resource and economic contribution to the family. On a community level, economic empowerment consists of access to employment opportunities, land and asset ownership, involvement in local trade and market access. The social and cultural dimensions consist of women's freedom to move, education and equality. Community-level indicators include modern transportation access, social networks and access to social spaces. Familial or interpersonal dimension includes decision-making and control over household decisions. The legal dimension consists of the legal rights of women; the political dimension consists of the political rights of women, whilst the psychological self-esteem dimension includes the psychological well-being and self-efficacy of women.

It is entirely possible to examine the impacts in one or more dimensions and not in others (Olajide, Ikenwilo, Omotosho, & Obembe, 2016). Nevertheless, Olajide *et al.* (2016) also explained that the same dimensions such as social, political and economic, through the ability of individuals/groups, could be improved towards the making and converting of choices into desired actions and outcomes. Eyben, Kabeer, and Cornwall (2008) also indicated that empowerment consists of social, political and economic dimensions.

Women-empowerment is not easy to measure because it includes capturing a social change, which is context specific (Kabeer, 1999, 2001). Various dimensions are not directly observable (Mahmud, Shah, & Becker, 2012) and are multi-dimensional (Ali & Hatta, 2012; Kishor *et al.*, 2013). However, in the context of this study, two

dimensions were considered for the measurement of women-empowerment i.e. social and economic.

By interpreting important literature regarding women-empowerment, the present study emphasizes two critical dimensions to conceptualize women-empowerment i.e. social women-empowerment and economic women-empowerment. The selection of these two dimensions depends on their suitability in a given region of study and they are most suitable in the region of Southern Punjab, Pakistan.

For the particular case of Southern Punjab, women are amongst the most vulnerable segments of the population because they face various socioeconomic problems in an environment where the social norms and traditions render them to be subservient to their male counterparts. Because of male dominance, inequality exists, and women are not allowed to take part in income-generating activities.

These two dimensions are also suitable because the socio-economic dimension entails ownership of productive and non-productive resources as well as access to social and economic goods. These dimensions also entail economic contribution to household welfare which includes the women's ability to generate income, bargain power, control assets, improve self-reliance, and ensure their basic needs and contribution in the household decision-making process (Jinia, 2016). The main problem in most developing countries especially in Pakistan is that women are not treated equally to the men and are not allowed to contribute in economic activities. These dimensions provide the solution to these problems by promoting equality between men and

women and supporting the economic activities of women. This justifies the selection of these dimensions for the current study.

2.8 Role of Microfinance for Women-Empowerment in Pakistan

Microfinance has been considered to be a useful tool for alleviating poverty and enhancing women-empowerment (Leach & Sitaram, 2010). It plays a very important role in women-empowerment through the enhancement of social and economic well-being (Nosheen & Chaudhry, 2018). Microfinance entails a broad range of services for poor or low-income people such as the provision of credit, savings, education, insurance and money transfer (Leatherman & Dunford, 2010).

Finance is an essential element for enhancing empowerment among women (Malhotra *et al.*, 2002; Noreen, 2011). However, in Pakistan, the women do not have sufficient finance which becomes a hindrance (Yasmeen, 2015). To overcome this obstacle, microfinance institutions offer the provision of microcredit to women (Yasmeen, 2015). Table 2.2 below depicts the participation of Pakistani women in microfinance.

Table 2.2
Participation of Pakistani Women in Microfinance

Year	2013	2014	2015	2016	2017
Active Borrowers (in millions)	2.4	2.8	3.6	4.2	5.5
Gross Loan Portfolio (PKR billions)	2.4	2.8	3.6	4.2	5.5
Active Women Borrowers (in millions)	1.4	1.6	2	2.3	2.7
Branches	1,606	1,747	2,754	2,367	3,533
Total Staff	17,456	19,881	25,560	29,413	36,053
Total Assets (PKR billions)	81.5	100.7	145.1	225.3	330.4
Deposits	32.9	42.7	60	118.1	185.9

(PKR billions)					
Total Debt (PKR billions)	26.9	31.1	44.5	54.7	74.1
Total Revenue (PKR billions)	17.3	24.3	32.8	41.8	65.7
Operational Self Sufficiency (percentage)	118.1	120.6	124.1	127	124.7
Financial Self Sufficiency (percentage)	116.5	119.6	121	123.9	122.4
PAR >30 (percentage)	2.5	1.1	1.5	1.2	0.5
Return on Assets (ROA)	3.3	3.5	3.6	3.4	3.2
Return on Equity (ROE)	16.1	16	15	18.9	19.5

Source: Pakistan Microfinance Review (2017)

Table 2.2 shows the participation of Pakistani women in microfinance institutions between 2013 and 2017. According to the Pakistan Microfinance Review of 2017, the participation of women increases in each year. Table 2.2 shows that in 2013, the total number of women participants is 1.4 million and it increased to 1.6 million in 2014. It reached 2.7 million in 2017. It also indicates that women participation in microfinance is higher as compared to men.

According to the National Commission on the Status of Women (NCSW) survey in Pakistan, most women prefer to use their loan to start a business outside of their homes rather than starting a home-based one (Khan & Rahaman, 2007). This is due to the fact that most of the time, home is believed to be unable to serve as a good place to carry out business activities. There is a need for Pakistani women to go outside of their own house for the purpose of running their business at most suitable place. Moreover, home is also believed to be unable to provide relevant business resources which may ultimately affect the enterprise performance. From here, it could be

observed that Pakistani women are in favor of starting their own business outside of their homes but are hindered by the lack of financial support and social issues. Hence, more research is required in this context (Yasmeen, 2015). These issues could be well addressed with the help of microfinance institutions.

Most microfinance institutions have a clear goal to empower women. The underlying motivation is different among the institutions. Some believe that the women are the poorest population and are living in conditions of vulnerability; therefore, helping them is a priority, whilst some others believe that women should take part and contribute in development and economic activities (Nasir & Farooqi, 2016).

Past studies have proven that microfinance services have a significant positive relationship with women-empowerment. According to the study of Nader (2008), microcredit has a significant positive link with women empowerment. The author further argues that microcredit can alleviate poverty. Microfinance is based on the theory of development which focuses on poverty alleviation through the provision of small loans to poor people (Jinia, 2016). It also focuses on other factors like insurance, training, savings, legal aid services as well as entrepreneurship development activities (Barr, 2004).

In Figure 2.2, financial sustainability or financial approach is given. The financial self-sustainability paradigm indicated that the microfinance models had been promoted since the mid-1990s by many donor agencies as well as the best practice guidelines encouraged in publications by UNDP, USAID, World Bank and CGAP.

This program is aimed at the hardcore poor segments. It also focuses on women because of their high repayment rate for the microfinance loan. As shown in Figure 2.2, an increase in microfinance access for women leads to higher social and economic empowerment. It improves decision making power and facilitates women-owned micro-enterprises.

Nawaz and McLaren (2016) suggested that microfinance can alleviate women from poverty. Their study on Bangladeshi women concluded that due to the dominant male society, the women resorted to the conscious act of staying silent and avoiding family conflicts which increases their oppression. Furthermore, women are continuously discouraged from participating in income-generating activities due to their culture (Uteng, 2011).

2.9 Relationship between Microfinance Factors and Women-Empowerment

Microfinance consists of different factors such as micro-credit, micro-saving, micro-training/skill development and micro-insurance. These factors have a significant relationship with women-empowerment.

2.9.1 Concept of Micro-Credit (MC)

The idea of microcredit was first presented by Muhammad Yunus in Bangladesh (Duvendack, 2011). Almost 30 years ago, he started a bank named Grameen Bank (GB) with a particular aim to alleviate poverty through the provision of small loans to the rural poor (Yunus, 1999). Therefore, the fundamental purpose of microcredit is to reduce poverty. Microcredit is also referred to as microfinance; due to its evolution throughout the years, it now does not only provide credit, but also other services

including insurance, remittance, savings and other non-financial services such as skill development and training (Armendáriz & Morduch, 2010). The key feature of microcredit is its target on female clients because they are more reliable as compared to men, and women are also more desirable for their social and economic development (Pitt & Khandker, 1998).

Microcredit is one of the key microfinance services which offer small loans to poor people to improve their existing small-scale businesses or to establish new ones (Kessy et al., 2016). It has a positive relationship with women-empowerment (Alshami, Razali, & Rashid, 2018). It is a provision of cash and a smaller amount of loan to self-employed people to improve their small businesses (Asiama & Osei, 2007) although it is possible for self-employed people to start their business by using their own savings or by borrowing from their relatives. There is also the need for business expansion or for proper business maintenance. The loans are primarily given to poor people who are unable to manage initial capital and routine-wise operations to run a microenterprise. Such type of credit when properly utilized for business operations would lead to empowerment (Olu, 2009). Thus, microcredit has emerged as a solution to the chronic problem of poverty and for empowering their beneficiaries, especially women.

Microcredit institutions are mainly focusing on women. As cited by Yasmeeen (2015), according to the Microcredit Summit Campaign Report (2010), out of the total 100% borrowers worldwide, approximately 60% are made up of women. These numbers are increasing day by day. Women are facing more problems as compared to men, a reason that justifies the focus given to them by the microfinance institutions. Females

in most developing countries like Pakistan face various problems such as socio-cultural behaviour and a high ratio of illiteracy (Yasmeen, 2015). Socio-cultural behaviour includes denied equal access to resources and cultural restrictions on their physical mobility (Kabeer, 2005). In terms of family culture, the women are often expected to take care of children and fulfil maternal duties while the men are required to provide financial assistance to the family (Syed *et al.*, 2009).

As discussed by Nasir and Farooqi (2016), microcredit is provided through two methods which are Self-Help Groups (SHGs) and Joint Liability Groups (JLGs). Through these two groups, poor people are granted access to microcredit as well as to other microfinance services as discussed above with the help of the microfinance lending model.

2.9.1.1 Empirical Review on Micro-credit and Women-empowerment

Microcredit is one of the critical components of women-empowerment. Different researchers have studied women-empowerment and discussed the importance of microcredit in empowering women. Mahmood (2011) examined the impact of microfinance on women empowerment in Pakistan. This study used a structured questionnaire to examine 37 female borrowers. The findings of this study showed that microfinance institutions provide microcredit to help the women start their own businesses and 62% of the women used this credit to expand their existing businesses. It was also found that the majority of women are engaged in agriculture. Therefore, microcredit significantly improves the income of women and increases their participation in the decision-making process (Kapila *et al.*, 2016).

Microcredit can reduce poverty and increase socio-economic empowerment (Kodamarty & Srinivasan, 2016). A study conducted in India by Nasir and Farooqi (2016) examined the social and economic empowerment of women using primary data. According to this study, microfinance has a significant relationship with women empowerment as it could reduce poverty and increase income level. Microfinance plays an important role in increasing income, savings, courage, confidence and skill development. Therefore, according to this study, microfinance empowers women socio-culturally, economically and politically. Kodamarty and Srinivasan (2016) also found a significant relationship between microfinance and women empowerment. Their study showed that microfinance has a positive influence on income, assets, savings, household consumption, and household expenditures. It also has a positive impact on the social aspects of women empowerment such as decision-making power, self-worthiness, knowledge, and self-confidence.

Additionally, another study on Malaysian women by Al-Shami *et al.* (2016) conducted on Amanah Ikhtiar Malaysia (AIM) clients used the quasi-experimental method in carrying out a cross-sectional survey of 500 new and old clients and adopted semi-structured interviews for 20 individuals involved in microcredit. The study found that microcredit empowered Malaysian women and also enhanced gender equality. It also enables women to access financial capital. The study by Jinia (2016) based in Bangladesh focused on the relationship between women empowerment and microcredit. This study concluded that microcredit has a significant positive effect on women-empowerment and that microcredit borrowers have more ability to contribute in the decision-making process.

In contrast to these studies, several other studies showed that microcredit is not always useful in reducing poverty and empowering poor people. Sometimes, microcredit presents negative consequences when poor people choose unsuitable places to invest (Mosley & Hulme, 1998). In such cases, microfinance itself does not cause the adverse outcomes, but rather the misuse of the microcredit that mitigates the positive effect. Most of the time, poor people misuse microcredit and face issues in repayment. According to Atmadja *et al.* (2016), financial capital has an adverse effect on enterprise performance, but social and human capitals have a positive impact. The author further explained that the provision of microcredit itself is not enough to ensure microenterprise success as human and social capitals are equally important. Another study conducted by Garikipati (2013) showed that microcredit seems to be the wrong indicator because the utilization of the loan is more critical.

Zoynul and Fahmida (2013) performed a study in Bangladesh using a survey method and interviewed women who had received microcredit facilities. The finding of this study showed that the women gain socioeconomic empowerment in the form of enhanced self-esteem, confidence level, business skills and decision-making power. Therefore, the study concluded that microcredit improves the socio-economic empowerment of women.

Microcredit access through microfinance institutions can generate more income and other livelihood opportunities for women (SHARMA, 2011). However, in the area of Southern Punjab (Pakistan), many poor women are unable to obtain microcredit due to lack of awareness. Most of the women who do obtain microcredit and misuse it.

Therefore, the above studies show that microcredit has a significant positive effect with women empowerment, but several other studies also show contrasting results. The negative outcomes of microcredit were mainly due to placing investments in wrong places, not having the proper training to run a microenterprise and the handling of different type of shocks.

2.9.2 Concept of Micro-Saving (MS)

Poor people find it hard to have savings because of resource shortage and behavioural biases such as irregularity of time (Laureti & Szafarz, 2016). Additional threats such as emergency expenditures affect the savings of poor people (Cozarenco, Hudon, & Szafarz, 2016). In contrast to this belief, poor people can actively save (Collins, Wambach, David, & Rankin, 2009) because access to saving has a significant positive impact on the savings of poor people. Savings accounts increase savings (Ashraf, Karlan, & Yin, 2006) as well as household expenditures (Brune, Giné, Goldberg, & Yang, 2016). Furthermore, savings accounts increase women's investment in business (Dupas & Robinson, 2013).

Savings enable people to save their assets through weekly savings as well as group savings which are further utilized by microfinance institutions in their lending decisions for their clients (Mkpado & Arene, 2007). Therefore, microfinance provides the ability to save.

Micro-savings are considered as the “forgotten half” of microfinance (Armendáriz & Morduch, 2010). Although many studies had presented the success of microcredit, very few studies had focused on micro-saving. Vogel (1984) outlined the

characteristics of savings mobilization as the “forgotten half of rural finance” and found that it is due to the misperception that poor people cannot save. According to Hulme, Moore, and Barrientos (2009), regulations against mobilizing deposits among non-members in developing countries had restricted microfinance institutions. However, subsidized grants as well as credit from different donors cut the pressure to mobilize savings. Due to these factors, there was a historical shift in the early 20th century, and micro-saving became the foundation of finance for poor people.

2.9.2.1 Empirical Review on Micro-Saving and Women-Empowerment

The role of savings in women empowerment cannot be neglected because savings is very helpful in starting small businesses. The analysis of nine randomized field experiments in different countries based on various regions (Kenya, Nepal, Philippines) showed that savings is a promising way to increase the productivity of rural women (Knowles, 2013).

A study conducted in Western Kenya showed the reasons why savings work well particularly for women. Women who have access to savings were found to invest 45% more in businesses and were less inclined to sell their assets for health emergencies (Dupas & Robinson, 2013). These effects of savings were sustained in a follow-up research survey conducted three years later, which showed that savings interventions can have long-lasting effects on women (Dupas & Robinson, 2013).

According to the study by Gamberoni *et al.* (2013) carried out in Ghana using panel data, savings accounts are important to increase the profits of women entrepreneurs and to transfer business performance from losses to profits. A study on women micro-

enterprise showed that savings has a significant positive impact on women-owned micro-enterprises. Therefore, savings as a microfinance factor has a significant role in women empowerment through different ways (Bernard *et al.*, 2016).

Microfinance aims to empower its female beneficiaries through microcredit, savings, insurance and training (Al-Shami *et al.*, 2016). Additionally, there is a positive relationship between savings and education (Di Giannatale & Roa, 2018). However, due to vulnerability, women are often unable to benefit from their savings and attain empowerment. In such cases, the relationship between savings and women-empowerment becomes weak as in the case of Southern Punjab, where the women face different vulnerabilities like environmental shocks.

Savings promotes women empowerment as described by Guérin (2006) and helps people in resolving their health emergencies (Dupas & Robinson, 2013). According to Robinson (2001), savings is more important than credit. Women in most developing countries lack savings (Mkpado & Arene, 2007). Savings can act as security for the loan and can also be reinvested in business (Akanji, 2006).

Therefore, savings is an essential element of microfinance and is very crucial for women-empowerment. As microenterprise is necessary for empowerment and savings has an important role in the startup of a microenterprise, micro-savings therefore has a significant relationship with women-empowerment.

2.9.3 Concept of Micro-Training/Skill Development (TSD)

Training is another important microfinance factor (Abeysekera, Patton, & Mullineux, 2017) which provides skills and experience to women entrepreneurs (Cheston & Kuhn, 2002; Kuzilwa, 2005). It is a non-financial service provided by microfinance institutions. It is a process of teaching particular skills, or any other type of behaviour needed for business prospectus; but in most developing countries, women are required due to their low level of education (Harrison & Mason, 2007; IBRU, 2009). Training helps a self-employed person to acquire knowledge, skills as well as abilities to identify entrepreneurial opportunities (Stomeyer, 2007).

Most developing countries put significant efforts to promote entrepreneurial activities (Glaub & Frese, 2011). A frequently used approach for entrepreneurial promotion is the implementation, development, and distribution of entrepreneurial training as explained by Coduras Martínez, Levie, Kelley, Sæmundsson, and Schøtt (2010). However, women entrepreneurs in most developing countries do not have proper training facilities (IFC, 2007). Training provides confidence, skills, self-esteem, and ability to participate in decision making among women at the household level (Hermes & Lensink, 2011).

2.9.3.1 Empirical Review on Micro-Training/Skill Development and Women-Empowerment

Literature has proven that most of the clients of microfinance institutions do not have specified skills causing them to be unable to better utilize microfinance services (Karnani, 2007). Literature also showed that training has a significant positive influence on the performance of the enterprise (Cheston & Kuhn, 2002). However, women lack this type of skills, especially in most developing countries.

Glaub and Frese (2011) performed a study on the effects of entrepreneurship training in developing countries. The study evaluated ten entrepreneurship training programs and found that entrepreneurship training has a positive influence on enterprise performance. According to the study of Bischoff, Gielnik, Frese, and Dlugosch (2013), entrepreneurship training has a mediating role in enterprise success. Thus, training has a significant positive relationship with microenterprise success (Solomon *et al.*, 2013) as the core aim of microfinance institutions is to facilitate microenterprise to empower women. Therefore, the increase in the performance of women-owned microenterprises will directly enhance women-empowerment.

Most women in developing countries are lacking in training. That is why most of them are living in vulnerable conditions i.e. due to lack of proper training in utilizing microcredit properly. The effect of training on performance has not been adequately addressed, especially in most developing countries (Bischoff *et al.*, 2013). This justifies why training is also chosen in the existing framework of this study.

A study on microfinance by Santosh, Subrahmanyam, and Reddy (2016) in India identified different problems related to SHGs through the use of secondary data. These issues include market risk and uncertainties, marketing problems, lack of information, family discouragement, religion-based problems, socio-economic factors, lack of practical knowledge, lack of technology know-how, lack of self-confidence and risk-bearing capacity. The study found that training in SHGs can resolve these problems and thereby improve standard of living.

Video training was also found to be beneficial for the members of the microfinance institutions — a study performed by Dandedjrohoun, Diagne, Biaou, N'Cho, and Midingoyi (2012) on determinants of adoption improved technology in Benin. In this study, data were collected from 200 women in 20 villages. This study used different variables such as video training, education, experience, and association. The study found that video training significantly enhances women's awareness through the adoption of new technology. Therefore, women-empowerment is automatically increased.

The latest study by De Mel, McKenzie, and Woodruff (2012) measured the effect of business training in Sri Lanka. The data of this study were collected from 1,256 individuals. Regression analysis was applied in this study and found that training increases the profit of the self-employed lower-skilled people as compared to the higher skilled individuals. Therefore, people with lower skills were found to perform better after getting training.

Training is a non-financial service provided by microfinance institutions. Entrepreneurship training always affects positively on entrepreneur activities. According to Glaub and Frese (2011), entrepreneurship training is one of the most effective means to promote entrepreneurship which affects positively on the performance of the enterprise. Microfinance banks as well as other institutions lend loans to poor women for their micro projects. As discussed before, most women in developing countries do not have enough credit to start their own micro-enterprises; hence, women-empowerment is not achieved properly. On the other hand, most of the women misuse this credit and utilize it for unproductive work. Those who do use the

credit to run microenterprises will fail most of the time due to the lack of training. To cover this aspect, microfinance institutions also provide training opportunities for women and the poor. Therefore, poor people can improve their skills which in turn will help them to utilize microcredit better.

However, Yunus (1999) indicated that microcredit alone is enough to lift people out of poverty without the need for skills enhancing trainings. According to Coleman (1999), training has a positive impact on income, but no effect on asset accumulation. Swain and Varghese (2013) argued that sometimes training might not bring good outcomes. Due to the bad infrastructure of villages, microfinance institutions do not provide proper training facilities.

Training and skills development programs have a significant influence on women-empowerment. The female respondents were found to have lower incomes as compared to the male respondents because they do not have access to urban areas to start their own microenterprises due to the lack of training and skills (Kabeer, 1995, 1997; Kibria, 1995; White, 1992). Due to the lack of training and education, poor people are often involved in informal activities as opposed to formal economic activities (Hossain, 2007).

Finally, from the above discussion, it can be concluded that training is very crucial for microenterprise success and for developing confidence, self-esteem, courage and decision-making power among women which automatically enhances women-empowerment. Several researchers argued that training might not produce a good outcome. However, these studies are scarce. Hence, training has a significant positive relationship with women-empowerment.

2.9.4 Concept of Micro-insurance (MI)

Micro-insurance is the protection of low-income people against specific hazards in exchange for regular premium payments proportionate to the likelihood and cost of the risk involved (Churchill, 2006). It is a powerful tool to empower poor people (Adhana & Saxena, 2017). Microfinance institutions provide various financial services including business insurance facility to protect poor people in vulnerable economic situations. It also enables them to purchase assets, a facility that is frequently ignored by commercial banks (Najmi *et al.*, 2015).

According to Cohen *et al.* (2005), to manage shocks, poor people use different strategies including formal group-based insurance and self-insurance. A relatively new option for poor people to manage risk is micro-insurance. Micro-insurance is similar to a formal insurance mechanism which acts as a shield for poor people against different shocks. Like other insurance policies, micro-insurance policyholders also pay premiums proportionate to the likelihood and cost of the risk involved.

In low-income countries, most of the people use informal insurance to cope with economic hardships through the arrangements of finance between individuals and communities on a personalized basis such as diversifying different income-generating activities and selling physical assets, rather than through market or state (Cohen *et al.*, 2005). Self-insurance entails one's fund management to cope with a risk rather than purchasing an insurance policy. Formal insurance including life insurance and other business insurance is offered through proper mechanisms by microfinance institutions.

2.9.4.1 Empirical Review on Micro-Insurance and Women-Empowerment

The absence of insurance and credit causes capital constraints and serves as a mechanism for spreading risk (Duvendack, 2011). A study by Garikipati (2008) conducted in India found that women-empowerment can be achieved when microcredit is provided in an integrated pack with another service such as insurance, welfare-related activities and enterprise development. This argument is also supported by other studies (Holvoet, 2005; Mayoux, 2005). Therefore, insurance acts as an instrument to avoid risk and to enhance women-empowerment.

Insurance is also better for the welfare of SHGs members. A study performed by Amudha *et al.* (2014) on Indian women in Tiruchirappalli town found that micro-insurance reduces the vulnerability of poor people. The decrease in vulnerability means an increase in women-empowerment.

Micro-insurance is one of the mechanisms of social security, and it uplifts the standard of living of poor people (Kishor *et al.*, 2013). According to Gaurav, Acosta, and Ballesteros (2012), micro insurance is the only instrument that can improve the living standards of the rural poor, a statement which is supported by Rao (2008). Micro insurance is a form of social security to handle different types of shocks to improve living standards, which automatically enhances women-empowerment.

The insurance market is less vigorous in Pakistan as compared to other developed countries. Due to the lack of a formal insurance market in Pakistan, the people are unable to obtain insurance through formal ways; hence, they resort to informal ways

like borrowing from friends, relatives, increase labour hours and any other informal credit schemes (Azeem, Muger, & Schilizzi, 2016). This is why women empowerment is low. According to Azeem *et al.* (2016), this informal insurance process is not functioning well to cover the prevailing vulnerabilities in Punjab, Pakistan. This is why anti-vulnerability strategies should be developed through a proper mechanism to control vulnerability and to enhance women-empowerment.

From the discussion above, it can be concluded that micro insurance is crucial for women-empowerment. It reduces the vulnerability of poor women and enhances women-empowerment. Hence, micro-insurance has a significant positive relationship with women-empowerment.

2.10 Concept of Social Capital (SC)

Social capital is a highly adapted tool by communities to address a development imperative (Kifle, 2007). It is evolving as a prominent tool for socio-economic transformation, economic growth and sustainable community development around the world (Mafukata *et al.*, 2015). Microfinance is also one of the significant providers of social capital (Ojong & Simba, 2018).

According to different authors, social capital emerged in the early 2000s to extend the social capital community development debate (Pervaiz, Chaudhary, & van Staveren, 2013; Valenta, 2008). Afterwards, this discussion went further to adopt social capital as a tool for economic growth and for attaining sustainable community development (Mafukata *et al.*, 2015).

“Social capital is defined as the connections among individuals – social networks and the norms of reciprocity and trustworthiness that arise from them” (Putnam, 2000). It can be revered as the trust that people have with one another in building a network for facilitating each other. The formation of a network of relationships among people which enable the participants to work together and interact effectively to achieve their individual and group tasks is known as social capital (Mohamed *et al.*, 1997).

Microfinance institutions develop social groups to ensure the repayment of a loan from members of the group. In the case of women, these groups ensure access to micro-credit facilities provided by microfinance institutions, and if a group shows a strong relationship, then this group can also provide business resources, social support, advice and professional information which leads to women-empowerment (Tata & Prasad, 2008).

2.10.1 Empirical Review on Social Capital and Women-Empowerment

Social capital is vital in the development of microenterprises owned by women, especially in developing countries where social capital is one of the sources of income; however, poor people in most developing countries lack social connections (Olomola, 2002). Swain and Wallentin (2009) investigated the impact of microfinance on women empowerment. The study was based on data taken from 2000 to 2003 from SHGs consisting of 961 women from five states. It was found that SHG significantly improves women empowerment.

A study carried out by Vargas-Hernández and Ortiz (2018) on rural Mexican women entrepreneurs revealed that social capital is positively associated with the business.

An increase in social connections increases the income of the members. A study by Uma (2011) analyzed the relationship between women empowerment and microcredit in India. The data was collected from 100 members of 30 self-help groups and analyzed using t-test. The study found that members who joined self-help groups (SHG) experience a significant increase in income and decision-making power. Kabir, Dey, and Islam (2012) examined the impact of small entrepreneurship on sustainable livelihood assets of poor rural women. The result showed that individuals who engage in social networks can handle obstacles better, and this network has a significant positive impact.

The study conducted by Mafukata *et al.* (2015) on 146 respondents investigated the interactive, reciprocal relationship between microfinance practices and social capital. A study conducted by Nega, Mathijs, Deckers, and Tollens (2009) in northern Ethiopia using data from three consecutive years i.e. 2004, 2005 and 2006 found that social capital is an important factor in enhancing empowerment. Therefore, social capital has a significant contribution in women-empowerment (Mayoux, 2001).

Social network is a valuable resource because it facilitates economic activity (Janine Nahapiet & Ghoshal, 2000) and allows entrepreneurs to be more effective apart from enabling them to access privileged business opportunities (Abreu, Grinevich, Kitson, & Savona, 2010; Ripolles Meliá, Blesa Pérez, & Roig Dobón, 2010; Rubalcaba, Gallego, & Hertog, 2010; Toivonen & Tuominen, 2009). It also improves innovation practices (Sundbo, 2009; Un & Montoro-Sanchez, 2010; J. Zhang & Duan, 2010).

Self-help groups (SHGs) are one of the examples of social capital. However, there are several issues with women SHGs as found by Santosh *et al.* (2016) namely family

problems, surrounding problems and problems related to the market and business environment.

Additionally, social capital consists of a network of good relations. SHGs are also one of the examples of social capital in which people from the same area meet to create a group and pool their resources to help each other. Most of the studies in the literature did not consider the significance of social capital (Herath *et al.*, 2015). Therefore, more research is required to reveal this aspect.

From the discussion above, it can be described that social capital is crucial for women empowerment. No doubt it has a few problems, but with the help of networking it increases the income of women and enhances women-empowerment. Hence, social capital has a significant positive relationship with women-empowerment.

2.11 Vulnerability

Scholars and practitioners define vulnerability in different ways (Phillips & Fordham, 2010). In economic and development literature, it can be defined as the ‘probability of risk today of being in poverty or to fall into deeper poverty’ (World Bank, 2012). As cited by Wisner *et al.* (2004): “it involves a combination of factors that determine the degree to which someone’s life and livelihood are put at risk by a discrete and identifiable event in nature or society”. It is a probability of facing future loss in welfare, and a household becoming poor or continuing to be poorer if living in poverty (Christiaensen & Subbarao, 2005; Yuan Zhang & Wan, 2006).

Vulnerability is one of the concepts applied in various disciplines like economics, psychology, engineering, ecology, and sociology (Fang, Zhao, Rasul, & Wahid,

2016). However, in most of the cases, it is used to indicate the potential for a human response (Adger, 2006; Angeon & Bates, 2015; Wilson, 2012). Vulnerability is the capacity as well as the degree to be wounded of the system owing to exposure to hazard (Turner *et al.*, 2003).

Vulnerability is a more dynamic concept as compared to poverty as it describes different events that lead people to poverty (Banerjee & Jackson, 2017). According to Moser (1998), vulnerability is the “insecurity and sensitivity in the well-being of individuals, communities, and households due to the changing environment”. The decline in the welfare of people has many causes: economic shocks or social, environmental damage, natural disasters and political exclusion (Banerjee & Jackson, 2017).

Alwang, Siegel, and Jorgensen (2001) introduced five principles that a vulnerability concept should abide by:

1. The vulnerability is forward-looking and defined as the probability of experiencing future loss.
2. Different uncertain events cause the vulnerability.
3. The degree of vulnerability is normally dependent on the risk’s characteristics and the defending ability of the individual.
4. Vulnerability depends on time horizon.
5. Poor and non-poor people can both be vulnerable due to the limited access of assets and liabilities to respond to the risks.

The concept of vulnerability entails how communities respond and adapt to social, environmental and economic changes (Adger, 2006; Wilson, 2012). It is a higher degree of exposure to shocks, risks and proneness of food insecurity that can challenge the household's survival (Bali Swain & Floro, 2014). Moreover, vulnerability is also based on race, ethnicity and class (Bolin & Kurtz, 2018) which comes under social vulnerability.

2.12 Dimensions of Vulnerability

Literature highlighted different dimensions of vulnerability because it varies from region to region. According to Banerjee and Jackson (2017), vulnerability has three dimensions namely social vulnerability, economic vulnerability, and environmental vulnerability. Social vulnerability consists of solidarity circles and social relations. A strong social relationship enables poor people to defend themselves better against vulnerability (Narayan & Pritchett, 1999). Solidarity circles entail friends and family, which are the fundamental assets that help in dealing with poverty.

Social vulnerability also includes gender discrimination as well as traditional cultures, beliefs and norms which hinder the contribution of women in any activity. Furthermore, the death of a family member can also be the cause of social vulnerability. Most poor people take a loan from microfinance institutions to finance unproductive activities such as marriage ceremonies which lead to vulnerability. Women have cultural differences such as restriction to education and male dominance that cause social vulnerability.

Environmental vulnerability consists of natural disasters such as floods, cyclones and river erosion (Banerjee & Jackson, 2017). Due to the changes in the economy such as recession and failure in micro-enterprise, people are exposed to vulnerability. In these conditions, poor people lose their capability to repay the loan.

According to previous studies (Birkmann, 2006; McEntire *et al.*, 2010), the place is one of the major determinants of vulnerability. Place and environmental vulnerability consist of natural disasters including earthquakes, flood, excessive rainfall, shortage of water, windstorms and food scarcity. Technology is also one of the dimensions of vulnerability. Technological vulnerability include the use of dams to retain rainwater which can create a false sense of security (Schwab, Eschelbach, & Brower, 2006). Improper maintenance of dams can be the cause of flood. The materials used in the constructions of dams and buildings can also be one of the determinants of vulnerability (Cruz, 2005; Schwab *et al.*, 2006). There are also other dimensions of vulnerability such as economic crises, the breakup of families, the death of an employed member, loss of farming skills and increase in the presence of fatal diseases (Birkmann, 2006; D. McEntire *et al.*, 2010).

2.12.1 Environmental, Socio-economic and Political Dimensions

Piers Blaikie *et al.* (2004) through the Pressure, Access, and Release model presented a framework for detecting vulnerability by focusing on finding the major reasons of a disaster. In this context, the major causes are acknowledged from the social, political, economic as well as environmental conditions in a community. Figure 2.3 determines various factors that affect the procedure of vulnerability in the framework. Various

factors exerted the pressure such as poverty, unbalanced resource distribution, insufficient employment chances as well as rural or urban migration, which affect the capability to prepare as well as respond to reduce the risk.

Access in the model inspects the various factors that impact the capability of local individuals, or societies to respond against risk mitigation. The marginalization of specific community groups by decision-making of resources or development, for instance, or the destruction of local knowledge as well as local societies for managing with conditions related to livelihood, have consequences for a community that must adapt to uncertainty (Stewart, 2007).

Political vulnerability has an important role in women-empowerment. The relationship between people and political institutions that impact vulnerable social conditions are crucial elements of access within the model. The unfair treatment of the government in specific areas leads towards vulnerability. Particularly in Southern Punjab, Pakistan, the government did not focus on this area based on political issues due to which the area is vulnerable socially and economically. Instructions in the model relate to the growing public and stakeholder inclusion, social conditions improvement and resource equity, and identifying as well as mitigating socio-economic and political pressures that increase vulnerability (Stewart, 2007). Political vulnerability also leads to economic vulnerability in which people lack financial resources for the well-being of their families.

Morrow (1999) described the influences of various natural hazards to definite groups in poverty-related areas, earning the hand of a single mother, the elderly as well as

new populaces of a community who could not have the proper experience to manage risky events. Other risky events related to the environment increase environmental vulnerability. Environmental factors include heavy rainfall, flood, food scarcity, water shortage, windstorms and chronic decreases. By examining numerous social factors, Morrow (1999) was able to understand vulnerability with the help of individual as well as household data. Material and economic resources, personal or human resources, social resources and family, and political resources are the elements in the effect of a hazard and have an impact on vulnerability.

Douglas and Wildavsky (1983), the top advocates of the cultural theory of risk, described that risk and vulnerability are rooted in different cultures. Additionally, Bourget (2002) highlighted that the primary effect of environmental adaptation is based on cultural capacity. An individual or community's lived experiences as well as local knowledge, are possibly the important influences in managing hazard at the local level. Community coping capacity is dependent on a combination of social variables and requires certain resources such as economic and social resources. Therefore, the four types of vulnerabilities i.e. environmental, social, economic and political are linked to each other.

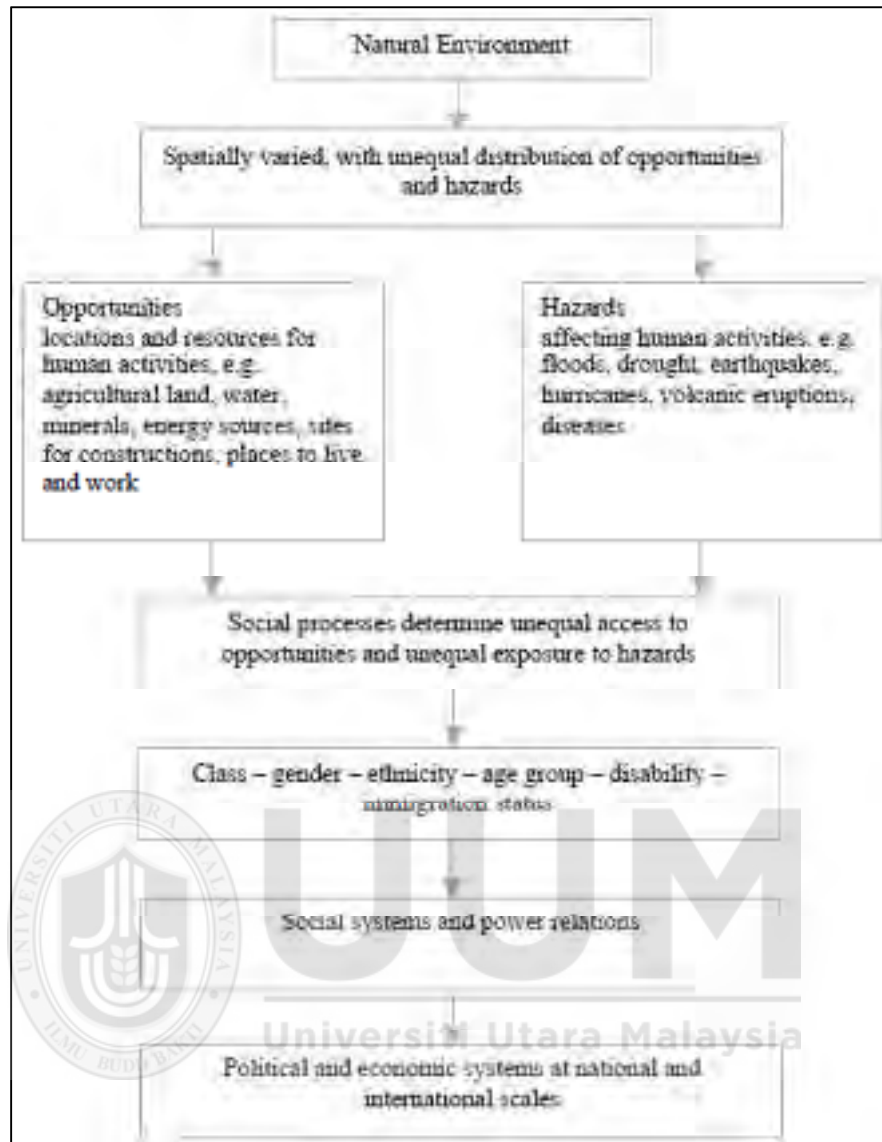


Figure 2.3
The Pressure, Access and Release Model
 Source: P BLAIKIE, CANNON, DAVIS, and WISNER (1994)

2.13 Relationship between Microfinance Factors and Vulnerability

Microfinance is a powerful tool to enhance women-empowerment in all its indicators like family decision-making process, economic decision making, mobility and legal awareness (Sujatha Gangadhar & Malyadri, 2015). It is further identified that the purpose of microfinance is to reduce vulnerability among women and empower them. Microfinance scheme plays a vital role in smoothing consumption and recovering the

loss from shocks (Puhazhendi & Badatya, 2002). Therefore, microfinance has a significant relationship with vulnerability.

According to Robinson (2002), microfinance helps poor people to protect their income, increase their income and accumulate assets by reducing vulnerability. In the context of the latest studies and a few old ones, microfinance enhances women-empowerment and reduces vulnerability. According to these studies, microfinance brings socio-economic benefits by increasing income and reducing the vulnerability of microfinance clients (Hashemi, Schuler, & Riley, 1996; Holcombe, 1995; Remenyi, 1997). Therefore, from previous studies, it is clear that microfinance has a relationship with vulnerability. Basically, microfinance is used to reduce women vulnerability and enhance women-empowerment through different services like microcredit, savings, insurance, training and social capital. As previously discussed, microfinance has a relationship with vulnerability. This means that these services also have a relationship with vulnerability and that these services also reduce vulnerability, which renders the overall effect of microfinance. Hence, microcredit, savings, insurance, training and social capital have a significant relationship with vulnerability.

Microfinance enables women to enhance their empowerment by reducing poverty and vulnerability (Herath *et al.*, 2015). Therefore, it can be further described that there is a link between women-empowerment and vulnerability. A reduction in vulnerability results in an increase in women-empowerment. Hence, vulnerability has a significant relationship with women-empowerment.

2.13.1 Relationship between Micro-Credit, Women-empowerment and Vulnerability

Microcredit has a significant positive impact on women-empowerment. Different studies highlighted the impact of microcredit on women-empowerment. According to Swain and Wallentin (2009), microcredit affects women empowerment. Swain and Floro (2007) also showed that there is a relationship between microcredit and women empowerment. This includes the significant change in the ability of women to take part in income generating activities and to face challenging situations. The involvement of women in microcredit programs contributes to women empowerment via their participation in the household decision-making process, access to financial resources, participation in social networks, freedom of mobility and bargaining power (Pitt & Khandker, 1998). According to Herath *et al.* (2015), there is a significant relationship between microcredit and vulnerability.

Therefore, microcredit has a significant positive relationship with women-empowerment. More participation of women in microcredit schemes will lead to more empowerment. According to Islam and Maitra (2012), microcredit protects household consumption against health vulnerability. Lack of income is one of the limiting factors for women-empowerment, which can be handled by microcredit. Income which is generated from microcredit provides a buffer against vulnerability (Kakota, Nyariki, Mkwambisi, & Kogi-Makau, 2015; Tanner *et al.*, 2015). This is why microcredit is one of the services of microfinance institutions that reduce vulnerability. Therefore, there is also a relationship between microcredit and vulnerability. On the other hand, vulnerability reduces the positive effect of microcredit on women empowerment.

2.13.2 Relationship between Micro-Saving, Women-Empowerment, and Vulnerability

Micro-saving helps poor people to manage vulnerabilities in two ways. The first is through a protection role in which poor people use their accumulated savings to mitigate risks. The second way is through the use of a promotive role in which poor people use their savings to build an asset to mitigate or reduce the effect of incoming shocks (Hulme *et al.*, 2009).

Savings has a relationship with vulnerability. Without savings, people who face vulnerabilities will not be able to rebound after a disaster strikes (D. McEntire, 2012). Savings improve the productivity of rural women to a great extent (Knowles, 2013). There is a significant relation between savings and vulnerability. However, when poor women use their savings to mitigate the effect of vulnerability, they cannot invest in income-generating activities. This affects negatively on their savings and empowerment level.

2.13.3 Relationship between Micro-Insurance, Women-Empowerment, and Vulnerability

Insurance and vulnerability have a significant negative relationship with each other. Vulnerability will increase if people do not purchase insurance policies (Dlugolecki & Fire, 1993; McEntire, 2004). With the increase in vulnerability, women-empowerment will decrease. Insurance policies have some advantages. These insurance policies control the damage in any business, families or individuals and make the recovery process easier. According to several recent studies, poor households need investments in the form of credit and insurance schemes to manage risks (Bayudan-Dacuycuy & Lim, 2014; McCulloch & Calandrino, 2003). Bernard *et*

al. (2016) in his study proved that insurance has a significant positive relationship with women-empowerment. Vulnerability also has a relationship with women-empowerment as discussed above (Herath *et al.*, 2015).

2.13.4 Relationship between Micro-Training/Skill Development, Women-Empowerment, and Vulnerability

Training is an essential element for empowerment. Participation in microfinance is not enough to enhance women-empowerment; it also needs participation in different types of seminars, workshops, as well as training programs which can enhance the decision-making process (Sujatha Gangadhar & Malyadri, 2015). Microfinance institutions have a variety of channels to affect household outcomes. These channels include direct income effect as well as indirect income effect entailing non-financial services such as training education and social network strengthening (De Aghion & Morduch, 2006). These non-financial services like training reduce risks and impacts on the household's ability to handle the risk (Bali Swain & Floro, 2014). Furthermore, vulnerability also reduces women-empowerment (Herath *et al.*, 2015). According to previous studies, training has a significant positive impact in handling vulnerability. Increased training sessions will lead poor people to become more empowered in handling vulnerability. Therefore, training is an important element for empowerment.

2.14 Relationship between Social Capital, Women-Empowerment, and Vulnerability

Social capital such as SHGs can promote and help to strengthen social networks. These social networks provide mutual support by facilitating in the pooling of savings, whilst regular meetings provide a platform for women to interact with each other and discuss their concerns as well as interests (Bali Swain & Floro, 2014). This

type of connection increases women-empowerment. In this way, SHGs can help to reduce the vulnerability of members of the group (Bali Swain & Floro, 2014). The said study which mainly covered women had developed a theoretical model and explored the risk coping mechanism; in this mechanism, the SHGs were proven to be helpful in reducing household vulnerability.

According to Feeny and McDonald (2016), more prevalence from vulnerability can be achieved by a strong social support network. According to Tata and Prasad (2008), if the social group relationship among the women is strong, they can get credit from microfinance institutions, take part in business, and get professional information as well as social support which all enhance women-empowerment. Therefore, it can be described that social capital has a relationship with vulnerability.

2.15 Relationship between Women-Empowerment and Vulnerability

Women-empowerment and vulnerability have a negative relationship with each other. Vulnerability consists of different social, environmental and economic shocks that influence negatively on women-owned micro-enterprises as well as household conditions which automatically decreases women-empowerment. As mentioned by Herath *et al.* (2015), vulnerability reduces women-empowerment.

Furthermore, the definition of vulnerability also shows that it is a probability of experiencing future loss in welfare and a household becoming poorer (Christiaensen & Subbarao, 2005; Yuan Zhang & Wan, 2006). This indicates that vulnerability increases poverty level and any increase in poverty will automatically decrease women-empowerment.

2.16 Causes of Vulnerability in Southern Punjab, Pakistan

Vulnerability issues are now documented at a global scale, and the root causes of vulnerability are now being increasingly studied (Lewis, 2012). Still, the linkage between poverty and vulnerability is not attended by researchers (Lewis & AV Lewis, 2014) as the causes vary from region to region.

The variables that create vulnerability are endless (Cutter, 2005). Different studies highlighted that vulnerability can be constructed by the physical as well as social environment which is created by humans for themselves or others (Birkmann, 2006). According to McEntire (2012), physical causes of vulnerability includes location, practices of construction as well as the technology used such as chemicals. Meanwhile, social causes include economic circumstances, political issues, cultural-linked obstacles and population characteristics (McEntire, 2012).

Vulnerability is highly associated with the location (Chakraborty, Tobin, & Montz, 2005; Lavell, Wisner, Cannon, & Pelling, 2003; Perrow, 2011). Location vulnerability is also linked to environmental vulnerability. Location, especially in Southern Punjab, comprises major factors which promote vulnerability. The agriculture area of Southern Punjab also consists of a river named Satluj. During rainy seasons, flood disturbs crops and microenterprises and causes vulnerability. Meanwhile, the other parts of this area consist of a desert containing many villages of which residents are using microfinance services. In this location, desert windstorms affect the daily lives of the poor people. Here, vulnerability is caused by the lack of food and water for humans and livestock. Construction practices also create vulnerability — inadequate construction of a shelter for livestock or other micro-enterprises causes great harm

due to the storms in these areas. Additionally, animal and poultry diseases, water pollution, soil erosion and soil desertification are also common in this area.

Therefore, women who are living in these regions, working with livestock and other microenterprises by getting credit from microfinance institutions are facing the condition of vulnerability. When they suffer any harm, they use this credit to manage the situation causing less usable credit for their microenterprise. That is why women-empowerment is low in this area because they are living in the condition of vulnerability.

Environmental vulnerability is related to land degradation, earthquakes, floods, hurricanes, droughts, storms, water scarcity, deforestation, and other threats to biodiversity (Bayudan-Dacuycuy & Lim, 2014). Most of these environmental factors are prevalent in Southern Punjab.

Technological vulnerability including the use of dams to retain rainwater can create a false sense of security (Schwab *et al.*, 2006). In 2007, there was a great flood that destroyed most of Pakistan including Southern Punjab. This flood was due to the improper maintenance of the dams as well as the inefficiency of the dams to store water. The lack of maintenance of the dams increases the probability of disaster.

Additionally, economic conditions also have a significant influence on vulnerability (Piers Blaikie *et al.*, 2004; Dash, McCoy, & Herring, 2010). In Southern Punjab, poor people often live in hazard-prone areas such as the Cholistan, a suitable place for rearing livestock. However, these areas have low rainfall which causes vulnerability.

Therefore, economic conditions have more impact on the level of vulnerability (Piers Blaikie et al., 2004). Hence, due to these reasons, women-empowerment is not yet achieved in Southern Punjab and more attention is needed to highlight these issues.

In the region of Southern Punjab, people have fewer resources and less able to handle these adverse conditions. They often do not have a reasonable supply of food, insurance and savings facilities. As cited by Phillips & Fordham (2010), “social systems generate unequal exposure to risk by making some people more prone to disaster than others and these inequalities are largely a function of the power relations (class, age, gender and ethnicity among others) operative in every society”. Particularly in the area of Southern Punjab, the poor people are more inclined to go for cheaper places and live in hazard-prone areas because these locations are less costly as compared to other locations. In Southern Punjab, poor people prefer to live in the desert area because they cannot buy a land. In the desert area, they have enough land to live and run livestock, but these areas have less food, less water, and fewer government facilities. Hence, women who are residing in these regions are not empowered as compared to the women in other regions of Pakistan.

In summary, there are many factors of vulnerability in Southern Punjab Pakistan. These factors include natural disasters such as floods, heavy rain, sandstorms, and shortage of food and water. Other environmental factors include chemical pollution, water pollution, diseases, soil erosion and desertification. All these factors affect negatively on women-empowerment. Additionally, this area is also politically vulnerable. The government failed to give due attention to these areas that lack facilities.

2.17 Poverty Profile of Southern Punjab Pakistan

Since the Southern areas of Punjab have received little attention not only at the level of policy, but also at the level of empirical inquiry as compared to others (Chaudhry, 2009), keeping in view of the high rates of poverty and other associated problems in Southern Punjab has become the focus of this research study.

According to the study of Chaudhry (2009), in Southern Punjab Pakistan poverty is a rural phenomenon as 67.5% of the total population is living in rural areas. Punjab make up 56% of the population of the country which are mostly based in the rural areas. Almost 36% of the rural population is poor. Southern Punjab has a poverty level of 40%. Bahawalpur is located at the Southern part of Punjab whilst Cholistan is situated in the Southern part. A major part of Bahawalpur consists of the desert, due to which Bahawalpur is the least developed district in Pakistan where 78% of its female population are residing in rural areas (Khan & Noreen, 2012). It is evident from IFAD (2001) that rural poverty is more chronic in the rural areas of South Punjab. In this region of Cholistan, poverty is high because infrastructure as well as various socio-economic activities are worse than others (Chaudhry, 2009).

The areas of Pakistan namely Bahawalpur, Bahawalnagar, and Rahim Yar Khan are inflicted with more poverty as compared to other rural areas of Pakistan. In Bahawalpur, poverty falls from 69.64 percent to 55 percent. Therefore, women-empowerment is also low in this area and needs more research — nevertheless, these observations from previous studies form the base and justification for future studies to be carried out in this area.

Bahawalpur is one of the areas which has more poverty as compared to other regions of Pakistan as shown in Table 2.3. Although many microfinance institutions are operating in this area as indicated above, they failed to reduce poverty significantly. Table 2.3 shows that Bahawalpur and D.G Khan has more poverty as compared to other areas i.e. 36.9% and 48.9% respectively. These two areas belong to Southern Punjab. Hence, poverty is higher in Southern Punjab as compared to other areas.

Table 2.3
Poverty Profile of Southern Punjab

Division	Poverty Percentage	Brands of Poverty
Gujranwala	18.1	Low Poverty
Lahore	19.2	
Rawalpindi	20.7	
Faisalabad	25.7	Medium Poverty
Multan	28.9	
Sahiwal	32.2	
Sargodha	34.8	
Bahawalpur	36.9	High Poverty
D.G. Khan	48.9	

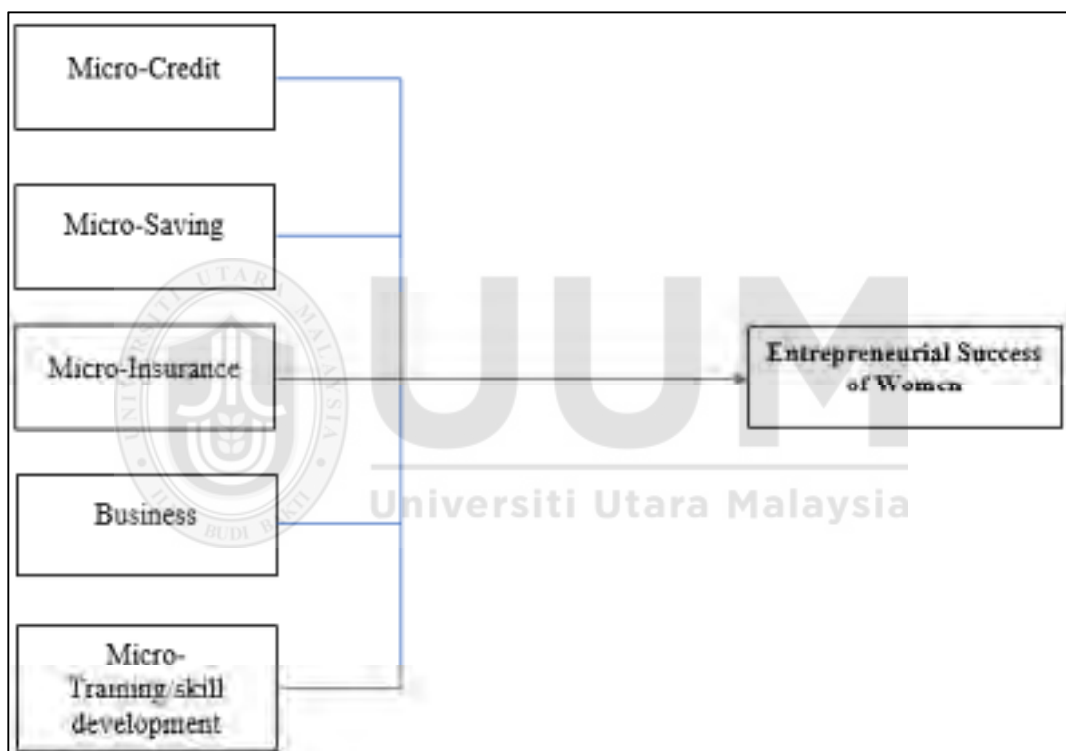
Source: Afzal *et al.* (2015)

The percentage of poverty is different from province to province, and even within a province in one area to another area. There is a notable difference among various rural areas particularly in Punjab (FBS, 2002). According to the percentage estimate, out of the overall households, 55% are poor and this percentage is much higher in the rural areas of Punjab (Chaudhry, 2009). Most of Southern Punjab is made up of rural area which is the reason for the high prevalence of poverty in this area. Chaudhry (2009)

confirmed this by stating that as compared to the other areas of Punjab, Southern Punjab has more prevalence of poverty.

2.18 The Development of Research Framework

The discussions on previous studies in Chapter Two form the foundation in developing the research framework of the current study. This study used the research framework of Bernard *et al.*, (2016), as shown below in Figure 2.4.



Independent Variables (IVs)

Dependent Variable (DV)

Figure 2.4

The Partial Research Framework of this Study Showing the Microfinance Factors

Source: Bernard *et al.* (2016)

According to Bernard *et al.* (2016), the role of effective microfinance services in facilitating micro-entrepreneurial success among women entrepreneurs remains a major issue in the microfinance sector, as the failure of micro-enterprise leads to

disempowerment. To address this gap, the current study amended the framework of Bernard *et al.* (2016) and designed a new framework which consists of three types of capitals namely financial capital, human capital and social capital to enhance women-empowerment. The increase in income among poor women enhances women-empowerment (Bali Swain & Wallentin, 2012; Rehman *et al.*, 2015) and micro-enterprises increase the income of poor women.

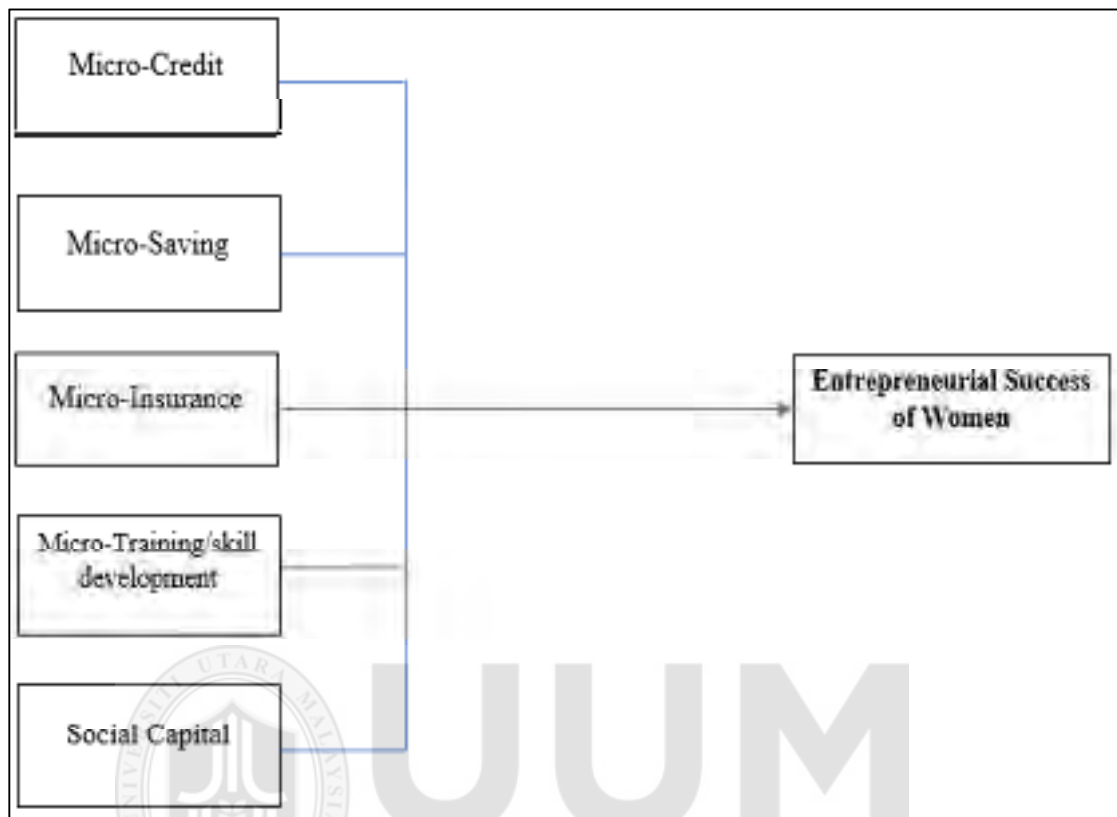
The three types of capital (financial capital, human capital, social capital) are imperative in enhancing women-empowerment, and micro-enterprises play a significant role contributing to women-empowerment. The above framework presented in Figure 2.5 consists of two types of capital namely financial capital (micro-credit, micro-saving, micro-insurance) and human capital (micro-training/skill development). However, Bernard *et al.* (2016) missed an important element i.e. social capital. As discussed in Chapter Two, social capital is a network of relations among people. According to Mayoux (2001), social capital has a significant contribution in women empowerment. It is one of the most valuable resources because it facilitates economic activity (Janine Nahapiet & Ghoshal, 2000). Social capital improves women socio-economic empowerment and hence is proposed in the above framework.

With the addition of social capital into the framework, a new framework for the current study consisting of the three major capitals for the improvement of women-empowerment is established. According to the proposed framework of this study, financial capital comprises of micro-credit, micro-saving and micro-insurance. As financial capital is the lifeblood for every economic activity, it is therefore the key to

success. With regards to human capital, training or skill development activities are deemed to be important components. It is suggested in literature that training and credit should be provided together regardless of the amount of time allocated to it (IBRU, 2009; Kuzilwa, 2005). Most poor people who attained credit are unable to invest in productive plans; as a result, they fail in running micro-enterprises due to not having proper training. Additionally, as suggested in literature, there is a need to study credit jointly with training on entrepreneurship in the context of developing countries, as women in low-income countries lack education (Harrison & Mason, 2007; Peter, 2001; Tazul, 2007). It is evident from literature that without training, micro-credit cannot be used as an effective tool for poverty alleviation (Adams & Von Pischke, 1992; Imai, Arun, & Annim, 2010). Hence, financial capital and human capital in combination are vital for women-empowerment.

Social capital is equally important as it helps poor people who are caught in bad conditions or emergencies. Poor people often use their relationship with family, friends and relatives to cope with any adverse conditions. The provision of micro-financing services by microfinance institutions in groups is helpful for generating social capital. These three capitals are depicted in Figure 2.5 as independent variables for this study. Additionally, according to the Mayoux's Feminist Empowerment theory, microfinance institutions facilitates women micro-enterprise which automatically increases empowerment level among women. Mayoux's (2006) demonstrated that microfinance increases the women-empowerment by supporting women micro-enterprise. To increase women-empowerment through women micro-enterprise development is one of the major objectives of microfinance institutions. Thus, the dependent variable, namely; entrepreneurial success of women in the

framework of Bernard *et al.*, (2016) is replaced by the women-empowerment. It is shown in Figure 3.1.



Independent Variables (IVs)

Dependent Variable (DV)

Figure 2.5

The Partial Research Framework of this Study Showing the Microfinance Factors with the addition of social capital

Source: Adapted from Bernard, Kevin and Khin (2016)

Facilitating women in different entrepreneurial activities would lead to an improvement in their living standards as well as their families' (Bernard, 2015). It can be further described that improvement in living standards means an improvement in social life which will automatically enhance social-empowerment among women. The author further explained that this would in turn pave the way for economic development, hence, leading to women economic-empowerment.

In general, microfinance institutions have been regarded as one of the tools for poverty reduction according to various studies conducted in a wide range of cross-sections in different countries with a special focus on women-owned micro-enterprises in developing countries (Bernard, 2015). Microfinance institutions provide different services as mentioned above and facilitates women-owned micro-enterprises to alleviate poverty among the women and improve their social as well as economic empowerment. These include financial as well as non-financial services for the economic development of the women (Bruton, Khavul, & Chavez, 2011; Khavul, Chavez, & Bruton, 2013). Financial services include micro-credit (MC), micro-saving (MS) and micro-insurance (MI), whilst non-financial services include micro-training/skill development (TSD) and social capital.

Microfinance is recognized as a new development strategy for poverty alleviation through the social and economic development of poor people with a special focus on women-empowerment (Singh, 2009). Microcredit significantly improves the income of women and increases their participation in the decision-making process (Kapila *et al.*, 2016). The increase in income empowers women economically, and the increase in decision-making participation empowers women socially. Hence, micro-credit is one of the tools to enhance women's socio-economic empowerment. In the same way, micro-saving promotes women empowerment (Ashraf *et al.*, 2010; Guérin, 2006). Micro-saving is a promising way to increase rural women's productivity (Knowles, 2013). Micro-insurance is also one of the mechanisms of social security, and it elevates the standard of living of poor people (Kishor *et al.*, 2013). According to Gaurav *et al.* (2012), micro-insurance is the only instrument that can improve the living standards of the rural poor. Nevertheless, literature proves that most of the

clients of microfinance institutions do not have specific skills, causing them to be unable to utilize microfinance factors in various income-generating activities (Karnani, 2007). Therefore, micro-training has a positive impact on women-empowerment and these microfinance services have a positive impact on women's socio-economic empowerment.

Nonetheless, the scholastic debate with regards to the effect of microfinance has yielded contradictory results and mixed findings. It is evident from literature that there is an inconsistency between the relationship of microfinance factors and the empowerment of its beneficiaries. Sometimes, microfinance achieves its target, but there are also times when it is unsuccessful to empower its beneficiaries through poverty alleviation. Several studies (Al-Shami *et al.*, 2016; Al-shami *et al.*, 2018; Kodamarty & Srinivasan, 2016; Nasir & Farooqi, 2016; Rehman *et al.*, 2015) showed that microfinance has a significant positive impact on its beneficiaries, especially women.

However, literature also indicated that microfinance could pose negative, less or no impact at all. It is possible that the poorest of the poor may face negative consequences due to microfinance interventions (Mosley & Hulme, 2009). Several studies argue that microfinance may be harmful to its recipients (Buckley, 1997; Rahman, 1999). According to Atmadja *et al.* (2016), financial capital has a negative impact on the performance of women-owned micro-enterprises. Financial capital includes micro-credit, micro-insurance and micro-saving. As the increase in income of women in low-income households is the most effective factor towards empowering women (Bali Swain & Wallentin, 2012; Rehman *et al.*, 2015) and microfinance has

the purpose of empowering poor people by facilitating them in micro-enterprises. Furthermore, debt is not an effective tool for helping the hardcore poor women to improve their economic conditions (Naser & Crowther, 2016).

Additionally, literature questions the effectiveness of microfinance in successfully lifting people out of poverty and improving their welfare (Cull *et al.*, 2009). In a similar direction, several studies show that micro-credit does not benefit women-owned micro-enterprises (Copestake, Bhalotra, & Johnson, 2001; Fiona Leach & Sitaram, 2002). With regards to the non-financial services of microfinance, Swain and Varghese (2013) reveal that training has a positive impact on asset accumulation and a negative impact on income. According to Coleman (1999), training does not affect asset accumulation and has a positive effect on the income of the participants. On the other hand, Muhammad Yunus argues that micro-credit is enough to lift people out of poverty without the need for training (Yunus, 1999).

Therefore, literature shows conflicting results among different studies with regards to the performance of microfinance in alleviating poverty and empowering its beneficiaries. Consequently, according to Baron and Kenny (1986), there is a need to introduce a moderator to make the relationship clearer. Extensions of the model through moderators have been acknowledged in previous studies, and they have been shown to improve the predictive validity of different models beyond the original specifications (Venkatesh, Morris, Davis, & Davis, 2003). Variation in any relationship can be handled through the introduction of the moderator. Therefore, the framework of Bernard, Kevin and Khin (2016) is amended by introducing the moderating variable which is discussed in section 3.2 and shown in Figure 3.1.

2.19 Chapter Summary

The current chapter discusses the microfinance factors and women-empowerment. Besides, this chapter also has provided the discussion on underpinning theories related to the relationship of microfinance institutions and women-empowerment. It also provides the women-empowerment dimensions. It provides the empirical review on the relationship of microfinance factors (micro-credit, micro-saving, micro-insurance, micro-training/skill development). Based on the literatures, the moderating roles of vulnerability have been grouped into four major dimensions, namely, social vulnerability, economic vulnerability, environmental vulnerability and political vulnerability. These roles have become the foundation for the study in examining the moderating effect of vulnerability on the relationship of microfinance factors and women-empowerment. Moreover, this chapter also highlighted the role of social capital. Additionally, the profile of Southern Punjab, Pakistan is also provided at the end of this chapter. Finally, this chapter discusses the past research model which has become the foundation in developing the research framework for this study. Additionally, the table of key findings is shown in appendix 5.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research framework and provides a comprehensive discussion on the proposed framework and research hypotheses of the current study. The operational definitions of all the variables and instruments are also provided in this section. The presentation of the research framework is organized into several subsections including research design, research hypotheses, population of the study, sampling design and data analysis techniques.

3.2 Research Framework

Microfinance institutions provide various services to facilitates women-owned micro-enterprises to alleviate poverty among the women and improve their social as well as economic empowerment. These include financial and non-financial services for the economic development of the women (Bruton, Khavul, & Chavez, 2011; Khavul, Chavez, & Bruton, 2013). Financial services include micro-credit (MC), micro-saving (MS) and micro-insurance (MI), whilst non-financial services include micro-training/skill development (TSD) and social capital. However, with the positive effect of these services, sometimes it shows negative consequence which is discussed in section 2.17. These inconstant results lead towards the need of moderating variable.

According to Banerjee and Jackson (2017), more research is required to examine the relationship between microfinance and vulnerability in other contexts. Different studies (Bali Swain & Floro, 2014; Feeny & McDonald, 2016; Hossain, 2007; Lewis & AV Lewis, 2014; McEntire, 2012; Swain, Bali Swain, Themnér, & Krampe, 2011) had been conducted to examine the impact of vulnerability; however, most of the studies (Al-Mamun & Mazumder, 2015; Garikipati, 2008; Kiiru, Books, OER, & SCARDA, 2012; Swain & Floro, 2007) had been conducted on the impact of microfinance on vulnerability. Nevertheless, the impact of vulnerability on microfinance had not been formally documented. Therefore, the current study is going to examine the moderating effect of vulnerability on the microfinance process of empowerment, especially in the case of women.

Therefore, vulnerability is used as a moderator between microfinance services and women-empowerment. As recommended by Hameed et al. (2018), vulnerability should be used as a moderating variable between women-empowerment and microfinance factors. Furthermore, Hameed, Hussin, Azeem, Arif, and Basheer (2017) also recommended that vulnerability should be used as a moderating variable in future research. The above-mentioned studies showed that vulnerability has a relationship with microfinance (micro-credit, micro-saving, micro-insurance, micro-training, social capital). According to M. Robinson (2002), microfinance helps poor people to protect and increase their income as well as diversify and accumulate assets by reducing vulnerability. Vulnerability also has a relationship with women-empowerment (Garikipati, 2008). According to Sujatha Gangadhar and Malyadri (2015), the purpose of microfinance is to reduce vulnerability among women and

empower them. Therefore, vulnerability has a relationship with microfinance and women-empowerment.

In Southern Punjab Pakistan, as discussed in Chapter Two, most of the area consists of a desert which poses different vulnerability sectors. Apart from environmental issues, this area is also poor economically, socially and politically. Due to these problems, the poor people must migrate from one place to another which is costly. Destruction of their livestock and micro-enterprises drag them into deeper poverty. This area also consists of nearby rivers which often cause floodings. During rainy season, food shortage affects the agriculture areas and livestock of the poor people. Because of these reasons, vulnerability is selected as a moderating variable as shown in Figure 3.1.

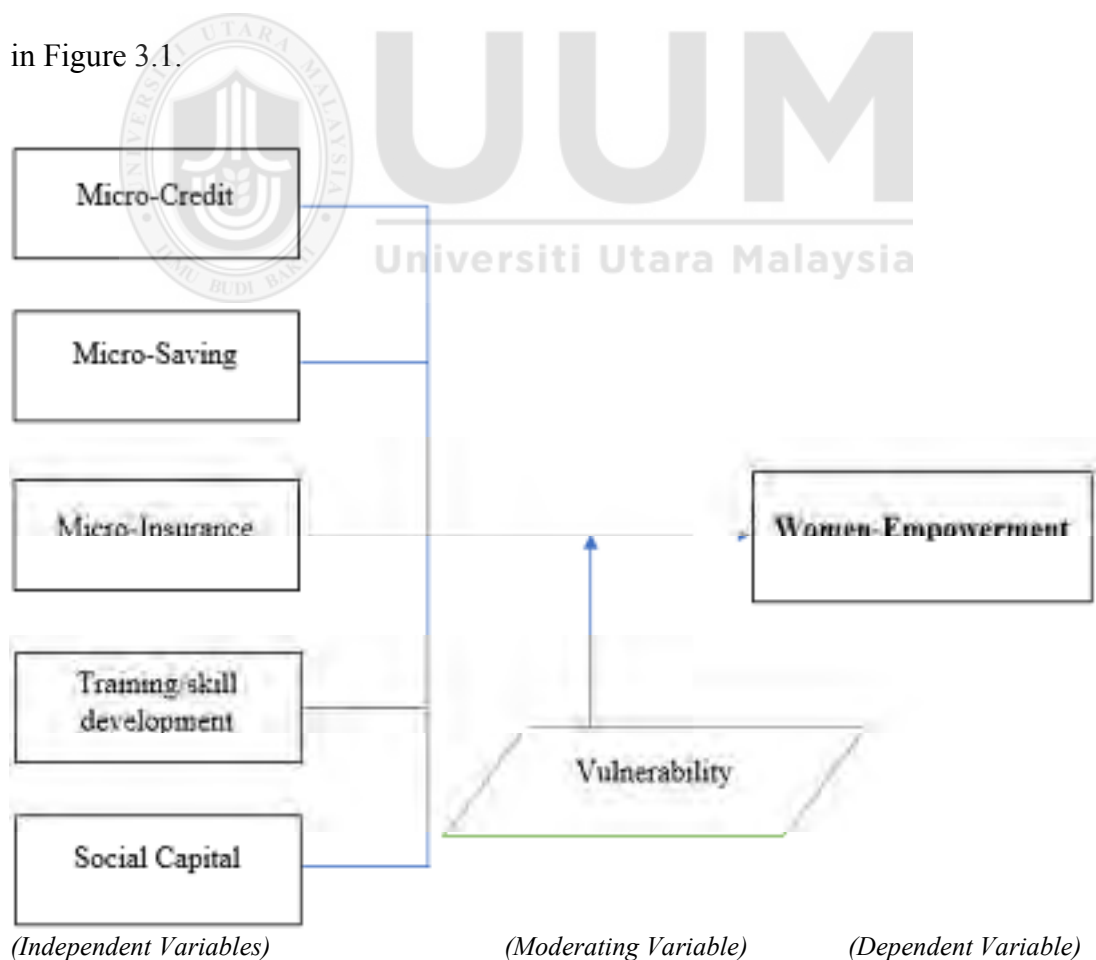


Figure 3.1
The proposed research framework with the inclusion of Vulnerability as the

moderator and social capital as new independent variable

Source: Developed by the current study

A moderator is a variable which affects the strength or the direction of the relationship between the independent and dependent variables (Ro, 2012; Wilken, Jacob, & Prime, 2013; Zakuan, Yusof, Saman, Shaharoun, & Laosirihongthong, 2012). It can also change the relationship between the dependent and independent variables (Uma Sekaran & Bougie, 2013). Moderator variable may affect the strength of the relationship (strong or weak the relationship) or change the form of the relationship. Therefore, the addition of vulnerability as a moderator in the research framework is assumed to have the ability to weaken the relationship between the microfinance services (micro-credit, micro-saving, micro-insurance, micro-training), women-empowerment and social capital, and women-empowerment.

3.3 Hypotheses Development

This research study focused on the effect of microfinance factors (micro-credit, micro-saving, micro-insurance, micro-training) on women-empowerment and the moderating effect of vulnerability on the relationship between microfinance factors and women-empowerment. It also focused on the effect of social capital on women-empowerment with the moderating role of vulnerability. According to prior studies, it is observed that microfinance services enhance women-empowerment and vulnerability moderates the relationship between microfinance services and women-empowerment.

Micro-credit increases the socio-economic empowerment of females by reducing their poverty level (Kodamarty & Srinivasan, 2016) and significantly improves the income

and decision-making power of women (Kapila *et al.*, 2016). Therefore, it has the power to enhance social as well as economic empowerment among females. Furthermore, according to Jinia (2016), it has a significant positive relationship with women-empowerment. However, vulnerability factors negatively affect the welfare of poor people (Banerjee & Cole, 2011) as discussed in the second chapter. Summarily, micro-credit has a significant relationship with women-empowerment and vulnerability is moderating this relationship. Hence, it is hypothesized that:

H₁: Micro-credit has a significant relationship with women-empowerment.

H₂: Vulnerability moderates the relationship between micro-credit and women-empowerment.

Savings can improve the productivity of rural women (Knowles, 2013) because it has a long-lasting effect (Dupas & Robinson, 2013). It has a significant positive relationship with the success of women-owned micro-enterprises (Bernard *et al.*, 2016). However, poor people use their savings to mitigate the effect of vulnerability which hinders the purpose of their savings. Thus, micro-saving has a significant relationship with women-empowerment and vulnerability is moderating the relationship. Hence, it is hypothesized that:

H₃: Micro-saving has a significant relationship with women-empowerment.

H₄: Vulnerability moderates the relationship between micro-saving and women empowerment.

Micro-insurance is one of the mechanisms of social security, and it also elevates the standard of living of poor people (Kishor *et al.*, 2013). Therefore, it has a positive impact on women-empowerment because it is helpful in reducing poverty (Rao, 2008). According to Amudha *et al.* (2014), micro-insurance reduces the effect of

vulnerability. Vulnerability plays the role of moderator between insurance and women-empowerment. Thus, the study hypothesized that:

H₅: Micro-insurance has a significant relationship with women-empowerment.

H₆: Vulnerability moderates the relationship between micro-insurance and women-empowerment.

Micro-training has a vital role in improving skills and gaining experience to develop or expand women-owned micro-enterprises (Kuzilwa, 2005). This is the reason why training has a significant positive influence on micro-enterprise performance (Akanji, 2006). The success of women-owned enterprises empowers them socially as well as economically. Vulnerability has a crucial role in women-empowerment (Herath *et al.*, 2015) by affecting the relationship between training and women-empowerment. Therefore, it is hypothesized that:

H₇: Micro-training/skill development has a significant relationship with women-empowerment.

H₈: Vulnerability moderates the relationship between micro-training/skill development and women-empowerment.

According to Mayoux (2001), social capital is significantly related to women-empowerment. Social capital consists of a network of people which is helpful in developing and expanding enterprises. Therefore, social capital is quite useful in enhancing income-generating activities (Janine Nahapiet & Ghoshal, 2000). According to Shane (2003), weak social capital is one of the reasons for the low performance of women-owned enterprises. Moreover, social capital has a significant

positive relationship with the success of women-owned micro-enterprises (Atmadja *et al.*, 2016). Vulnerability affects this relationship. Therefore, social capital has a significant relationship with women-empowerment and vulnerability is moderating the relationship. Hence, it is hypothesized that:

H₉: Social capital has a significant relationship with women-empowerment.

H₁₀: Vulnerability moderates the relationship between social capital and women-empowerment.

3.4 Research Design

The current study used a quantitative research approach in which a survey was conducted. Area cluster sampling method with a survey questionnaire was used to collect the data. Several microfinance institutions are operating in Southern Punjab. The total of microfinance institutions in Pakistan are 3,533. Female clients of Southern Punjab microfinance institutions were selected as the targeted population of this study. The current study collected the data only one time. Therefore, it is a cross-sectional research study.

While considering the objectives as well as the extent of research in mind along with the nature of the population and the design of sampling, the quantitative method was chosen as an appropriate technique to measure the objectives (Burns & Grove, 1993). This research attempts to evaluate the microfinance factors which are either enhancing or reducing women-empowerment. Quantitative data as described by Brink and Wood (1998) and Burns and Grove (1993) “can be transposed into numbers, in a formal, objective, systematic process to obtain information and describe variables and

their relationships”. The quantitative research technique is one of the best techniques for the acceptance and rejection of the hypothesis (Shuttleworth, 2008). Therefore, the current research study adopted a quantitative research approach.

3.4.1 Population of the Study

Polit Denise and Hungler Bernadette (1999) define a population as “the totality of all subjects that conform to a set of specifications, comprising the entire group of persons that is the interest to the researcher and to whom the research results can be generalized”. Lobiondo-Wood and Haber (1998) explain a sample as “a portion or a subset of the research population selected to participate in a study, representing the research population.”

The current study is focusing on the relationship between microfinance factors and women-empowerment. Therefore, by considering the nature of the study, female clients of microfinance institutions were selected as the population of this study.

3.4.2 Unit of Analysis

The unit of analysis for the current study is individual level. It consists of all the female clients of microfinance institutions including NGOs operating in Southern Punjab, Pakistan.

3.4.3 Sample Size

The sample size for this study is based on the table by Krejcie & Morgan (1970) for sample size calculation. The total of women participants in Southern Punjab is more than 100,000. By following the recommendations of Krejcie & Morgan (1970), if the

population is more than 100,000, then the sample size should not be less than 384. Thus, the sample size of the current study is 500 female participants of microfinance institutions in Southern Punjab, Pakistan.

3.4.4 Sampling Technique

There are many microfinance institutions operating in Southern Punjab. This area consists of ten major cities with poor people living in them and the surrounding areas. Most of the microfinance institutions and NGOs are covering these areas. Probability sampling was used and questionnaires were distributed among the female clients of the microfinance institutions by using area cluster sampling. In the current study, the sampling consists of four steps:

1. Division of Southern Punjab into 10 clusters
2. Selection of clusters randomly (Bahawalpur, Rahim Yar Khan, Muzaffargarh, Dera Ghazi Khan, Bahawalnagar)
3. Calculation of sample size for each cluster by using the formula below,

$$nz = (Nz/N) * n$$

Where,

nz = required sample size for each cluster, Nz = total population of each cluster, N = total population size in all clusters, n = total sample size

According to the estimation of total female clients for all the microfinance services such as credit, savings, insurance, training/skill development programs and social capital development activities, there are approximately 143,000 female clients. In Bahawalpur, there are 29,500 clients; in Rahim Yar Khan 21,000; in Muzaffargarh

17,000; in Dera Ghazi Khan 18,500, and in Bahawalnagar 14,500 approximately (Ul-Hameed *et al.*, 2018). The total sample size in this study is 500. The sample size for each cluster is calculated below by using the above formula.

$$\text{Bahawalpur: } nz = (29,500/100,500) * 500 = 147 = 29.4\%$$

$$\text{Rahim Yar Khan: } nz = (21,000/100,500) * 500 = 104 = 20.8\%$$

$$\text{Muzaffargarh: } nz = (17,000/100,500) * 500 = 85 = 17\%$$

$$\text{Dera Ghazi Khan: } nz = (18,500/100,500) * 500 = 92 = 18.4\%$$

$$\text{Bahawalnagar: } nz = (14,500/100,500) * 500 = \frac{72}{100} = 14.4\%$$

4. The selection of respondents made randomly from Bahawalpur is 147, Rahim Yar Khan 104, Muzaffargarh 85, Dera Ghazi Khan 92 and Bahawalnagar 72.

Therefore, data were collected through random sampling technique. After the selection of clusters, data were collected through random sampling. This is one of the procedures for area cluster sampling as recommended by Sekaran and Bougie (2013). The lists of female clients from microfinance institutions were obtained and respondents were selected randomly. All the questionnaires were distributed by the researcher and respondents were personally approached with the help of microfinance institutions' employees.

3.5 Operational Definitions

An operational definition is a description of how a research study intends to define as well as measure the concerned variables (Creswell, 2009). In the current study, the

concept of different variables is based on prior studies. The current study is based on seven variable definitions namely: women-empowerment, micro-credit, micro-saving, micro-insurance, micro-training/skill development, social capital and vulnerability. The measurements of the variables were adapted from previous studies.

3.5.1 Women-Empowerment (WE)

Based on the studies given in Table (appendix 6), women-empowerment is measured through four indicators namely: family decision-making, freedom of mobility, economic security and household economic decision-making. Hence, in the context of the current study, women-empowerment can be defined as the process in which women get more control over the family, social and economic decision-making process, authority to move freely outside the home and more access to assets as well as microfinance institutions to take part in income-generating activities. The current research study is following the recommendations by Sujatha Gangadhar and Malyadri (2015) and Nawaz, Jahanian and Manzoor (2012).

3.5.2 Micro-Credit (MC)

Micro-credit is not only limited to the provision of small loans to poor people. It also has other important elements such as easy loan obtaining process, reasonable interest rate, and sufficient amount and time for easy repayment. Therefore, based on the studies given in Table (appendix 6), micro-credit is measured with regards to the process, interest rate, loan size and time given for repayment. In the context of the current study, micro-credit can be defined as the provision of small loans to poor people based on easy processing, minimum interest rate, sufficient amount to run a micro-enterprise and sufficient time to repay the loan amount. All these measures were adapted from Bernard *et al.* (2016).

3.5.3 Micro-Saving (MS)

In the context of the current study, apart from savings, other factors related to microfinance institutions are also considered. Thus, by considering the studies in Table (appendix 6), savings is measured based on interest rate, saving process, saving product options provided and the need for savings. Savings can be defined as the process of depositing excess income into microfinance institutions at a reasonable interest rate with easy processing and access to withdraw the savings amount when needed. The current research study is following Bernard *et al.* (2016).

3.5.4 Micro-Insurance (MI)

Based on studies given in Table (appendix 6), micro-insurance is measured based on its benefits, variations in different policies, reasonable installment and effective repayment. Most microfinance institutions have variations in insurance policies such as insurance of assets, insurance of business or life insurance. In such a case, poor people can choose a suitable insurance plan that should be beneficial for them. The installment of insurance should be reasonable enough that poor people can pay it easily, and the accurate amount should be paid at the maturity of the policy. Before maturity, if any individual needs financial support in case of any urgency, the installments should be provided by the microfinance institutions. Hence, micro-insurance can be defined as an agreement between the microfinance institutions and the low-income people based on an easy process and different policies in which an individual pays a series of the instrument and receive a certain amount at the end of the period. These measures were adapted from Bernard *et al.* (2016).

3.5.5 Micro-Training/Skill Development (TSD)

In the context of the current study, micro-training is based on several elements such as the running of a business, improvement of social status and improvement of personal attributes/qualities. The poor people who are granted a loan from microfinance institutions are more likely to invest in unproductive activities because of their lack of good qualities or training. The people who invest in productive plans such as microenterprises do not have knowledge to run the business. That is why they become unsuccessful and more likely to face issues with the loan repayment. This issue drags them into deeper poverty. Due to this, microfinance institutions provide trainings that should be beneficial for people and should be sufficient enough to develop the skills of poor people. Improvement of abilities will automatically improve social status such as family well-being. Therefore, based on the studies given in Table (appendix 6), training is measured based on the frequency of training programs provided and the usefulness of the training in improving social status, family life and attributes of the individuals. Hence, this study refers to micro-training as the process of improving personal skills which support the running of a business and improves social status by improving family life. The measures of training were adapted from Bernard *et al.* (2016).

3.5.6 Social Capital (SC)

Poor people who get credit from microfinance institutions and run micro-enterprises need a network of connection among friends, family and relatives who would lend support in any adverse conditions. Social connections help to develop and expand micro-enterprises. The customers, suppliers and distributors are good sources for collecting valuable information. Therefore, based on the studies given in Table

(appendix 6), social capital is measured based on the network with family, relatives, customers, suppliers and other stakeholders. In the context of the current study, social capital can be defined as a network of connections among family, relatives, friends, customers, suppliers and other stakeholders which help to develop and expand the enterprise. All the items used to measure social capital were adapted from Naala (2016).

3.5.7 Vulnerability (VLNA)

Vulnerability is measured based on environment, social, economic and political factors (Stewart, 2007). It consists of different hazards related to environmental and natural disasters. Therefore, in the context of Southern Punjab and based on previous studies given in Table (appendix 6), various vulnerability factors were considered. Vulnerability comprise of different hazardous factors such as floods, heavy rainfalls, water storage, water quality, open sewage, water pollution and soil erosion.

Economic vulnerability is based on shortage of income. Social vulnerability includes gender discrimination whilst political vulnerability is based on various political factors that the women of Southern Punjab are suffering from. In the context of the current study, vulnerability can be defined as the extent to which a community, structure, service, or properties are likely to be damaged or disrupted by the impact of environmental, economic, social and political factors. The current research study is based on Stewart (2007).

3.6 Instrumentations

The current research study used a questionnaire survey to collect the primary data. The research questionnaire was adapted from different studies. Items for the

dependent variable (women-empowerment) were adapted from Sujatha Gangadhar and Malyadri (2015) and Nawaz, Jahanian and Manzoor (2012). This questionnaire was adapted by Sujatha Gangadhar and Malyadri (2015) from two studies i.e. Al-Mamun and Mazumder (2015) and Bali Swain and Wallentin (2012). The scale items for micro-credit, micro-saving, micro-insurance and micro-training were adapted from Bernard *et al.* (2016), social capital from Naala (2016) and vulnerability from Stewart (2007).

The use of the measurement scale is considered to be an appropriate way to determine the relationship between different variables (Sekaran, 2003). Generally, there are five categories of responses used. These categories range from 5 = strongly agree to 1 = strongly disagree and 3 = neutral response (Jamieson, 2004). In the current study, a 5-point Likert scale from 'strongly disagree' to 'strongly agree' was used to collect the data from the female clients of microfinance institutions.

3.6.1 Women-Empowerment (DV)

This study focuses on socio-economic women-empowerment, as discussed in Chapter Two. From previous studies, different socio-economic indicators were selected. These indicators are family decision making, freedom of mobility, economic security and household economic decision-making. Based on these indicators, women-empowerment was measured, and the scale items were selected. The scale items were adapted from the study by Sujatha Gangadhar and Malyadri (2015) and Nawaz, Jahanian and Manzoor (2012).

Family decision making was measured using two items. These items reflect the decision-making power of women in children education, marriage, career and birth

control decisions. Freedom of mobility was measured using three items, which shows the mobility of women outside of their homes, with and without the permission of their husbands. Economic security was measured using three items. These items measured the respondents' economic security with the prospective of independent savings, their self-confidence to face financial crisis and ownership of assets like house, land and livestock. Finally, household economic decision-making was measured using four items. These items are related to the economic household decision making such as decision for home improvement or development, household expenses, major purchase decisions and purchase of clothes or other essentials. Other general questions given attempted to see whether microfinance is contributing to the women empowerment.

3.6.2 Microfinance Factors (IV)

The independent variables include Micro-Credit (MC), Micro-Saving (MS), Micro-Insurance (MI) and Micro-Training/Skill Development (TSD) and Social Capital (SC). The scale for the four microfinance factors namely Micro-Credit (MC), Micro-Saving (MS), Micro-Insurance (MI) and Micro-Training/Skill Development (TSD) was selected from Bernard *et al.* (2016).

3.6.2.1 Micro-Credit (MC)

Micro-credit was measured using five items. The first item measured the interest rate on the loan, the second item measured the loan obtaining procedure, the third item measured the size of the loan, the fourth item measured the loan period of repayment and the fifth item measured the procedure of repayment. The scale items for micro-credit were adapted from Bernard *et al.* (2016).

3.6.2.2 Micro-Saving (MS)

Micro-Saving was measured using five items. The first item measured the interest on savings, the second item measured the savings product options, the third item measured the procedure of savings, the fourth item measured the withdrawal of savings and the fifth item measured if any amount is needed to be maintained in the account for the purpose of obtaining loan. The scale items for micro-saving were adapted from Bernard *et al.* (2016).

3.6.2.3 Micro-Insurance (MI)

Micro-insurance was measured using five items. The first item measured the insurance benefits, the second item measured the different insurance options, the third item measured the need of insurance, the fourth item measured the policy premiums and the fifth item measured on how quickly the insurance company compensating the respondents right after the insurance claims was filed. The scale items for micro-insurance were adapted from Bernard *et al.* (2016).

3.6.2.4 Micro-Training/Skill Development (TSD)

Micro-training was measured through five items. The first item measured the benefits of entrepreneurial training on the respondents' business, the second item measured the frequency of skills development programs, the third item measured the role of these (training) activities to improve the respondents' social status, the fourth item measured the family life improvement and the fifth item measured the roles played by the training programs in the improvement of personal attributes/qualities among the respondents. The scale items for micro-training/skill development were adapted from Bernard *et al.* (2016).

3.6.3 Social Capital (SC)

Social capital was measured using seven items. The first item measured the usefulness of network among family members and relatives for business, the second item measured the usefulness of network among friends for business, the third item measured the usefulness of relationship customers for business, the fourth item measured the usefulness of relationship with stakeholders for business, the fifth item measured the usefulness of relationship with suppliers, distributors or manufacturer for business, the sixth items measured the usefulness of social and professional network for business and finally, the seventh item measured the usefulness of relationship with those who provide updated information to improve business. The scale items for social capital were adapted from Naala (2016).

3.6.4 Vulnerability (VLNA) (Moderator)

To measure vulnerability, various environmental, social, economic and political indicators were selected. Items related to the environmental vulnerability include; floods, heavy rainfalls, water storage, water quality, open sewage, water pollution, soil erosion; economic vulnerability include; shortage of income; social vulnerability include; gender discrimination, and political vulnerability include; community conflicts and various inappropriate measures used by the Pakistani government. All the items related to the indicators were provided in the questionnaire (Appendix 1). The scale for vulnerability was adapted from Stewart (2007).

3.6.5 Questionnaire Descriptions

To examine the relationship between microfinance services and women-empowerment, the questionnaire was divided into five sections. The first section of the questionnaire consists of demographic variables such as age, education, income, marital status and occupation.

The second section of the questionnaire consists of items related to women empowerment. In this section, the items are presented in relation to four indicators of women-empowerment namely family decision-making, freedom of mobility, economic security and household economic decision-making. It also includes various items to examine the opinion of women towards microfinance.

The third section of the questionnaire comprises different items related to the independent variables namely micro-credit, micro-saving, micro-insurance and micro-training/skill development. All these four independent variables belong to microfinance services. Each variable has a separate section having related items.

The fourth section of the questionnaires is related to the fifth independent variable namely social capital. Finally, the fifth section of the questionnaire consists of the moderating variable. This section is based on the related items on vulnerability.

3.6.6 Pilot Study

To examine the reliability and validity of the measures, a pilot study was conducted (Flynn, Sakakibara, Schroeder, Bates, & Flynn, 1990). The pilot study was important because the scales were adapted and translated into Urdu. The pilot study was

conducted to assess the internal consistency of the instrument so as to improve the questionnaire (Neuman, 2013). It is used to detect weaknesses in design and instrumentation (Cooper & Schindler, 2001).

According to Emory and Cooper (1991), a total of 25-100 respondents is suitable for a pilot study. In the current study, 100 questionnaires were distributed among the female clients of microfinance institutions and 79 questionnaires were returned. Out of the 79 questionnaires, three were incomplete and hence excluded from the study. Ultimately, 76 questionnaires were used to conduct the pilot study.

Smart PLS 3 was used to check the reliability and validity. Factor loadings, Cronbach's Alpha, composite reliability and average variance extracted (AVE) were considered in examining the reliability and validity of the instrument. According to Joseph Hair, Black, Babin, Anderson, and Tatham (2010), reliability value should be more than 0.6. Reliability of less than 0.6 is considered to be poor, 0.7 is considered to be acceptable, and 0.8 is considered to be good (Uma Sekaran, 2000). Table 1 (appendix 7) shows that micro-credit, micro-saving, training/skills development, social capital, vulnerability and women-empowerment each has a Cronbach's Alpha of between 0.830 and 0.953 which is acceptable. Meanwhile, micro-insurance, women-empowerment and vulnerability each has a reliability of between 0.813 and 0.852, which is good.

To examine the validity, the average variance extracted (AVE) was measured. It is recommended that the average variance extracted (AVE) should be above 0.5 (Fornell & Larcker, 1981) to achieve the convergent validity. To achieve a satisfactory level of average variance extracted (AVE), items having less than 0.5-factor loading were

deleted. According to Joseph Hair *et al.* (2010), items having 0.4-factor loading should be deleted. All the items have factor loadings of more than the acceptable level (0.5). Composite reliability is also greater than the acceptable level (0.7) as recommended by Hair, Hult, Ringle, and Sarstedt (2016). Finally, the average variance extracted (AVE) is also greater than the accepted value (0.5) as shown in Table 1 (appendix 7). Additionally, the discriminant validity was examined through the square root of AVE. It is evident from Table 2 (appendix 7) that the square root in bold form is higher than the below values.

3.7 Data Collection Procedure

Before proceeding with the data collection process, the microfinance institutions were visited to ensure full coverage. After that, information regarding the female clients of these institutions was obtained. These clients were approached with the help of employees working in the microfinance institutions. All the questions and study purpose were explained to the respondents by the researcher. After that, the questionnaires were distributed among the respondents.

3.8 Data Analysis Techniques

The analysis of the current study was performed by using two different statistical techniques namely descriptive analysis and inferential statistics. Descriptive statistics were performed through Statistical Package for the Social Sciences (SPSS), whereas inferential statistics were performed using the Smart-PLS (Partial Least Square) statistical tools. Smart-PLS is one of the most appropriate tools for the Structural

Equation Modeling (SEM) (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014). The current study used Smart-PLS 3.

3.8.1 Descriptive Analysis Technique

Preliminary analysis is required before hypothesis testing. Descriptive statistics was extensively used for this purpose. It is one of the processes which transforms the whole data into information that is easy to understand and interpret as described by Uma Sekaran and Leong (1992). Descriptive analysis helps in the understanding of the characteristics of the respondents, as well as the level of the variable, prevailing in the concerned organization. The respondents are different from each other in terms of age, education level, marital status, income level and profession which are all important to explore.

3.8.2 Partial Least Square (PLS)

Smart PLS is one of the statistical software designed to analyze the data for researchers, especially in social sciences. Smart PLS was first introduced by the Swedish statistician, Herman Wold. An alternative term for SmartPLS is projection to latent structures; however, the term partial least squares (PLS) is dominant. In social science, original applications are meant to be used; however, the PLS regression fix is also widely used in many disciplines and research areas including anthropology, scientometrics and neuroscience. The use of PLS path modelling is common in econometrics, strategic, marketing and social sciences.

Partial least squares (PLS) regression has been used in several research areas as well as disciplines such as psychology, economics, chemistry, medicine and

pharmaceutical science. In these disciplines, predictive linear modelling is necessary, especially with a large number of predictors. In the field of chemometric, PLS is one of the standard tools used to model linear relations between multivariate measurements (Yang Zhang, 2009). However, in the current study, PLS was used to check the relationship and strength between different variables.

Structural equation modeling (SEM) is more applicable in the current research problems due to some of its features such as flexible assumptions, measurement error reduction through confirmatory factor analysis (CFA), attractive interface with more visuals, testing total model rather than individual coefficients, and ability to manage difficult data (Alavifar, Karimimalayer, & Anuar, 2012). According to the instructions of Hair *et al.* (2016), Smart PLS is one of the best tools to test more than one theory in one study, and it is not compatible while testing one theory. The current study is based on two theories which is the reason why Smart PLS was selected. Moreover, SEM is a suitable method to test or extend a theory (Alavifar *et al.*, 2012). SEM is easier to use, provides high-quality statistical analysis as compared to other statistical tools, able to estimate the model's fit, able to make any modifications and arrive at a final valid model (Elangovan & Rajendran, 2015).

3.8.2.1 Measurement Model Assessment

Partial Least Square (PLS)-Structural Equation Modeling (SEM) is based on two step process. These steps include; 1) measurement model assessment, and 2) structural model assessment. Measurement model assessment is based on confirmatory factor analysis (CFA) which examines the validity and reliability. It includes internal item reliability or internal consistency and external constancy. Internal item reliability is

based on factor loadings and external consistency is based on average variance extracted (AVE). Therefore, measurement model assessment is majorly based on factor loadings, convergent validity and discriminant validity.

3.8.2.1.1 Factor Loading

The Smart PLS technique is one of the techniques used to determine the cross loading of each scale item. The minimum loading accepted value for each item is 0.5 (Joseph F Hair et al., 2010). According to the suggestion of Hair, Ringle, and Sarstedt (2011), composite reliability should be equal or more than 0.7. While factor loadings of scale items that are less than 0.5 must be excluded from the analysis. The average variance extracted (AVE) should be above 0.5 (Fornell & Larcker, 1981). To achieve a satisfactory level of average variance extracted (AVE), items having less than 0.5-factor loading should be deleted.

3.8.2.1.2 Convergent Validity

Convergent validity refers to the degree in which all measures of the constructs correlate with each other (Hair *et al.*, 2016). There are different ways to access convergent validity. In the current study, it is accessed by average variance extracted (AVE). To achieve the convergent validity, the average variance extracted (AVE) should be more than 0.5 as recommended by Chin (1998).

3.8.2.1.3 The Discriminant Validity

To determine the correlation between variables and to test the construct validity, Smart PLS discriminant validity was used to confirm the validity of the constructs and to examine the correlation between the variables. In the outer model, to confirm the

construct validity, it is important to examine the discriminant validity. This measures the distinctions of the construct (Hair *et al.*, 2014) which is important before proceeding with hypothesis testing. It shows that all the items used in the study in the different constructs are not overlapping. To analyze the discriminant validity, the instructions of Fornell and Larcker (1981) was followed in the current study, in which the correlations among the latent constructs were compared with the square roots of the average variance extracted (AVE) for each construct.

3.8.2.2 Structural Model Assessment

Structural model assessment is the second major step of Partial Least Square (PLS)-Structural Equation Modeling (SEM). It is based on the hypotheses testing. Primarily, it is based on path coefficient investigation, coefficient of determination (R^2), assessment of effect size (f^2) and predictive relevance (Q^2).

3.8.2.2.1 Path Coefficient

The Smart PLS technique is one of the techniques used to determine the relationship between the independent and dependent variables. The t-statistics score was used to examine the analysis results for all the hypothesis. This provides the justification for the acceptance as well as rejection of the hypothesis. A minimum 1.96 or above T-Statistics score is required for the acceptance of the current study hypothesis. Otherwise it will not be supported.

It also provides the overall effect of analysis which consists of mean, t-value and standard deviation. The t-statistic was also used to determine the moderator's effect on the relationship between the dependent and independent variables. This helped to

determine whether the placement of vulnerability as a moderator has a significant effect on the relationship between the independent variables (micro-credit, micro-saving, micro-insurance, micro-training, social capital) and the dependent variable (women-empowerment).

3.8.2.2.2 Coefficient of Determination (R^2)

The Smart PLS technique was also used to determine the coefficient of determinations (R^2). The coefficient of determinations (R^2) determines the relationship strength with the dependent variable and each variable. R^2 was determined for both individuals as well as the overall basis. In the case of individual analysis, Smart PLS R^2 was used to examine the strength between each independent variable with the dependent variable. In the case of overall analysis, Smart PLS R^2 was again used to examine the strength between all the independent variables with the dependent variable. The Smart PLS R^2 was used to compare the strength of the relationship between the independent variables and the dependent variable.

3.8.2.2.3 Assessment of Effect Size (f^2)

Effect size (f^2) was used to measure the change in the dependent variable by each independent variable. It denotes that whether the independent variable has a substantial effect on the dependent variable (Götz, Liehr-Gobbers, & Krafft, 2010). Effect size (f^2) has three levels in the value whereby $0.15 > f^2 > 0.02$ is considered as small, $0.35 > f^2 > 0.15$ is considered as moderate and $f^2 > 0.35$ is considered as strong (Cohen, 1988). The current study used these indications to examine the effect size (f^2) of each variable.

3.8.2.2.4 Predictive Relevance (Q²)

Stone-Geisser test of predictive relevance (Q²) is generally applied as a supplementary assessment of goodness-of-fit (Duarte & Raposo, 2010). By using PLS, the blindfolding procedure was applied (Sattler, Völckner, Riediger, & Ringle, 2010). It explains the quality of the model. According to the Henseler, Ringle, and Sinkovics (2009), in a research model, if the Q² value is found greater than zero, it is considered that the model has a predictive relevance (Q²).

3.9 Chapter Summary

This chapter had discussed the research framework and the method of analysis employed. It demonstrated how the framework and hypotheses of the study were developed. Moreover, it explained how all the variables were measured, and how the survey questionnaire was developed. Additionally, it described the method of data analysis.

CHAPTER FOUR

DATA ANALYSIS AND RESULTS

4.1 Introduction

This chapter presents the results of the data analysis which employed the use of PLS-SEM. In the first part of this chapter, data screening and preliminary analysis were performed involving different tests such as missing value analysis, normality test, multicollinearity test and treatment of outlier. In the second part, results of the descriptive statistics for all the latent variables are reported together with the development of the respondents' profile. In the third part, the major results of this study are presented. To achieve the major results, this part of the study was divided into two main sections. In the first section, measurement model assessment was performed to determine the individual item reliability, internal consistency reliability, convergent validity and discriminant validity. The second section presents the results of the structural model assessment including the significance of the path coefficients, R-squared values (R^2), effect size (f^2), and predictive relevance (Q^2) of the model.

Finally, the results of PLS-SEM analysis are presented. These results examine the direct effect of all the independent variables on the dependent variable. Study also investigated the moderating role of vulnerability between the services of microfinance institutions and women-empowerment. Finally, this chapter provides detailed discussions on the theoretical perspectives and compares the findings with prior studies on microfinance and women-empowerment.

4.2 Response Rate

A total of 500 questionnaires were distributed among the female clients of microfinance institutions in Southern Punjab, Pakistan specifically Bahawalpur, Rahim Yar Khan, Muzaffargarh, Dera Ghazi Khan and Bahawalnagar.

Out of the 500 questionnaires distributed, 359 were returned successfully. Out of these 359 questionnaires, 6 were found to be incomplete and thus excluded from the study. With 353 valid responses for the analysis, the response rate was recorded at 71.8%, whilst the response rate after data entry was 70.6% as shown in Table 4.1. According to the instructions of Hair *et al.* (2010), a 50% response rate is acceptable. The current study has a 70.6% response rate which is satisfactory to proceed with the analysis.

Table 4.1
Response from respondents

Response	Frequency/Rate
Total questionnaires distributed	500
Total questionnaires returned	359
Total Useable questionnaires	353

Total questionnaires excluded	06
Total response rate	71.8%
Total response rate after data entry	70.6%

4.3 Data Screening and Preliminary Analysis

Data screening and preliminary analysis are two of the most critical steps in every research study as they are beneficial in exploring possible violations of the main assumptions in the application of the data analysis techniques (Hair, 2007). Moreover, the steps facilitate the researchers in developing a better understanding of the data collection for further analysis.

Before performing the data screening, all the 353 questionnaires were first coded before being keyed in into the SPSS. After the data coding is completed, the missing value analysis was performed along with the normality test to verify the normality of the data. The multicollinearity test was also performed (Hair *et al.*, 2010; Tabachnick & Fidell, 2007).

Data screening and cleaning includes the inspection of errors in the collected data (Pallant, 2007). Errors in collected data may be in the form of missing values or outliers. Outliers are values that fall outside the range of possible values. For instance, in the current study, the 5-point Likert scale was used in which 01 is the minimum value, and 05 is the maximum value. In this dataset, if any value falls outside of 01 and 05, it will then be considered as outliers and needs correction.

4.3.1 Missing Value Analysis

Through SPSS, 11 missing values were found randomly. Specifically, micro credit was found to have 2 missing values; micro saving 1; micro-insurance 1; social capital 1; women empowerment 4, and vulnerability 2.

In making a valid statistical inference, there is no acceptable percentage of missing values in a dataset (Umrani, 2016). However, researchers agreed that a rate of 5% or less is non-significant (Schafer, 1999; Tabachnick & Fidell, 2007). Moreover, it is also suggested that if the total percentage of missing data is 5% or less, then the mean substitution should be used (Little, 1988; Raymond, 1986; Tabachnick & Fidell, 2007). Hence, the current study deployed mean replacement for handling randomly missing values (Tabachnick & Fidell, 2007). Table 4.2 provides a further description of the total and percentage of randomly missing values in detail.

Table 4.2
Total Number of Missing values

Constructs	Missing Values
Micro-Credit	2
Micro-Saving	1
Micro-Insurance	1
Training/Skill Development	---
Social Capital	1
Women-Empowerment	4
Vulnerability	2
Total	11

4.3.2 Treatment of Outliers

According to Barnett and Lewis (1994), the outliers are “observations or subsets of observations which appear to be inconsistent with the remainder of the data” (p. 7). The occurrence of outliers in an entered dataset will extremely misrepresent the regression of the coefficient estimation thus leading to unreliable results (Verardi & Croux, 2009). Mahalanobies test through SPSS was used for the treatment of outliers. The initial checking of the data using the Mahalanobies method demonstrates that there were no outliers. Thus, the results of Mahalanobies test demonstrated that the data obtained is free from any case of an outlier.

4.3.3 Test of Normality

Generally, it is assumed that the normality of data is not required to be examined while using PLS-SEM. As stated in prior studies, PLS SEM delivers precise model estimations if the data is extremely non-normal (Cassel, Hackl, & Westlund, 1999; Reinartz, Haenlein, & Henseler, 2009; Wetzels, Odekerken-Schröder, & Van Oppen, 2009). Therefore, PLS-SEM is suitable if the data is not normally distributed, and it does not affect the results.

Coaks and Steed (2001) describe that the data is considered to be good when its normal distribution has no noticeable skewness and is bell-shaped. Moreover, Norusis (1997) mentioned that the most common technique in testing data normality is by looking at the histogram of the residual. Additionally, according to Norusis (1985), the normal distribution could be established by concentrating on the vertical lines of the histogram.

However, according to the instructions of Hair, Halle, Terry-Humen, Lavelle, and Calkins (2006), besides the use of histogram to observe normality, a normal probability plot could also be used. Thus, in the current study, Skewness and Kurtosis were used for testing the normality of the data. According to the recommendations of Chua (2006), data will be normally distributed if the skewness and kurtosis values fall between -2 and +2 respectively.

The results indicated that the data collected is normal in the case of skewness and kurtosis where all the values are within the acceptable range. However, in the case of Histogram, some variance was detected. In some cases, it is not normal, but this variation is very small. The table of results for skewness and kurtosis as well as Histogram is shown in appendix 3.

4.3.4 Multicollinearity Test

Hair *et al.* (2006) define multicollinearity as the degree of relationship between the independent variables used within the model. A strong correlation in the variables indicates multicollinearity which is an issue in the regression analysis, as it is one of the factors that have the potential to hamper the interpretation effect of various variables. According to Stevens (2012), the procedure of multiple-regression undertakes that no independent variable has a perfect linear relationship with another independent variable.

Multicollinearity is applied to calculate the strength of correlation within the regression model. It is not easy to estimate strong co-linearity and even more so with the b-coefficient's standard errors in the design. Hence, this presents a threat to the model influencing the statistical impact of the coefficients (Field, 2009). Therefore,

the collinearity's strength may enhance the possibilities of error causing rejection of the hypothesis.

It denotes a situation where one or more exogenous latent constructs become highly correlated with each other. The existence of multicollinearity could substantially misrepresent the estimation of regression coefficients as well as their statistical significance tests (Chatterjee & Yilmaz, 1992; Hair *et al.*, 2006). Generally, two methods are used to check multicollinearity (Chatterjee & Yilmaz, 1992; Peng & Lai, 2012).

The first method involves the use of a matrix of the exogenous latent constructs. Hair *et al.* (2010) indicated that a correlation coefficient of 0.90 and above shows the presence of multicollinearity between the exogenous latent constructs.

The second method involves the use of the Variance Inflation Factor (VIF) to calculate the Multicollinearity between different variables. Various studies determined different values for the VIF. In this study, VIF is used to examine Multicollinearity.

VIF reveals the effect of multicollinearity on the variance of coefficient estimation. A VIF value of under 5.0 shows no multicollinearity (Hair *et al.*, 2006). However, Meyers *et al.* (2016) said that the non-existence of collinearity would be determined if the VIF value is under 10.0. This study follows the recommendations of Hair *et al.* (2006). Table 4.3 shows the VIF values in this study which are within the acceptable range (5.0).

Table 4.3
Multicollinearity Test

Construct	VIF
Micro-Credit (MC)	3.060
Micro-Saving (MS)	2.146
Micro-Insurance (MI)	2.863
Training/Skill development (TSD)	2.133
Social Capital (SC)	3.007
Vulnerability (VLNA)	2.567

4.4 Demographic Profile of the Respondents

In this section, the demographics of the respondents are described. The demographic characteristics that were observed in the current study comprised of age, highest education level, daily income rate, marital status and occupation. Table 4.4 presents a comprehensive view of these demographic characteristics. Moreover, cross-tabulation is shown in appendix 8.

As shown in Table 4.4, majority of the respondents were found to be women aged between 36-40. It is revealed that female respondents aged between 36-40 years were engaging more in microfinance services making up almost 25% of the overall demography. It indicates that women aged 36 to 40 prefer to invest in micro-enterprises using various services of microfinance institutions such as credit, savings, training and insurance. This is followed by the group of women aged between 31-35

years and above 40 years old, with each representing 18.1%. Women in the age group of 21-25 years make up 13.9%, those in the age group of 26-30 years old make up 12.7%, whilst those in the age group of 15-20 years make up the smallest percentage in the demography with 12.5%.

Women with matriculation education were found to be the highest in numbers in the sample of current study. In terms of education level, women with matriculation education level (25%) were found to be the most actively engaged in microfinance services. Therefore, these women were having better prospect to obtain credit, savings opportunities, insurance and training services from microfinance institutions. This is followed by respondents with intermediate education level (22.1%), bachelor's degree level (21.5%), middle education level (18.1%), and finally those with primary education level (6.2%). Aside from the above, 7.1% of the respondents with other forms of education level were also found to be interested in microfinance. Women having undergraduate education were found to be 21.5% of the total respondents. This education level is seen to be appropriate for the purpose of performing various kind of jobs. However, these women were not allowed to take part in most of the income generating activities due to gender discrimination. Thus, leaving these women to continue living in poverty.

From the total of 353 respondents, 222 of them were found to have their income level below USD\$2.00 a day. In terms of daily income rate, it is revealed that 62.9% of the women respondents earned below USD\$2 daily. On the other hand, 37.1% earned a daily income of above USD\$2. A daily income of USD\$2 is the poverty line for a

state bank. Thus, in Southern Punjab, Pakistan, 62.9% of the female population were found to be living below the poverty line.

Moreover, from the total of 353 respondents, 202 women or more than 50% of the total respondents were found to have married whilst another 151 were living single. However, none of the women belongs to the category to divorce. In terms of marital status, married women are more interested in income generating activities with the help of microfinance institutions' services. Approximately 57.2% of married women among the respondents are involved in microfinance activities. The study proved that married women were having bright prospect to obtain microfinance services. The remaining 42.8% of the respondents were made up of unmarried women.

Finally, in terms of occupation, self-employed women (39.1%) are found to be more involved in microfinance services. Meanwhile, 19.8% and 19% of the respondents are unemployed women and full-time housewives, respectively. In the case of employed women, 18.4% are engaged in microfinance activities. Finally, 3.7% of the respondents who are engaged in microfinance services have other occupations.

Table 4.4
Respondents Profile

Demographic Variables	Categories	(N=353)	
		Frequency	Percentage
Age	15-20	44	12.5
	21-25	49	13.9
	26-30	45	12.7
	31-35	64	18.1
	36-40	87	24.6
	Above 40	64	18.1
Highest Education Level	Primary	22	6.2

	Middle	64	18.1
	Matriculation	88	24.9
	Intermediate	78	22.1
	Bachelor	76	21.5
	Others	25	7.1
Daily Income Rate	Below USD\$2	222	62.9
	Above USD\$2	131	37.1
Marital Status	Single	151	42.8
	Married	202	57.2
	Divorced	----	
Occupation	Employed	65	18.4
	Unemployed	70	19.8
	Self-employed	138	39.1
	Full time house wife	67	19.0
	Others	13	3.7

4.5 Assessment of PLS-SEM Path Model Results

The analysis of the current study is based on a two-step process to evaluate as well as to report the PLS-SEM results (Henseler *et al.*, 2009). There is a need to explain the use of the two-step process rather than the goodness-of-fit (GoF) index. Previous studies (Hair *et al.*, 2014; Henseler & Sarstedt, 2013) have explained that goodness-of-fit (GoF) index is not appropriate for model validation as it could not separate the valid and invalid models. Moreover, the use of PLS-SEM has been well proven in previous studies (Hair, Ringle, & Sarstedt, 2013)

The two-step process comprises of:

1. Measurement Model Assessment
2. Structural Model Assessment

Measurement model assessment entails various steps such as the measurements of reliability and validity. The structural or inner model assessment also entails various steps such as the testing of the hypotheses, R-Square (R^2), effect size (f^2) and predictive relevance (Q^2). All the steps involved in the measurement model assessment and structural model assessment are shown in Figure 4.1 as recommended by Hair *et al.* (2014); Hair *et al.* (2010) and Henseler *et al.* (2009).

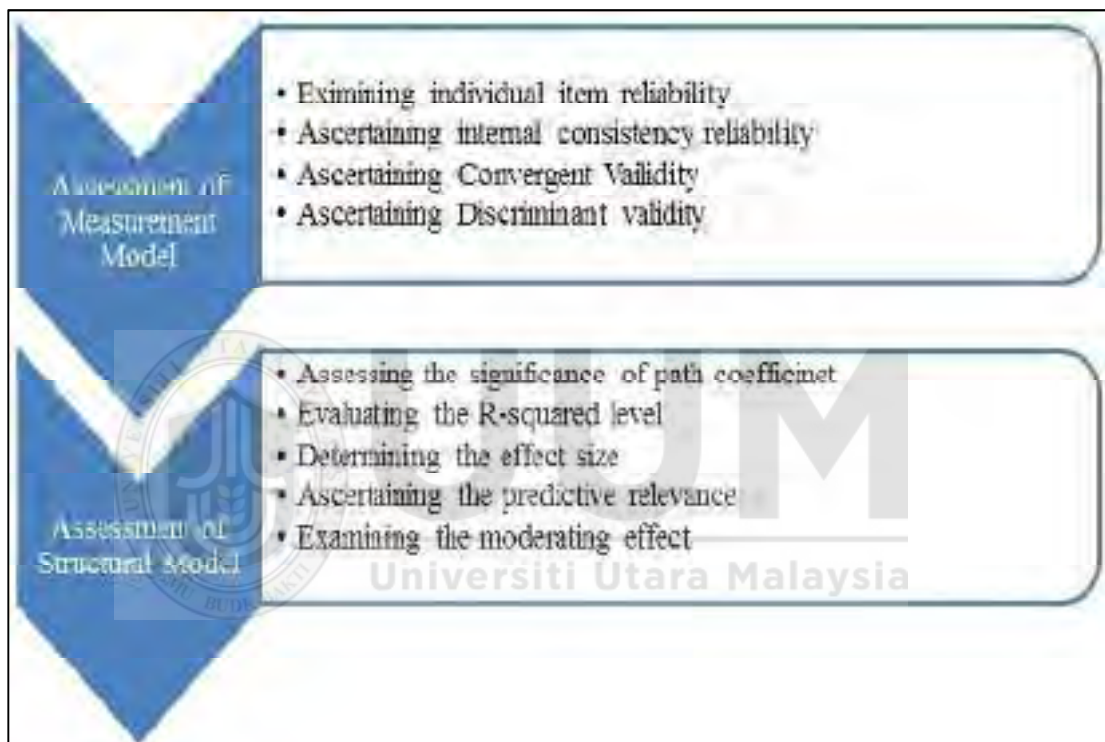


Figure 4.1
PLS Path Modeling Assessment (Two-Step Process)
 Source: Henseler *et al.* (2009)

4.5.1 Measurement Model Assessment

PLS-SEM technique has been used in this study for the confirmation of the theories. The measurement model has been confirmed to achieve the satisfactory level of the model reliability and validity. Therefore, based on the PLS-SEM, measurement model assessment has been performed properly by using SmartPLS 3.0 (Ringle, Wende, & Becker, 2015).

According to various studies, the measurement model assessment requires individual item reliability, internal consistency, convergent validity and discriminant validity (Hair *et al.*, 2014; Hair *et al.*, 2010; Henseler *et al.*, 2009). The assessment of measurement model requires factor loading, Cronbach alpha, composite reliability, average variance extracted (AVE), and discriminant validity. The measurement model assessment is shown in Figure 4.2 and the results including factor loadings, Cronbach alpha, compiste reliability and average variance extracted (AVE) are shown in appendix 8.

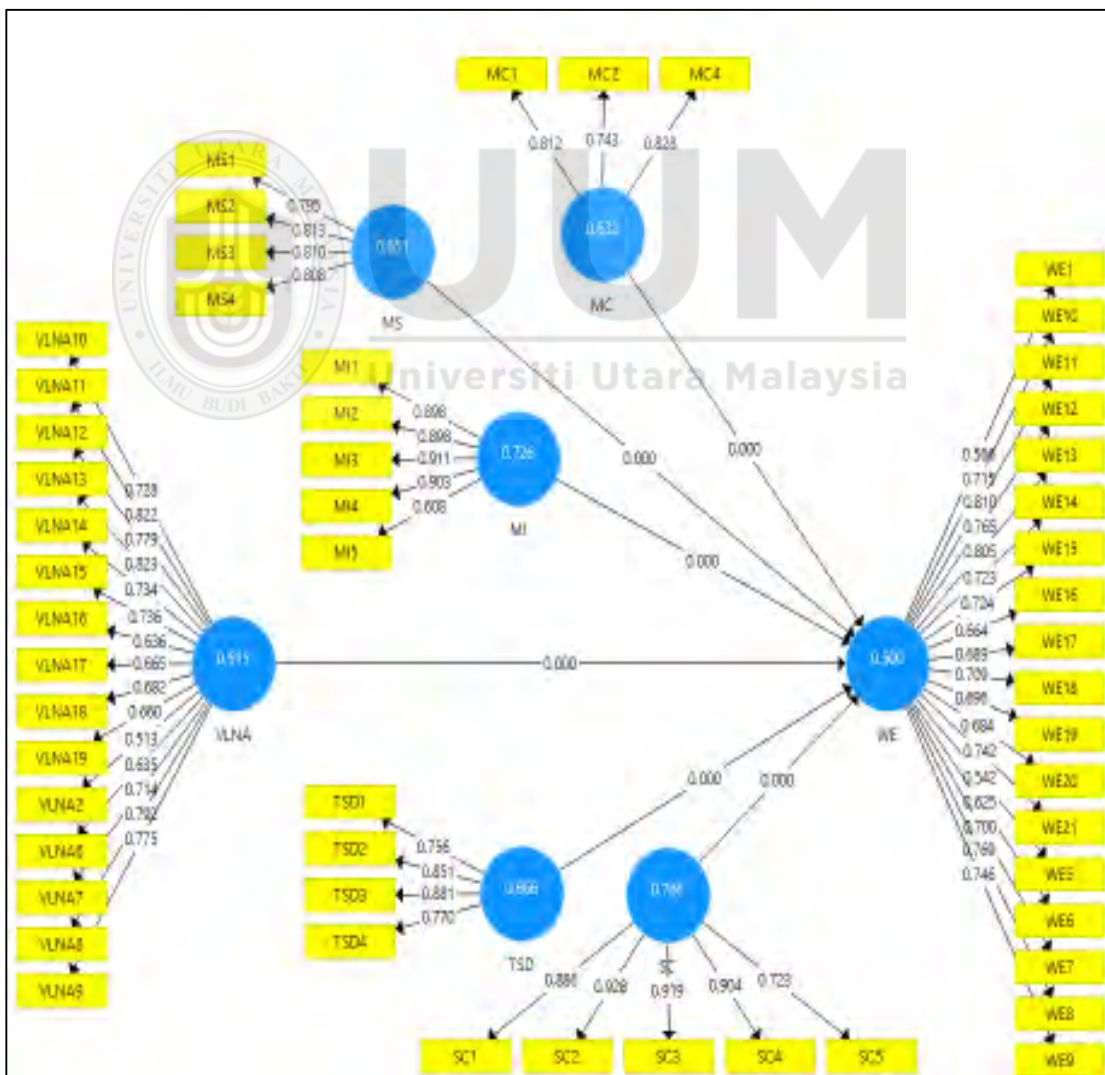


Figure 4.2
Measurement Model Assessment

4.5.1.1 Individual Item Reliability

By following the recommendations of prior studies, the individual item reliability was assessed by considering the outer loadings of each item of each construct (Duarte & Raposo, 2010; Hair *et al.*, 2014; Hair *et al.*, 2012; Hulland, 1999) thus examining the factor loadings of all items. According to Hair *et al.* (2010), items having 0.4-factor loading should be deleted. In the current study, all the items have factor loadings of between 0.513 and 0.919.

However, in the case of the current study, out of the total items of 73, 19 items were found to have factor loadings below 0.5 and were excluded from the study. A total of 54 items were retained to proceed with further analysis. For women-empowerment, 7 items were excluded from the analysis whereas 2 items were excluded from micro-credit due to having a factor loading of below 0.5. For micro-saving and training/skill development, 1 item from each was excluded. For social capital, 2 items were excluded whilst for vulnerability, 6 items were excluded due to low loadings. Table in appendix 8 shows the measurement model assessment results.

4.5.1.2 Internal Consistency Reliability

The extent to which all the items used in a study of a given scale measure the same concept is known as internal consistency reliability (Bijttebier *et al.*, 2000; Sun *et al.*, 2007). To measure the internal consistency reliability, the most commonly used estimators are the Cronbach's alpha and composite reliability coefficients as mentioned in numerous prior studies (Bacon, Sauer, & Young, 1995; McCrae, Kurtz, Yamagata, & Terracciano, 2011; Peterson & Kim, 2013). Therefore, the current study

adopted both composite reliability coefficient and Cronbach's alpha for determining the internal consistency reliability of the given measures.

George and Mallery (2003) provided the rule in determining the value of alpha i.e. $\alpha > 0.9$ - Excellent, $\alpha < 0.8$ - Good, $\alpha < 0.7$ - Acceptable. A value of 0.7 is the minimum threshold level. Furthermore, two other studies i.e. Bagozzi and Yi (1988) as well as Hair *et al.* (2011) provided a rule of thumb in determining the composite reliability. According to these studies, the coefficient of composite reliability should be 0.7 or above. In the current study, the Cronbach's alpha and composite reliability for micro-credit (MC) is 0.717 and 0.837, micro-saving (MS) 0.821 and 0.882, micro-insurance (MI) 0.899 and 0.928, training/skill development (TSD) 0.832 and 0.888, social capital (SC) 0.921 and 0.942, vulnerability (VLNA) 0.931 and 0.940, and finally women-empowerment (WE) 0.940 and 0.944, respectively. Thus, all the values of Cronbach's alpha and composite reliability are above the acceptable range, as shown in appendix 8.

4.5.1.3 Convergent Validity

Convergent validity is described as the extent to which the items of a construct truly denote the intended latent variable as well as correlate with other measures of the same latent variable (Hair, Black, Babin, Anderson, & Tatham, 2006). According to Fornell and Larcker (1981), convergent validity requires an equal or above 0.5 level of average variance extracted (AVE). Therefore, to achieve the convergent validity, the AVE should be above 0.5 as recommended by Chin (1998). Additionally, Hair *et al.* (2010) explained that the convergent validity is achieved when the factor loadings of all the items of a construct are higher than 0.5.

In the current study, Table (appendix 8) demonstrates that micro-credit (MC) has an AVE of 0.632, micro-saving (MS) 0.651, micro-insurance (MI) 0.726, training/skill development (TSD) 0.666, social capital (SC) 0.766, vulnerability (VLNA) 0.515 and women-empowerment (WE) 0.500. Thus, all the constructs have an AVE of more than 0.5, which are considered satisfactory to attain convergent validity.

4.5.1.4 Discriminant Validity

Discriminant validity is defined as “the extent to which a specific latent construct is different from other latent constructs” (Duarte & Raposo, 2010). In the current study, discriminant validity was achieved by using the square root of AVE, as suggested by Fornell and Larcker (1981).

The correlations among latent constructs were compared with the square roots of AVE for each construct. This is followed by comparing the square root of the AVE with the correlations among the latent variables. To achieve the discriminant validity, the square root of the AVE should be higher than the correlations among the latent variables. In this study, the square root of the AVE is more than the correlations among the latent variables. Thus, the discriminant validity has been achieved. This is shown in Table 4.5.

Table 4.5
Square roots of Average Variance Extracted (AVE)

	MC	MI	MS	SC	TSD	VLNA	WE
MC	0.795						
MI	0.747	0.852					
MS	0.490	0.481	0.807				
SC	0.768	0.734	0.476	0.875			
TSD	0.486	0.488	0.684	0.470	0.816		

VLNA	0.634	0.664	0.613	0.655	0.612	0.718	
WE	0.658	0.692	0.617	0.676	0.613	0.694	0.707

4.5.2 Assessment of Significance of the Structural Model

In examining the structural model assessment, PLS bootstrapping was performed on 353 cases to determine the significance of the structural model. This procedure followed the instructions of previous studies (Hair *et al.*, 2014; Hair *et al.*, 2011; Hair *et al.*, 2012; Henseler *et al.*, 2009) which had confirmed the suitability of the structural model assessment in testing the hypotheses.

Figure 4.3 shows the structural model assessment in which all the direct hypotheses were tested. The t-value of 1.96 was considered as the threshold level to either accept or reject the hypotheses. The β -value was considered to examine the direction of the relationship. Figure 4.3 shows the effect of the five independent variables (micro-credit, micro-saving, micro-insurance, micro-training/skill development, social capital) on women-empowerment. Table 4.6 shows the direct relationships test results.

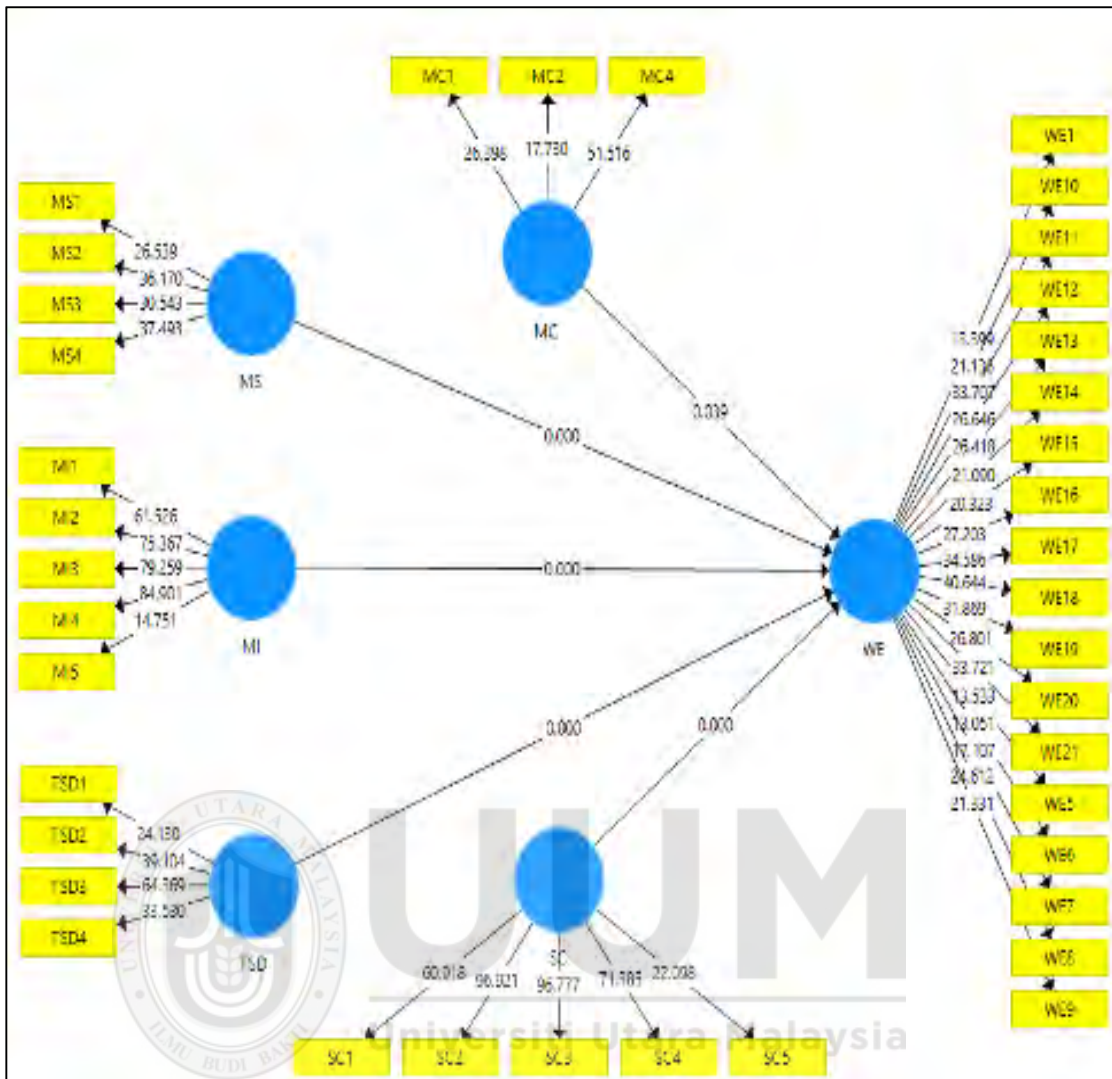


Figure 4.3
Structural Model Assessment (Direct relationship)

Hypothesis 1 stated that micro-credit has a significant relationship with women-empowerment. The results supported the hypothesis as the t-value is 2.067 ($t > 1.96$) and p-value is 0.039 ($p < 0.05$). In this case, both values achieved a significant level. Therefore, women-empowerment and micro-credit have a significant relationship with each other.

Hypothesis 3 stated that micro-saving has a significant relationship with women-empowerment. The results of structural model assessment show that the t-value is

4.159 ($t > 1.96$) and p-value is 0.000 ($p < 0.05$). Thus, both t-value and p-value are significant which support the hypothesis. These values indicate that micro-saving and women-empowerment have a significant relationship with each other.

In the case of hypothesis 5, the result shows that both micro-insurance and women-empowerment has a significant relationship with each other. This is shown by the t-value of 4.095 ($t > 1.96$) and the p-value of 0.000 ($p < 0.05$). Both t-value and p-value are significant which support the hypothesis i.e. micro-insurance has a significant relationship with women-empowerment.

Hypothesis 7 stated that training/skill development has a significant relationship with women-empowerment. The results of the structural model assessment show that the t-value is 3.676 ($t > 1.96$) and the p-value is 0.000 ($p < 0.05$). Thus, both t-value and p-value are significant which support the hypothesis. These values indicate that training/skill development and women-empowerment has a significant relationship with each other.

Finally, Hypothesis 9 stated that social capital has a significant relationship with women-empowerment. This statement is proven by the results of the study as the t-value and p-value demonstrate that social capital and women-empowerment has a significant relationship. In this relationship, the t-value is 4.586 ($t > 1.96$) and the p-value is 0.000 ($p < 0.05$) which are significant. All these results are shown in Table 4.6.

Table 4.6
Structural Model Assessment (Direct relationship hypotheses results)

Hypot	Relationshi	Origin	Sample	Standard	T	P	Decision
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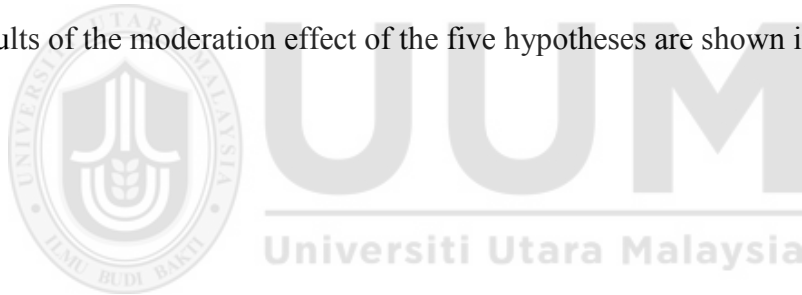
Hypotheses	p	al Sample (O)	Mean (M)	Deviation (STDEV)	Statistics (O/STDEV)	Value	
H ₁	MC -> WE	0.107	0.107	0.052	2.067	0.039	Supported
H ₃	MS -> WE	0.196	0.196	0.047	4.159	0.000	Supported
H ₅	MI -> WE	0.279	0.279	0.068	4.095	0.000	Supported
H ₇	TSD -> WE	0.187	0.189	0.051	3.676	0.000	Supported
H ₉	SC -> WE	0.232	0.231	0.051	4.586	0.000	Supported

MC = Micro-Credit, MS = Micro-Saving, MI = Micro-Insurance, TSD = Training/Skill Development, SC = Social Capital, WE = Women-Empowerment

4.5.3 Assessment of Significance of the Structural Model (Moderation Effect)

Moderation effect of vulnerability was also examined by performing PLS bootstrapping on 353 cases as shown in Figure 4.4. The t-value of 1.96 was considered as the threshold level to either accept or reject the moderation hypotheses.

The results of the moderation effect of the five hypotheses are shown in Table 4.7.



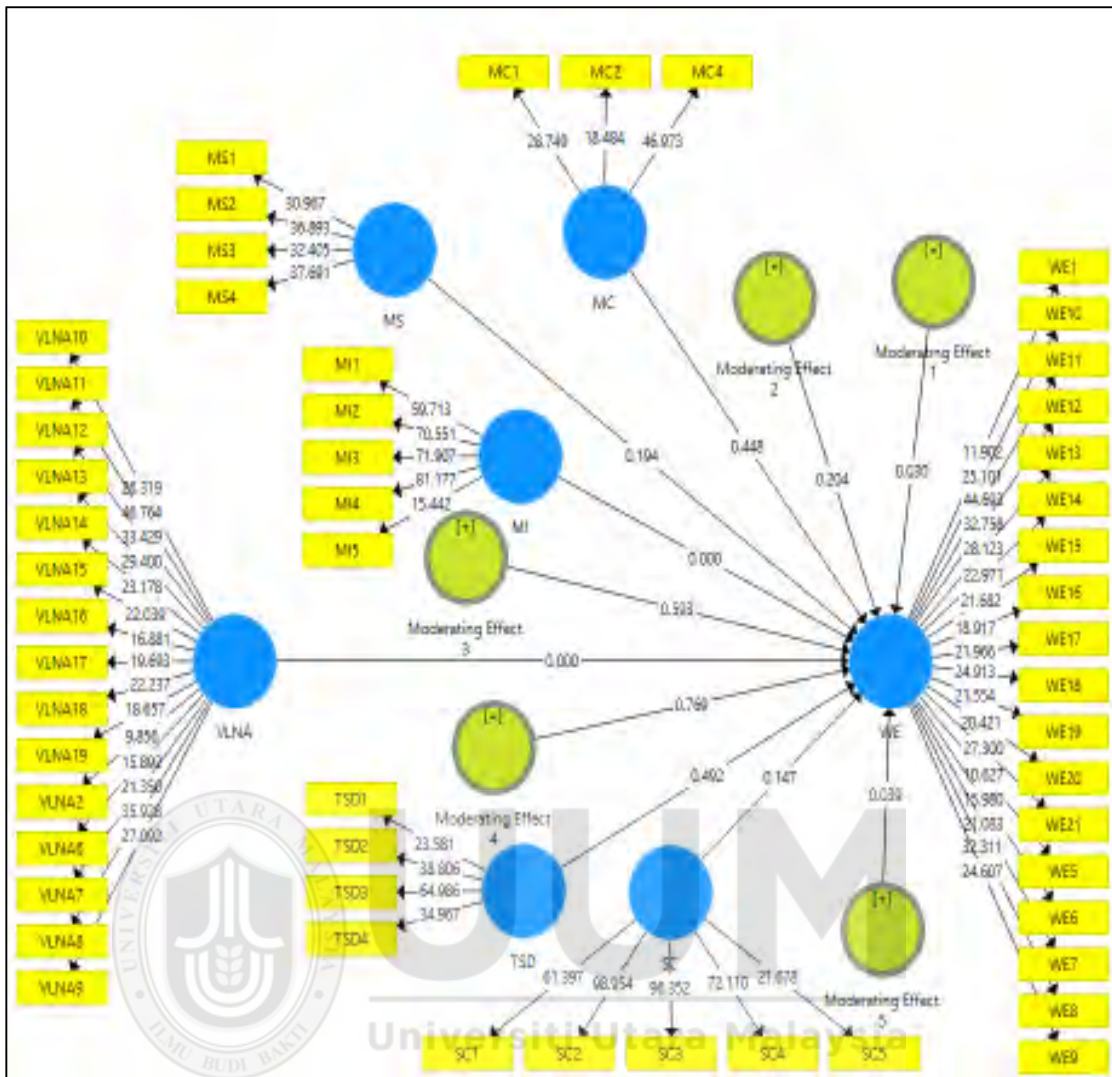


Figure 4.4
Structural Model Assessment (Moderation Effect)

Hypothesis 2 stated that vulnerability moderates the relationship between micro-credit and women-empowerment. This hypothesis was supported by the analysis, as the t-value is 2.180 ($t > 1.96$) and p-value is 0.030 ($p < 0.05$). Both t-value and p-value are significant which confirm the hypothesis. It demonstrates that vulnerability moderates the relationship between micro-credit and women-empowerment. Thus, H_2 is accepted.

Hypothesis 4 stated that vulnerability moderates the relationship between micro-saving and women-empowerment. The results of this study did not support this hypothesis as both the t-value and p-value are insignificant. In this relationship, t-value is 1.271 ($t < 1.96$) and p-value is 0.204 ($p > 0.05$). The t-value did not meet the minimum threshold level (1.96) which indicates that vulnerability does not moderate the relationship between micro-saving and women-empowerment. Thus, H_4 is not supported by the study.

Hypothesis 6 states that vulnerability moderates the relationship between micro-insurance and women-empowerment. In this case, the t-value is 0.535 ($t < 1.96$) and the p-value is 0.593 ($p > 0.05$). These values show that the relationship is insignificant. It depicts that vulnerability does not moderate the relationship between micro-insurance and women-empowerment. Thus, H_6 is not supported by the study.

Hypothesis 8 stated that vulnerability moderates the relationship between training/skill development and women-empowerment. This hypothesis was not supported by the results of this study as both the t-value and the p-value are insignificant. In this relationship, the t-value is 0.294 ($t < 1.96$) and the p-value is 0.769 ($p > 0.05$). The t-value did not meet the minimum threshold level (1.96) indicating that vulnerability does not moderate the relationship between training/skill development and women-empowerment. Thus, H_8 is not supported by the study.

Finally, Hypothesis 10 stated that vulnerability moderates the relationship between social capital and women-empowerment. This hypothesis was supported by the analysis, as the t-value is 2.066 ($t > 1.96$) and the p-value is 0.039 ($p < 0.05$). Both the

t-value and the p-value are significant which confirm the hypothesis. It demonstrates that vulnerability moderates the relationship between social capital and women-empowerment. Thus, H₁₀ is accepted by the study.

Table 4.7
Structural Model Assessment (Moderation results)

Hypotheses	Relationship	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Value
H ₂	MC* VLNA -> WE	-0.022	-0.021	0.010	2.180	0.030
H ₄	MS* VLNA -> WE	0.013	0.015	0.010	1.271	0.204
H ₆	MI* VLNA -> WE	-0.004	-0.005	0.008	0.535	0.593
H ₈	TSD* VLNA -> WE	-0.002	-0.003	0.007	0.294	0.769
H ₁₀	SC* VLNA -> WE	0.021	0.019	0.010	2.066	0.039

4.6 Assessment of Variance Explained in the Endogenous Latent Variable

The PLS-SEM structural model assessment also provides another important measure which is the R-Squared (R²) value assessment. It is also called the coefficient of determination as mentioned by different studies (Hair *et al.*, 2011; Hair *et al.*, 2012; Henseler *et al.*, 2009). The R-squared value denotes the proportion of variation explained in the dependent variable or variables that could be explained by one or more different predictor variables such as independent variables (Hair *et al.*, 2010; Hair *et al.*, 2006).

The acceptable level of R² value is based on the context of where the study was conducted (Hair *et al.*, 2010). Falk and Miller (1992) mentioned that an R² value of

0.10 marks the acceptable level. According to the recommendations of Chin (1998), while analyzing PLS-SEM, the R^2 value of 0.60 is considered as substantial, 0.33 is considered as moderate, and 0.19 is considered as weak. In the current study, the R^2 value is 0.671 which is substantial as explained by Chin (1998). It indicates that the set of exogenous latent variables are expected to explain 67.1% variance in the endogenous latent variable. Thus, the level of variance explained by the proposed model is substantial. It is shown in Table 4.8.

Table 4.8
Variance Explained in the Endogenous Latent Variable

Latent variable	Variance explained (R^2)
Women-Empowerment (WE)	67.1%

4.7 Assessment of Effect Size (f^2)

The relative effect of a definite exogenous latent variable (independent variable) on an endogenous latent variable (dependent variable) by means of any changes in the R-squared values is called effect size (f^2) (Chin, 1998). The calculation of f^2 is generally based on the increase in the R^2 value of the latent variable to which the path is connected; relative to the latent variable's proportion of unexplained variance as described by Chin (1998).

Various studies had provided the formula to calculate the f^2 (Callaghan, Wilson, Ringle, & Henseler, 2007; J. Cohen, 1988; Selya, Rose, Dierker, Hedeker, & Mermelstein, 2012). The formula is as shown below:

$$\frac{R^2 \text{ Included} - R^2 \text{ Excluded}}{\text{1} - R^2 \text{ Excluded}}$$

Effect Size (f²) =

The Smart PLS 3 can directly calculate the f². Cohen (1988) recommended the different values of f² and according to these values, 0.02 is considered a small f², 0.15 is considered as moderate f² and 0.35 is considered as strong f². In the case of the current study, the f² is given in Table 4.9.

In the current study, the effect size of micro-credit is 0.001, micro-saving is 0.058, micro-insurance is 0.087, training/skill development is 0.053, and social capital is 0.057. All the exogenous latent variables have small f² on endogenous latent variable (women-empowerment). However, micro-credit has no effect size. All the values of f² are shown in Table 4.9.

Table 4.9
Effect Size (f²) of the Latent Variables on Cohen's (1988) Recommendation

R-Squared	f²	Effect
Micro-Credit (MC)	0.001	None
Micro-Saving (MS)	0.058	Small
Micro-Insurance (MI)	0.087	Small
Training/Skill Development (TSD)	0.053	Small
Social Capital (SC)	0.057	Small

4.8 Assessment of Predictive Relevance (Q²)

While using partial least squares (PLS) structural equation modeling (SEM), the Stone-Geisser test of predictive relevance (Q²) is generally applied as a supplementary assessment of goodness-of-fit (Duarte & Raposo, 2010). According to

Sattler *et al.* (2010) “blindfolding procedure is only applied to endogenous latent variables that have a reflective measurement model operationalization” (p. 320). The reflective measurement model “specifies that a latent or unobservable concept causes variation in a set of observable indicators” (McMillan & Conner, 2003). As this study is comprised of all endogenous latent variables in a reflective format, a blindfolding procedure was utilized particularly on the endogenous latent variables.

Thus, the blindfolding procedure was used in this study and the Stone-Geisser test was employed for the predictive relevance (Q^2) of the current model of this study (Geisser, 1974; Stone, 1974). A cross-validated redundancy measure (Q^2) was applied for measuring the predictive relevance (Q^2) following the recommendations of various research studies (Chin, 2010; Hair *et al.*, 2014; Hair *et al.*, 2013; Ringle, Sarstedt, & Straub, 2012). Hair *et al.* (2014) and Chin (1998) demonstrated that the predictive relevance (Q^2) is a standard for examining how well a model predicts the data of omitted cases. Additionally, as described by Hair *et al.* (2014), Q^2 value is attained by using the blindfolding “to assess the parameter estimates” and to assess “how values are built around the model”. The Q^2 clarifies the quality of the overall model.

According to Henseler *et al.* (2009), if the Q^2 value is found greater than zero, the research model is considered to have predictive relevance (Q^2). Moreover, Chin (1998) also demonstrated that Q^2 value should be greater than zero. The predictive relevance (Q^2) of this study is 0.459, as shown in Table 4.10.

Table 4.10
Construct Cross-Validated Redundancy (Predictive Relevance)

SSO	SSE	$Q^2 = (1-SSE/SSO)$
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Women-Empowerment (WE)	6,354.000	3,436.043	0.459
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4.9 Testing Moderation Effect

In the current study, to determine the moderating effect of vulnerability, the product indicator approach through Partial Least Squares (PLS) Structural Equation Modelling (SEM) was adopted. Therefore, product indicator approach through PLS-SEM was used for detecting and estimating the strength of moderating effect of vulnerability on the relationship of the independent variables (micro-credit, micro-saving, micro-insurance, training/skill development, social capital) and women-empowerment (Chin, Marcolin, & Newsted, 2003; Helm, Eggert, & Garnefeld, 2010; Henseler & Chin, 2010; Henseler & Fassott, 2010). The product indicator approach was used due to the characteristics of the moderating variable which is continuous (Rigdon, Schumacker, & Wothke, 1998).

Furthermore, according to Henseler and Fassott (2010), since the “results of the product term approach are usually equal or superior to those of the group comparison approach, we recommend always using the product term approach” (p. 721). In this direction, to apply the product indicator approach for examining the moderating effects of vulnerability on the relationship of independent variables (micro- credit, micro-saving, micro-insurance, training/skill development, social capital) and women-empowerment, the product terms between the indicators of the latent independent constructs and indicators of the latent moderating variable need to be created. Within the structural/inner model, these product-terms were then used as indicators of the interaction term (Kenny & Judd, 1984).

Recalling hypothesis 2 (H₂), vulnerability moderates the relationship between micro-credit and women-empowerment. The result of the analysis supported this hypothesis which indicates that vulnerability moderates the relationship between micro-credit and women-empowerment. As Table 4.7 and Figure 4.4 show, the interaction terms representing micro-credit x vulnerability with $\beta = -0.022$, $t = 2.180$ ($t > 1.96$), $p = 0.030$ ($p < 0.05$) is significant.

However, there is a need to examine the moderation effect on the relationship between micro-credit and women-empowerment. Following the recommendations of West, Aiken, and Todd (1993) and Marcus, Schuler, Quell, and Hümpfner (2002), the information from path coefficients were employed for plotting the moderating effect of vulnerability on the relationship between micro-credit and women-empowerment. Resultantly, it was found that the relationship between micro-credit and women-empowerment is reduced by introducing the moderating role of vulnerability. Thus, vulnerability is one of the moderating variables which decrease the positive relationship between micro-credit and women-empowerment, as shown in Figure 4.5.

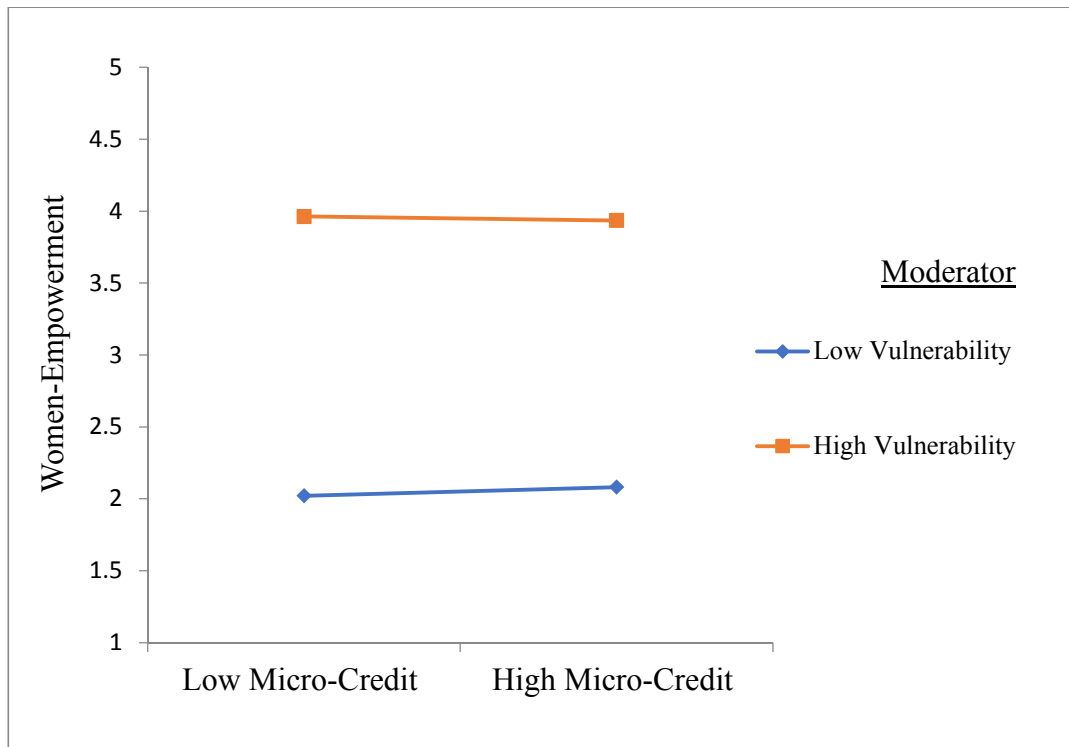


Figure 4.5
Interaction Effect of Micro-Credit (MC) and Vulnerability (VLNA) on Women-Empowerment (WE)

In the case of Hypothesis 4 (H₄), it is stated that vulnerability moderates the relationship between micro-saving and women-empowerment. The analysis results do not support this hypothesis which indicates that vulnerability does not moderate the relationship between micro-credit and women-empowerment. As Table 4.7 and Figure 4.4 show, the interaction terms representing micro-saving x vulnerability with $\beta = 0.013$, $t = 1.271$ ($t < 1.96$), $p = 0.204$ ($p > 0.05$) is insignificant. Thus, H₄ was not supported.

Recalling Hypothesis 6 (H₆), it is stated that vulnerability moderates the relationship between micro-insurance and women-empowerment. The result of the study shows that vulnerability is not a moderating variable between micro-credit and women-empowerment. Table 4.7 and Figure 4.4 provides the evidence that the interaction terms representing micro-insurance x vulnerability comprised on $\beta = -0.004$, $t = 0.535$

($t < 1.96$), $p = 0.593$ ($p > 0.05$) is insignificant. Therefore, the results of data analysis show insignificant moderating effect. Hence, H_6 was not supported.

In the case of hypothesis 8 (H_8), it is stated that vulnerability moderates the relationship between training/skill development and women-empowerment. The result of the analysis does not support this hypothesis which indicates that vulnerability does not moderate the relationship between training/skill development and women-empowerment. It is clear from Table 4.7 and Figure 4.4 that the interaction terms representing training/skill development x vulnerability with $\beta = -0.002$, $t = 0.294$ ($t < 1.96$), $p = 0.769$ ($p > 0.05$) is insignificant. Thus, H_8 was not supported.

In terms of Hypothesis 10 (H_{10}), vulnerability moderates the relationship between social capital and women-empowerment. The result of the analysis supported this hypothesis which indicates that vulnerability moderates the relationship between social capital and women-empowerment. As Table 4.7 and Figure 4.4 show, the interaction terms representing social capital x vulnerability with $\beta = 0.021$, $t = 2.066$ ($t > 1.96$), $p = 0.039$ ($p < 0.05$) is significant.

It is also necessary to examine the effect of moderation on the relationship between social capital and women-empowerment. Again, by following the suggestions of West *et al.* (1993) and Marcus *et al.* (2002), the information from path coefficients were employed for plotting the moderating effect of vulnerability on the relationship between social capital and women-empowerment. By plotting the moderation effect, it is found that the relationship between social capital and women-empowerment is

improved by introducing the moderating role of vulnerability. This is shown in Figure 4.6.

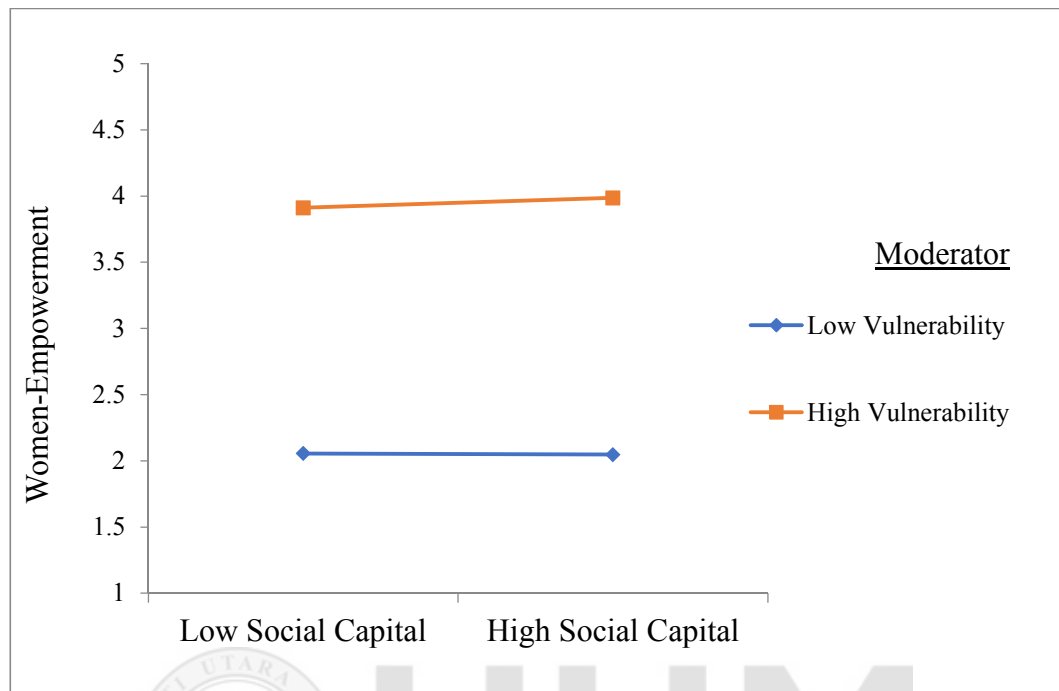


Figure 4.6
Interaction Effect of Social Capital (SC) and Vulnerability (VLNA) on Women-Empowerment (WE)

4.10 Individual Variable Testing Results

Further testing was equally carried out on the relationship of each individual variable (IV) against the dependent variable (DV) in examining the contribution of each individual variable (IV) to women-empowerment (WE). Table 4.11 below shows the testing results for each individual variable (IV) effect (R^2).

Table 4.11
Individual Testing Result for the Study's Independent Variables' R^2

Latent Variables	R^2 For Individual Variable
MC -> WE	0.473
MS -> WE	0.389
MI -> WE	0.519
TSD -> WE	0.384

Micro-credit (MC) was found to have a significant relationship with women-empowerment (WE) in the overall testing results. It also found a statistically significant relationship with individual testing ($\beta = 0.688$, t-value 24.451, $p < 0.05$). The R^2 for micro-credit is 0.473 representing 47% of the variance explained in women-empowerment (ME). Thus, the 47% variance explained by this independent variable (micro-credit) on the dependent variable (women-empowerment) establishes a moderate relationship between the micro-credit and women-empowerment. The direct relationship test results between micro-credit and women-empowerment are shown in Figure 4.7 and Table 4.12.

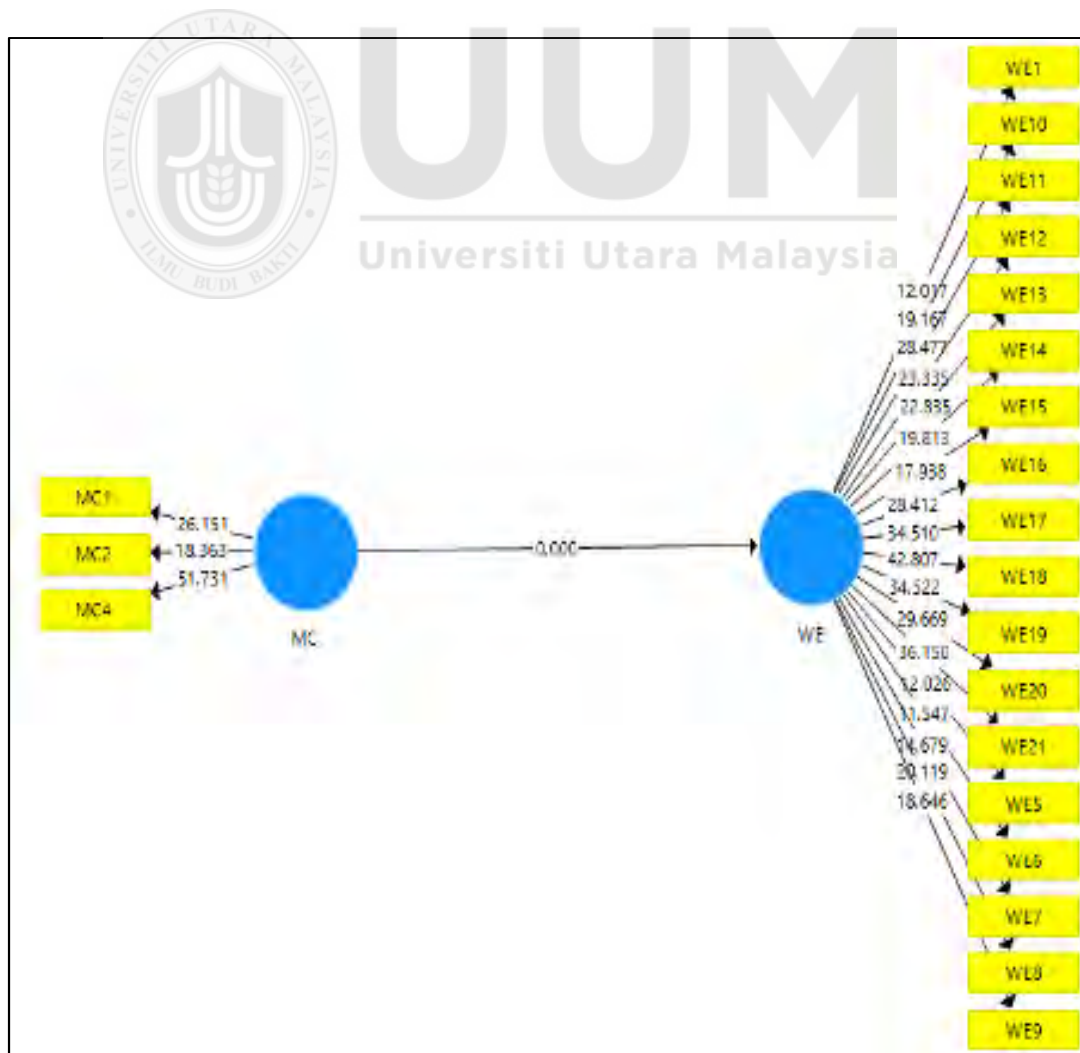


Figure 4.7

The direct relationship between micro credit (MC) and women-empowerment (WE)

Table 4.12

Individual Variable Effect for micro-credit (MC)

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Decision
MC -> WE	0.688	0.692	0.028	24.451	0	Supported

The result shows that micro-saving (MS) was also individually statistically significant ($\beta = 0.623$, t-value = 16.415, $p < 0.05$) and individually having a direct effect on women-empowerment (WE). The R^2 for micro-saving (MS) is 0.389 representing 38.9% of the variance explained in women-empowerment (WE). Thus, the 38.9% variance explained by micro-saving (MS) on women-empowerment (WE) shows a moderate relationship between micro-saving (MS) and women-empowerment (WE). The direct relationship test results between micro-saving (MS) and women-empowerment (WE) are shown in Figure 4.8 and Table 4.13.

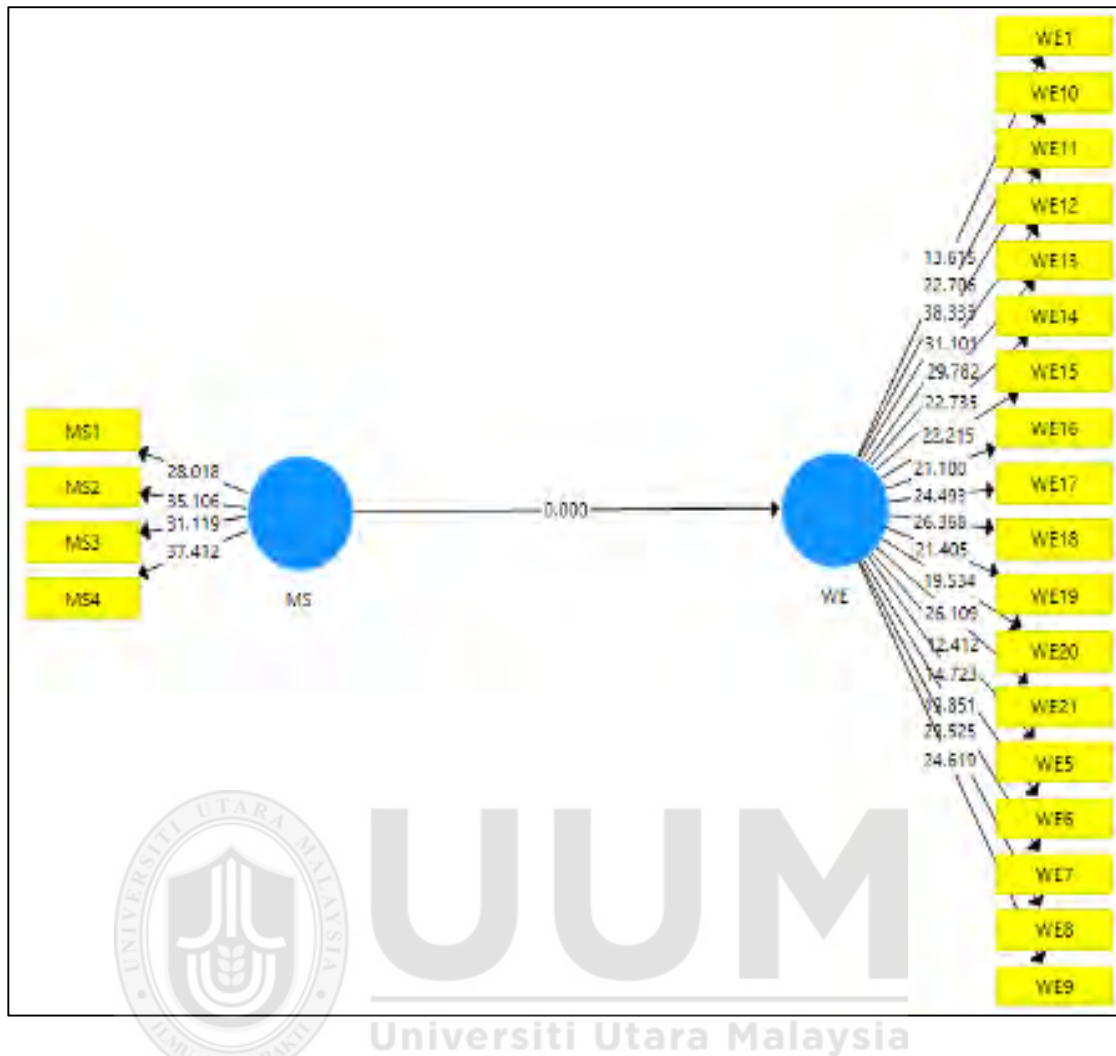


Figure 4.8.
The Direct Relationship Between micro-saving (MS) and women-empowerment (WE)

Table 4.13
Individual Variable Effect for micro-saving (MS)

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Decision
MS ->						
WE	0.623	0.627	0.038	16.415	0.000	Supported

Micro-insurance (MI) was found to have a significant relationship with women-empowerment (WE) in the overall testing results. It also found a significant relationship with individual testing statistically ($\beta = 0.721$, t-value 26.361, $p < 0.05$). The R^2 for micro-insurance is 0.519 representing 51.9% of the variance explained in

women-empowerment (ME). Thus, the 51.9% variance explained by this independent variable (micro-insurance) on the dependent variable (women-empowerment) establishes a moderate relationship between micro-insurance and women-empowerment. The direct relationship test results between micro-insurance and women-empowerment are shown in Figure 4.9 and Table 4.14.

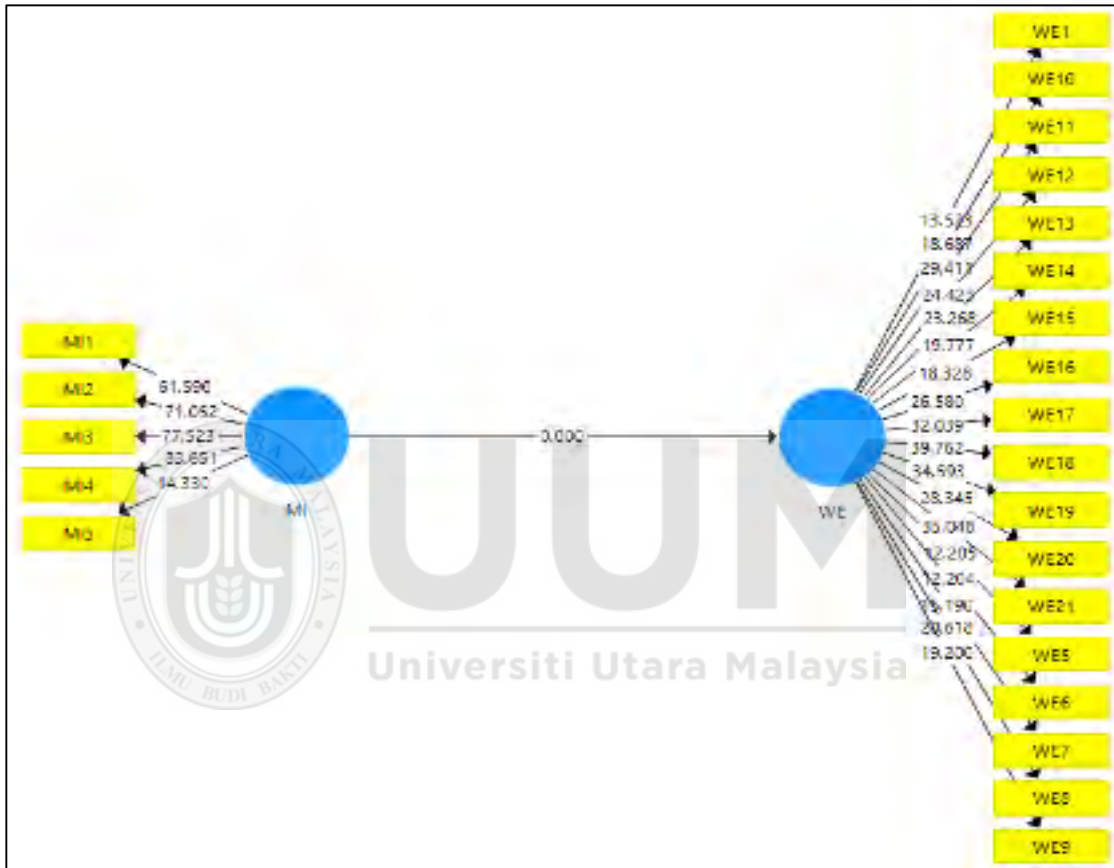


Figure 4.9
The direct relationship between micro-insurance (MI) and women-empowerment (WE)

Table 4.14
Individual Variable Effect for micro-insurance (MI)

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Decision
MI -> WE	0.721	0.723	0.027	26.361	0.000	Supported

Furthermore, the result shows that micro-training/skill development (TSD) was also individually statistically significant ($\beta = 0.619$, $t\text{-value} = 16.048$, $p < 0.05$) and individually having a direct effect on women-empowerment (WE). The R^2 for micro-training/skill development (TSD) is 0.384 representing 38.4% of the variance explained in women-empowerment (WE). Thus, the 38.4% variance explained by micro-training/skill development (TSD) on women-empowerment (WE) shows a moderate relationship between micro-training/skill development (TSD) and women-empowerment (WE). The direct relationship test results between micro-training/skill development (TSD) and women-empowerment (WE) are shown in Figure 4.10 and Table 4.15.

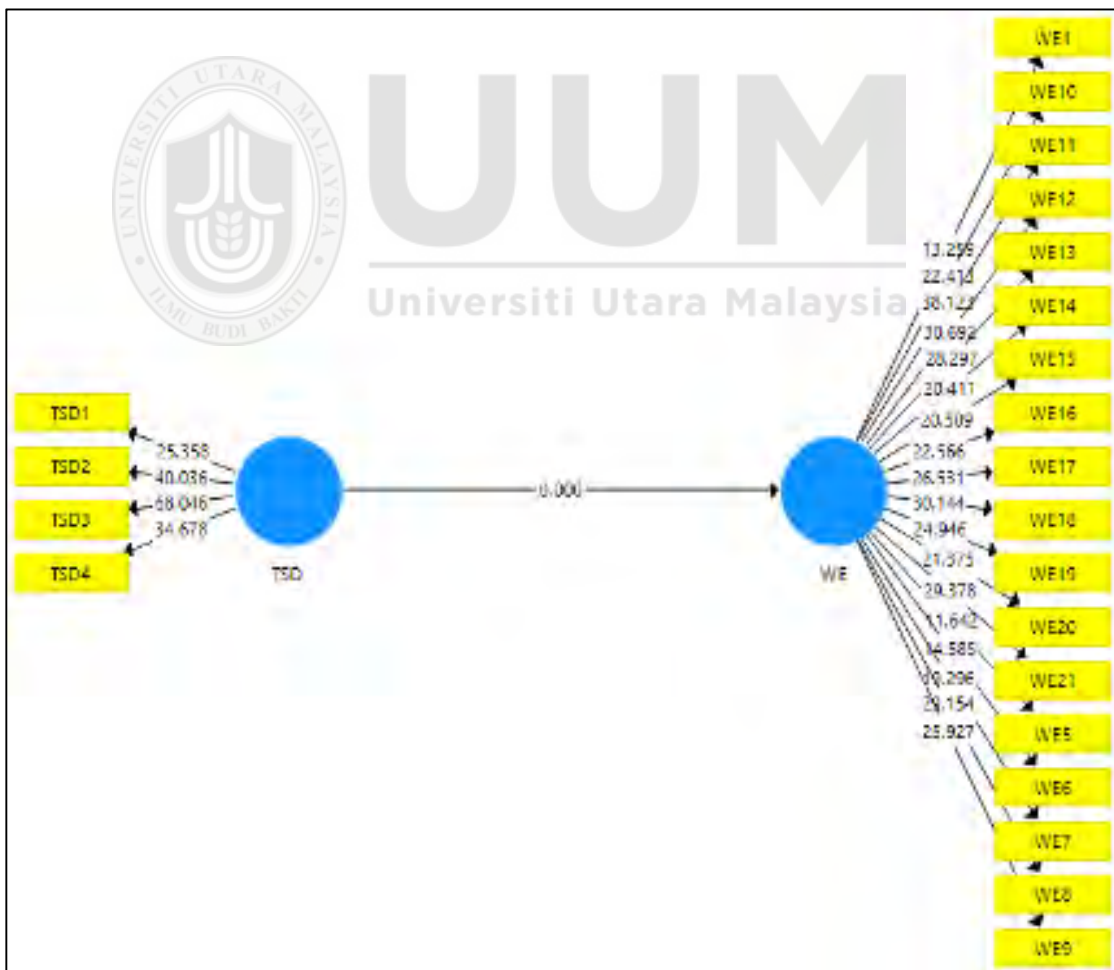


Figure 4.10
The direct relationship between micro-training/skill development (TSD) and women-empowerment (WE)

Table 4.15

Individual Variable Effect for micro-training/skill development (TSD)

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Decision
TSD -> WE	0.619	0.622	0.039	16.048	0.000	Supported

Additionally, social capital (SC) was found to have a significant relationship with women-empowerment (WE) in the overall testing results. It also found a significant relationship with individual testing statistically ($\beta = 0.707$, t-value 25.366, $p < 0.05$). The R^2 for social capital (SC) is 0.500 representing 50% of the variance explained in women-empowerment (ME). Thus, the 50% variance explained by this independent variable (social capital) on the dependent variable (women-empowerment) establishes a moderate relationship between social capital and women-empowerment. The direct relationship test results between social capital and women-empowerment are shown in Figure 4.11 and Table 4.16.



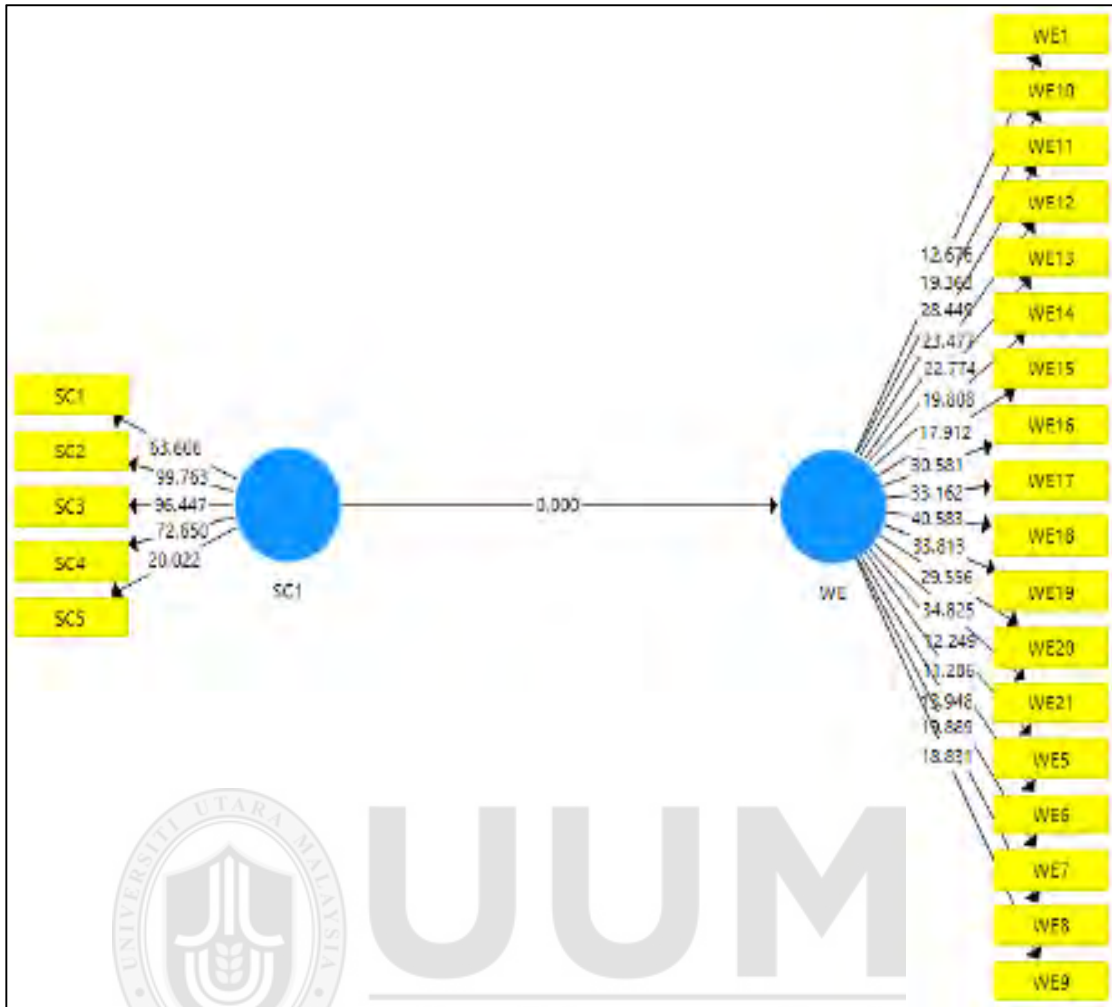


Figure 4.11. The direct relationship between social capital (SC) and women-empowerment (WE)

Table 4.16
Individual Variable Effect for social capital (SC)

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Value	Decision
SC -> WE	0.707	0.709	0.028	25.366	0.000	Supported

4.11 The Individual Moderation Testing Results

The individual moderating effect of vulnerability (VLNA) between micro-credit (MC) and women-empowerment (WE) was found to be statistically insignificant ($\beta = 0.001$, t-value 0.197, $p > 0.05$). It is shown in Figure 4.12 and the results are shown in Table 4.17. However, the moderation effect of vulnerability (VLNA) between micro-credit

(MC) and women-empowerment (WE) for overall analysis was statistically significant.

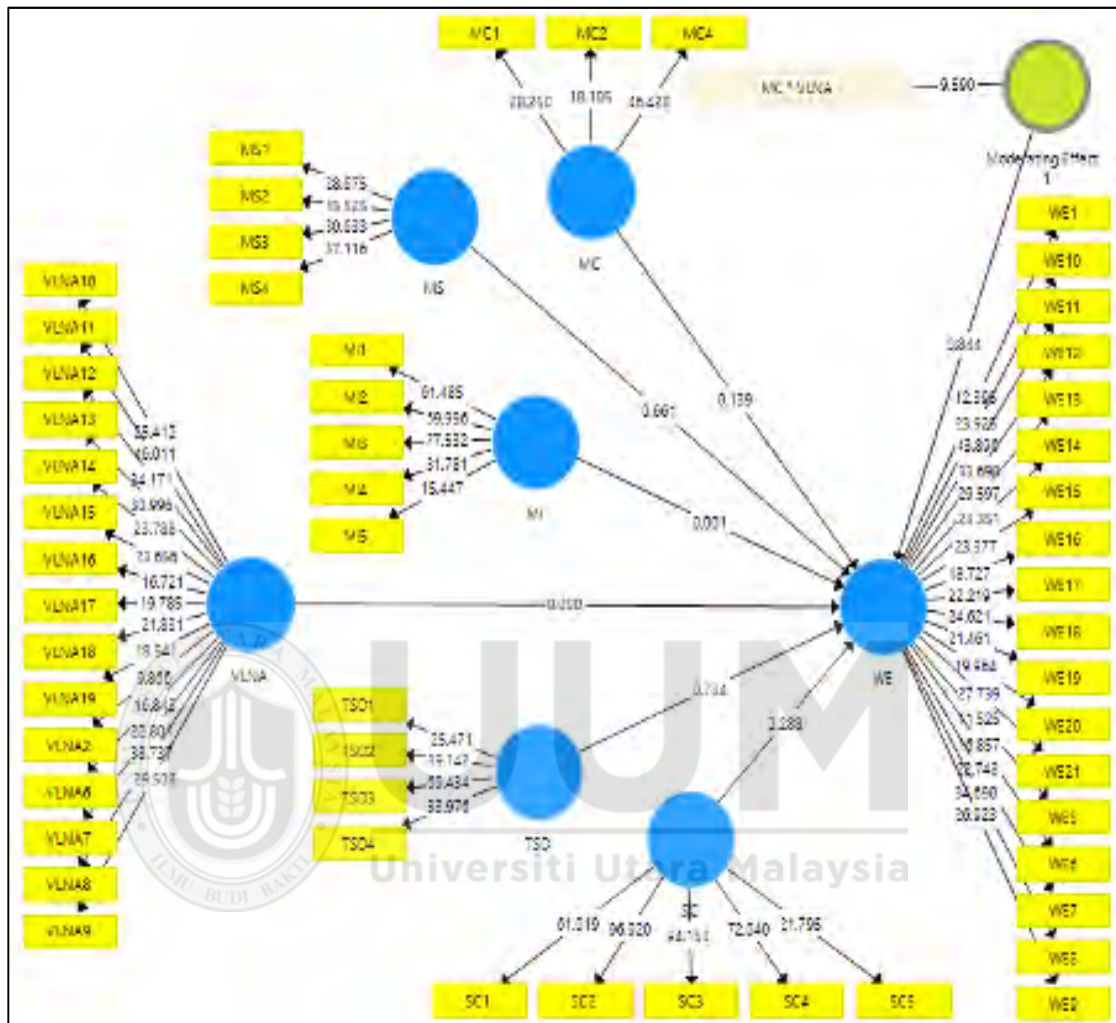


Figure 4.12
The moderating effect of vulnerability (VLNA) on the relationship between micro-credit (MC) and women-empowerment (WE)

Table 4.17
Individual Moderating effect of vulnerability between micro-credit and women-empowerment

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ((O/STDEV))	P Values	Decision
MC* VLNA -> WE	0.001	0.001	0.003	0.197	0.844	Not Supported

The individual moderating effect of vulnerability (VLNA) between micro-saving (MS) and women-empowerment (WE) was found to be statistically insignificant ($\beta = 0.001$, t-value 0.197, $p > 0.05$). The moderation effect of vulnerability (VLNA) between micro-saving (MS) and women-empowerment (WE) for overall analysis was also found to be statistically insignificant. The individual moderating effect of vulnerability between micro-saving (MS) and women-empowerment (WE) is shown in Figure 4.13 and the results are shown in Table 4.18.

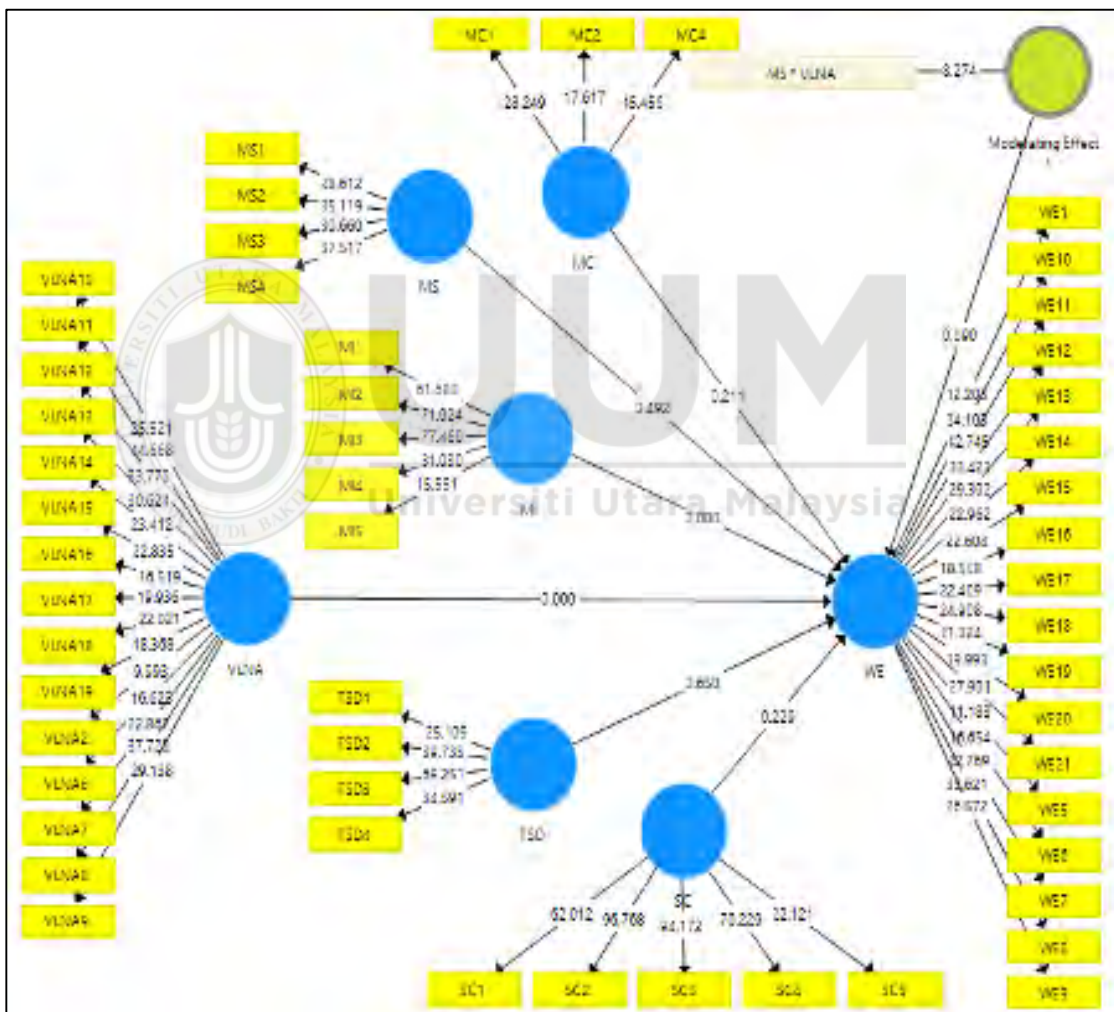


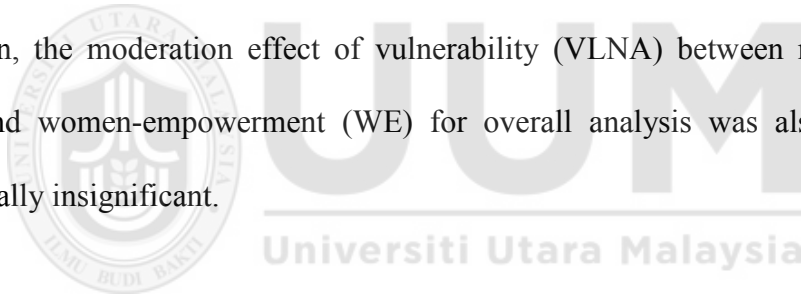
Figure 4.13
The moderating effect of vulnerability (VLNA) on the relationship between micro-saving (MS) and women-empowerment (WE)

Table 4.18

The individual Moderating effect of vulnerability between micro-saving and women-empowerment

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Decision
MS* VLNA -> WE	0.006	0.007	0.004	1.693	0.090	Not Supported

The individual moderating effect of vulnerability (VLNA) between micro-insurance (MI) and women-empowerment (WE) was found to be statistically insignificant ($\beta = 0.002$, t-value 0.689, $p > 0.05$). It is shown in Figure 4.14 and Table 4.19. In the same direction, the moderation effect of vulnerability (VLNA) between micro-insurance (MI) and women-empowerment (WE) for overall analysis was also found to be statistically insignificant.



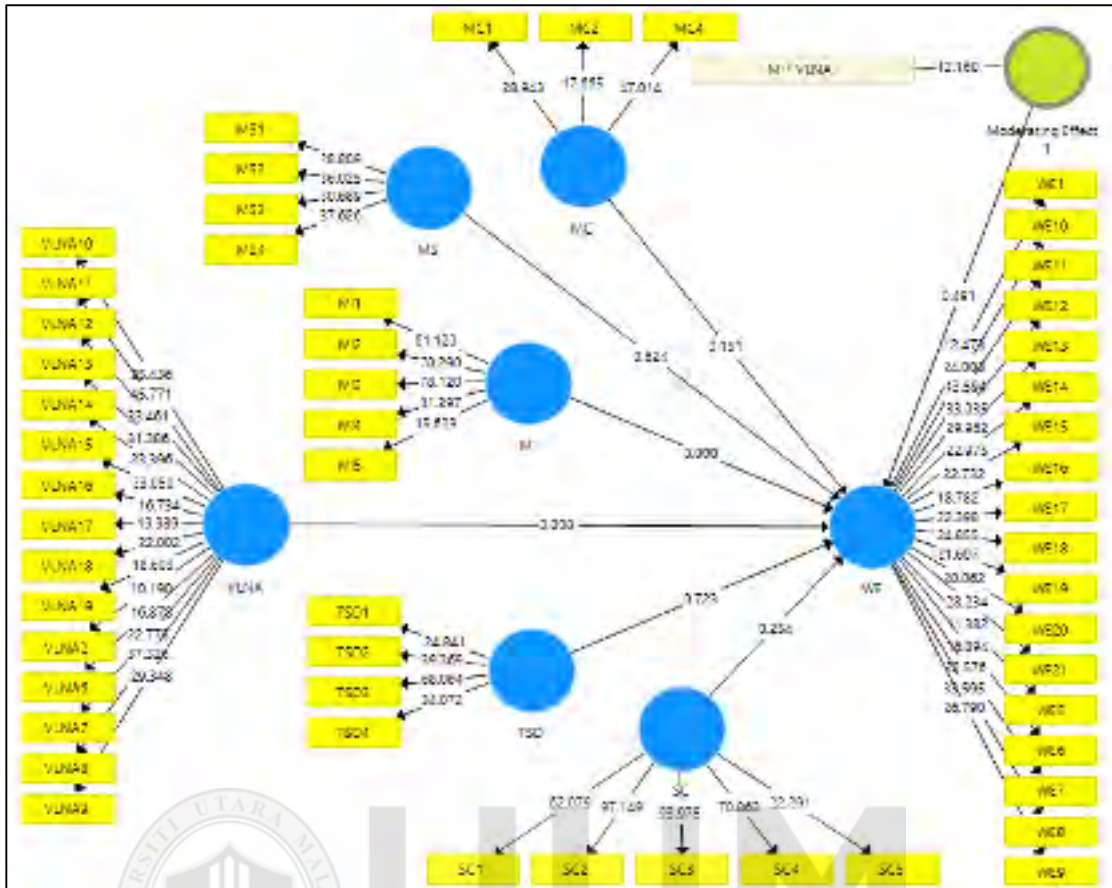


Figure 4.14

The moderating effect of vulnerability (VLNA) on the relationship between micro-insurance (MI) and women-empowerment (WE)

Table 4.19

The individual Moderating effect of vulnerability between micro-insurance and women-empowerment

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Decision
MI* VLNA -> WE	0.002	0.002	0.003	0.689	0.491	Not Supported

Additionally, the individual moderating effect of vulnerability (VLNA) between training/skill development (TSD) and women-empowerment (WE) was found to be statistically insignificant ($\beta = 0.004$, t-value 1.032, $p > 0.05$). It is shown in Figure 4.15 and the results are shown in Table 4.20. The moderation effect of vulnerability (VLNA) between training/skill development (TSD) and women-empowerment (WE) for overall analysis was also statistically insignificant.

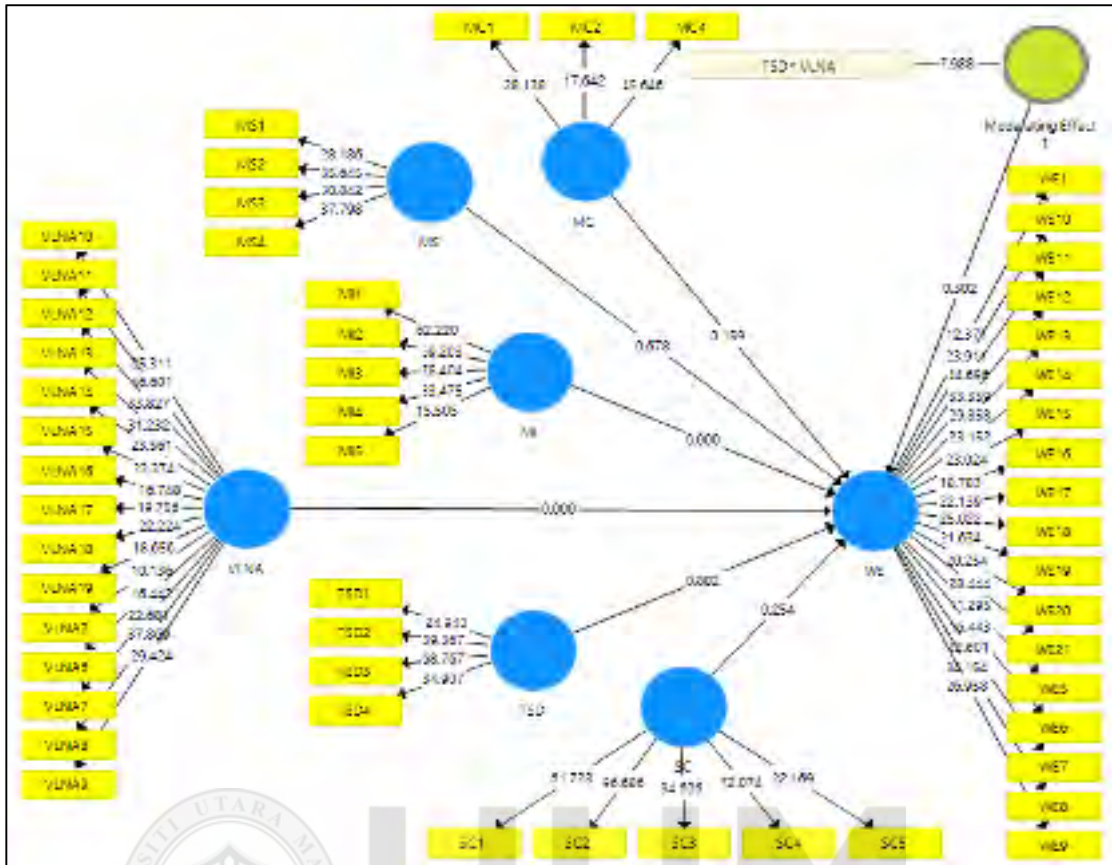


Figure 4.15
The moderating effect of vulnerability (VLNA) on the relationship between training/skill development (TSD) and women-empowerment (WE)

Table 4.20
The individual Moderating effect of vulnerability between training/skill development (TSD) and women-empowerment

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Decision
TSD* VLNA -> WE	0.004	0.004	0.003	1.032	0.302	Not Supported

Finally, the individual moderating effect of vulnerability (VLNA) between social capital (SC) and women-empowerment (WE) was statistically insignificant ($\beta = 0.005$, t-value 1.536, $p > 0.05$). It is shown in Figure 4.16 and Table 4.21. However, the moderation effect of vulnerability (VLNA) between social capital (SC) and

women-empowerment (WE) for overall analysis was found to be statistically significant.

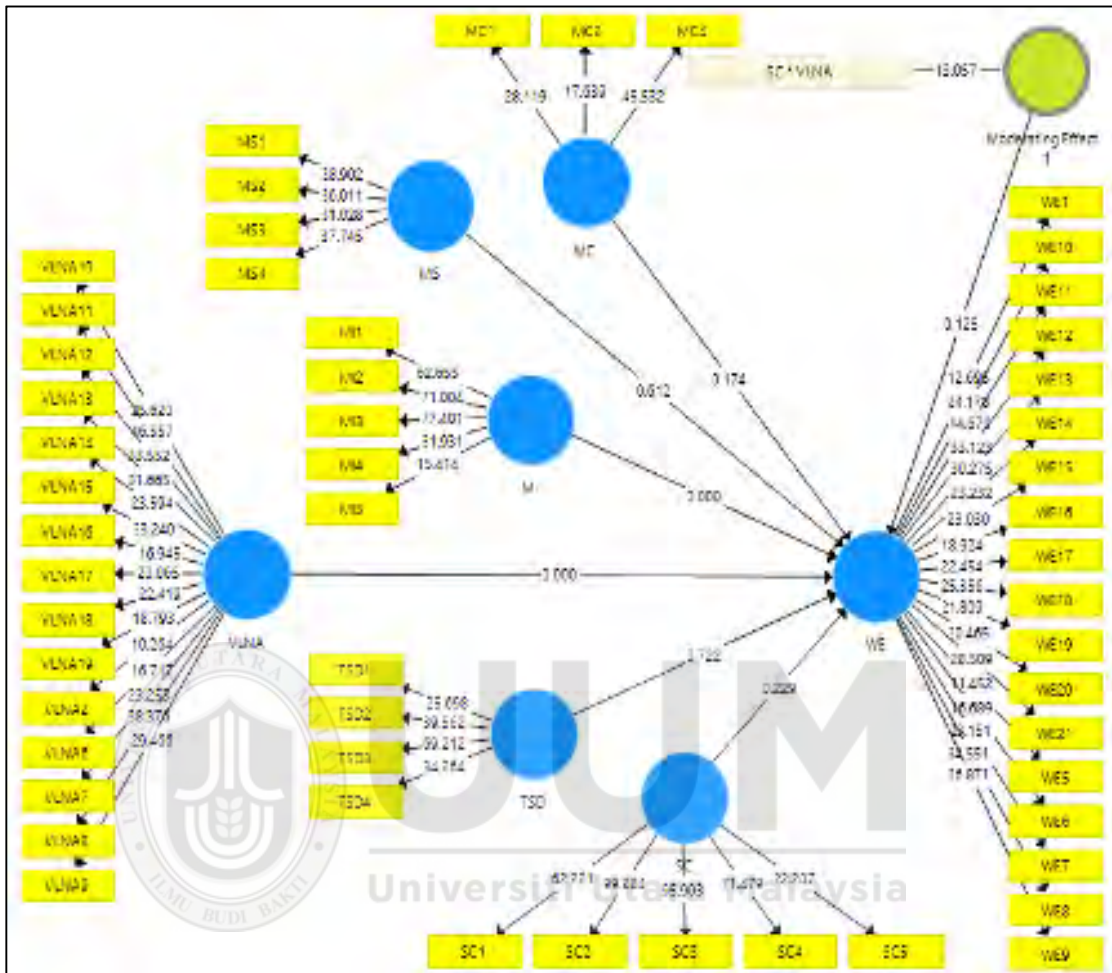


Figure 4.16
The moderating effect of vulnerability (VLNA) on the relationship between social capital (SC) and women-empowerment (WE)

Table 4.21
The individual Moderating effect of vulnerability between social capital and women-empowerment

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Decision
SC* VLNA -> WE	0.005	0.005	0.004	1.536	0.125	Not Supported

4.12 Discussion

This section draws a discussion on the major findings of this study linked to the underpinning theories as well as conclusions from previous investigations. The sub-sections/headings provide the discussion on each main objective of this study. The sub-objectives are also discussed under the section of main objective.

4.12.1 The role of Microfinance Factors in Women-Empowerment

The first major objective of the current study is to examine whether the microfinance factors contribute to women-empowerment. Microfinance factors comprise of micro-credit, micro-saving, micro-insurance and training/skill development. Each microfinance factor has a separate research sub-objective. Therefore, to achieve the first research objective, there are four sub-objectives. Each sub-objective is discussed below one by one.

The first sub-objective is to study whether micro-credit contributes to women-empowerment. This covers the first hypothesis (H_1) of the study. According to the findings, H_1 is accepted with a t-value of 2.067, p-value of 0.039 and β -value of 0.107. It indicates that micro-credit has a significant positive relationship with women-empowerment. The increase in micro-credit through microfinance institutions enhances the level of women-empowerment. Thus, for the first sub-objective, it is found that micro-credit is one of the significant factors which contribute positively to women-empowerment.

The results of the current study are consistent with prior studies. Nader (2008) conducted a research study on microcredit and the socio-economic wellbeing of women in Cairo. The author found that micro-credit is one of the most significant

elements which enhance the socio-economic well-being of women. According to Nader (2008), credit is important to reduce poverty and has a positive association with women's socio-economic wellbeing.

Micro-credit has the ability to increase the socio-economic empowerment of females by reducing poverty level (Kodamarty & Srinivasan, 2016) and significantly advancing the income and decision-making power of women (Kapila *et al.*, 2016). Thus, with the increase in income, social empowerment among the female community is also enhanced. Once loan has been obtained from microfinance institutions, women will be deciding to utilize the loan, which eventually may create social empowerment through enhancing decision-making power. It also allows females to take part in the household decision-making process.

A study conducted by Herath *et al.* (2015) in Sri Lanka found that credit has a significant positive linkage with women-empowerment. Various other studies also supported the argument that credit has a positive influence on women-empowerment both economically and socially (Ahmad & Ahmad, 2016; Khan & Bokhari, 2017; Langworthy, 2018). Furthermore, a mixed method approach by Amin and Becker (1998) on NGO credit programs and women-empowerment show that it has a reasonable contribution in empowering women in the community.

Apart from the studies discussed above that are consistent with the findings of the current study, there are a few studies which show inconsistency instead. For example, according to Atmadja *et al.* (2016), financial capital has a negative impact on the performance of women-owned micro-enterprises. Financial capital includes credit

from microfinance institutions. The ultimate objective of microfinance institutions is to empower women through micro-enterprises, but in this case, credit decreases women-empowerment. This is due to the fact that sometimes women invest the credit in areas that are prone to vulnerability factors such as flooding, heavy rainfall, windstorms and earthquake which affect their enterprise negatively. As mentioned by Mosley and Hulme (2009), the poorest of the poor may face negative consequences of microfinance interventions.

The second sub-objective of the first major objective is to study whether micro-saving contributes to women-empowerment. According to the results of the current study, micro-saving has a significant positive effect on women-empowerment with a t-value of 4.159, p-value of 0.000 and β -value of 0.196. Based on these findings, H_3 is thus accepted. It indicates that micro-saving services of microfinance institutions have a significant positive influence on women-empowerment. Thus, the second sub-objective is achieved based on the findings that micro-saving has a positive influence on women-empowerment.

Most of the previous studies also have the same findings. Ashraf *et al.* (2010) conducted a research study on savings products in the Philippines. The author found that savings enhance empowerment through an increase in female decision-making power within the household. An increase in decision making power increases the social empowerment among the female community. Moreover, Bernard *et al.* (2016) found that savings has a significant positive relationship with women micro-enterprise success. An increase in micro-enterprise success generates income which enhances women economic empowerment.

Another study conducted by Karlan, Savonitto, Thuysbaert, and Udry (2017) on three African countries (Ghana, Malawi, Uganda) focused on savings groups formed by microfinance institutions operating in rural areas. This study found that the promotion of these savings' community-based microfinance groups leads to an improvement in household business outcomes as well as women's empowerment. The study conducted by Vonderlack and Schreiner (2002) have the same findings. However, as discussed above, Atmadja *et al.* (2016) found a negative relationship between financial capital and women micro-enterprise. Financial capital includes savings in microfinance accounts. These results are inconsistent with the findings of the current study.

The third sub-objective of the first major objective is to study whether micro-insurance contributes to women-empowerment. This sub-objective was achieved through H₅. According to the results, a t-value of 4.095, p-value of 0.000 and β -value of 0.279 were found. It indicates that micro-insurance has a significant positive relationship with women-empowerment. The findings demonstrate that an increase in micro-insurance from microfinance institutions increases women empowerment. Thus, from the third sub-objective, it is found that micro-insurance from microfinance institutions contributes positively to women-empowerment.

A study conducted on micro-insurance, women-empowerment and self-help groups by Amudha *et al.* (2014) in Tiruchirappalli indicates that micro-insurance improves socio-economic empowerment by providing shelter against hazards for low-income people in exchange for a premium in proportion with the possibility and cost of the

risk associated. Another study conducted in India by Rajeswari (2012) on the role of insurance corporation in women-empowerment found a positive association between both.

Micro-insurance is one of the mechanisms of social security which also elevates the standard of living of poor people (Kishor *et al.*, 2013). Therefore, it has a positive impact on women-empowerment through the reduction of poverty level (Rao, 2008). These studies are consistent with the results of the current study. However, again, the findings by Atmadja *et al.* (2016) are inconsistent with the findings of the current study.

The fourth sub-objective of the first major objective is to study whether micro-training/skill development programs contribute to women-empowerment. This sub-objective was based on H₇. It is found that micro-training/skill development programs have a significant positive relationship with women-empowerment with a t-value of 3.676, p-value of 0.000 and β -value of 0.187. Hence, against the fourth sub-objective, it is found that micro-training/skill development programs contribute positively towards women-empowerment.

Garbuja and Pasa (2016) analyzed the role of training in women-empowerment specifically at the local level in Nepal. The results of this study found that training programs conducted at the local level help to sustain knowledge, ability and develop vocational skills of the women thus empowering them. Micro-training plays a key role in skills enhancement and experience attainment for the development and expansion of women micro-enterprises as described by Kuzilwa (2005). The

development and expansion of women-owned micro-enterprises generate income which ultimately increases the social and economic empowerment of women.

Another study conducted by Mathew (2000) in Kerala found that training has a significant positive influence on women-empowerment. In the study, skills development was found to be vital in increasing household productivity, employee ability and income generating opportunities for women apart from enhancing sustainable rural development and livelihoods. Thus, skill development programs have a major contribution in women-empowerment. However, according to Muhammad Yunus, micro-credit is sufficient enough to lift poor people out of poverty and that training is not necessary (Yunus, 1999). Moreover, according to Coleman (1999), training does not affect asset accumulation and the positive effect on the income of the participants.

4.12.2 The role of Social Capital in Women-Empowerment

The second major objective is to study whether social capital contributes to women-empowerment. According to the findings of the current study, a significant positive relationship was found between social capital and women-empowerment with a t-value of 4.586, p-value of 0.000 and β -value of 0.232. This fifth objective is related to H_9 ; thus, this hypothesis was accepted. Therefore, against this objective, it is revealed that social capital has a significant positive contribution to women-empowerment.

According to the study of Ekpe (2011), social capital has a significant positive relationship with women micro-enterprise success. The Mayoux (1998a) feminist theory describes that success in women micro-enterprise enhances the social and

economic well-being of the women community. Thus, social capital has a significant influence on women-empowerment. Social capital is useful in enhancing income-generating activities (Nahapiet & Ghoshal, 1998) which uplift social as well as economic empowerment among women.

Janssens (2010) conducted a research study on women's empowerment and the creation of social capital in Indian villages. He found that social capital is significantly related to women-empowerment. Another study by Mayoux (2001) on social capital, women empowerment and micro-finance proved that micro-finance programs built on social capital can indeed make a significant contribution to women empowerment. However, according to Hameed et al. (2018), the relationship between social network and poor people's self-sustainability is ambiguous because such groups are prone to moral hazard, free-riding and collusion. Various other related issues were also highlighted by Santosh *et al.* (2016) which show the negative consequence of social capital in self-help groups.

4.12.3 Moderation effect of Vulnerability on the relationship between Microfinance Factors (micro-credit, micro-saving, micro-insurance, micro-training/skill development) and Women-Empowerment

The third major objective of the current study is to examine whether vulnerability moderates the relationship between microfinance factors and women-empowerment. Microfinance factors are micro-credit, micro-saving, micro-insurance and training/skill development as discussed above. In this case, vulnerability moderates the relationship between micro-credit and women-empowerment with a t-value of 2.180, p-value of 0.030 and β -value of -0.022. Thus, it accepts the H₂. It indicates that vulnerability significantly moderates the relationship between micro-credit and

women-empowerment. However, vulnerability weakens the positive relationship between micro-credit and women-empowerment whereby it decreases the positive effect of micro-credit on women-empowerment. In this case, microfinance shows negative consequence on its beneficiaries.

This situation occurs when poor women get credit from microfinance institutions and invest in micro-enterprises that are exposed to environmental vulnerability factors (e.g. flooding, earthquake, windstorms, river erosion), economic factors (e.g. low income, single-earners), social factors (e.g. aging process, emotional stress, disability), political factors (e.g. inappropriate land use by government, community conflict, lack of community cohesiveness, inappropriate resource use by government, lack of economic development) and other factors based on discrimination due to gender, culture and beliefs (Stewart, 2007). Due to the failure of their micro-enterprises, poor women fall into deeper poverty and unable to repay the borrowed credit. After that they repay the loan by selling their assets.

The moderation effect of vulnerability between micro-saving and women-empowerment as well as the moderation effect of vulnerability between micro-insurance and women-empowerment are both found to be insignificant. Thus, H₄ and H₆ are not supported. It is due to the reason that both micro-saving and micro-insurance are used to mitigate the negative effect of vulnerabilities. Micro-saving and micro-insurance are generally considered for the handling of different vulnerability shocks. Without savings, those who faced vulnerability shocks will not be able to rebound (McEntire, 2012). Another way is to use a promotive role in which poor people may use their savings to build an asset to mitigate or reduce the effect of

incoming shocks (Hulme *et al.*, 2009). Thus, micro-saving is used to prevent vulnerability. Similarly, micro-insurance is the protection of low income people against specific hazards in exchange for regular premium payments proportionate to the likelihood and cost of the risk involved (Churchill, 2006). According to Cohen *et al.* (2005), to manage shocks, poor people use different strategies including insurance. Thus, vulnerability does not have any impact on the relationship between insurance and women-empowerment; however, insurance has the impact of reducing vulnerability.

In the case of micro-training/skill development programs, vulnerability does not moderate the relationship between micro-training/skill development programs and women-empowerment. Therefore, it did not support H₈. Basically, micro-training/skill development programs have the purpose of preparing poor people for entrepreneurship. It does not have any concern with vulnerability. Generally, women get training to better handle vulnerability shocks. According to Bali Swain and Floro (2014), non-financial services like training reduce risk and impact on the household's ability to handle the risk. Thus, micro-training/skill development programs affect vulnerability; however, vulnerability does not have any impact on the relationship between micro-training/skill development programs and women-empowerment.

4.12.4 Moderation effect of Vulnerability on the relationship between Social Capital and Women-Empowerment

The fourth and final major objective of this study is to examine whether vulnerability moderates the relationship between social capital and women-empowerment. Vulnerability moderates the relationship between social capital and women-empowerment with a t-value of 2.066, p-value of 0.039 and β -value of 0.021. In this

case, H_{10} is accepted. In fact, vulnerability strengthens the positive relationship between social capital and women-empowerment. These results are also supported by Ul-Hameed *et al.* (2018). In this situation generally, people use the advantage of social network to make themselves stronger. A strong social network makes people capable enough to better handle vulnerability which makes them stronger and beneficial for each other. Social capital is vital for the initiation and development of micro-enterprises owned by women, especially those in developing countries where social capital is one of the sources of income (Olomola, 2002). Social capital is even more beneficial against vulnerability, which makes it the preferred tool by communities to address a development imperative (Kifle, 2007). It is evolving as a prominent tool for socio-economic transformation, economic growth and sustainable community development around the world (Mafukata *et al.*, 2015).

4.13 Chapter Summary

In conclusion, the current chapter described the statistical tools utilized to analyse the collected data, the current study's hypothesis testing results as well as the moderating result of vulnerability. The result for each hypothesis comprising the moderating impact was analysed using the Smart PLS to examine the relationship between the various exogenous variables and endogenous variable. The results were shown in the tables and suitable figures to establish the relationship between the exogenous variables and endogenous variable. The current study's findings were then systematically explained to describe the relationship between the exogenous variables and the endogenous variable. Additionally, the summary of all tested hypotheses is shown in Table 4.22.



Table 4.22
Summary of All Tested Hypotheses

Sr. No.	Hypotheses Description	Decision
H ₁	Micro-credit has a significant relationship with women-empowerment.	Supported
H ₂	Vulnerability moderates the relationship between micro-credit and women-empowerment.	Supported

H ₃	Micro-saving has a significant relationship with women-empowerment.	Supported
H ₄	Vulnerability moderates the relationship between micro-saving and women-empowerment.	Not Supported
H ₅	Micro-insurance has a significant relationship with women-empowerment.	Supported
H ₆	Vulnerability moderates the relationship between micro-insurance and women-empowerment.	Not Supported
H ₇	Training/skill development has a significant relationship with women-empowerment.	Supported
H ₈	Vulnerability moderates the relationship between training/skill development and women-empowerment.	Not Supported
H ₉	Social capital has a significant relationship with women-empowerment.	Supported
H ₁₀	Vulnerability moderates the relationship between social capital and women-empowerment.	Supported

CHAPTER FIVE

CONCLUSIONS

5.1 Introduction

This chapter describes and concludes all the major findings presented in the previous chapter. The organization of this chapter is as follows: the first section presents the recapitulation of the study findings and objectives.; the second section explains the theoretical implications, methodological implications, and practical implications of

this study, and the final section discusses the limitations and recommendations for future studies as well as the conclusion of the study.

5.2 Review of the Key Findings of the Study

The current study aims at investigating the role of microfinance factors on women-empowerment which include micro-credit, micro-saving, micro-insurance and training/skill development. The effect of social capital on women-empowerment was also investigated apart from the role of vulnerability between microfinance factors and women-empowerment. The study attempted to fulfill four main objectives. The first is to examine whether microfinance factors contribute to women-empowerment with the sub-objectives of: i) to study whether micro-credit contributes to women-empowerment, ii) to study whether micro-saving contributes to women-empowerment, iii) to study whether micro-insurance contributes to women-empowerment, and iv) to study whether micro-training/skill development contributes to women-empowerment. The second main objective is to study whether social capital contributes to women-empowerment, followed by the third objective which is to examine whether vulnerability moderates the relationship between microfinance factors and women-empowerment, and finally the fourth objective which is to examine whether vulnerability moderates the relationship between social capital and women-empowerment.

To achieve these objectives, ten major hypotheses were formulated. Results of each hypothesis is as follows; (1) micro-credit has significant positive effect on women-empowerment, (2) vulnerability moderates the relationship between micro-credit and women-empowerment, (3) micro-saving has significant positive effect on women-

empowerment, (4) vulnerability does not moderate the relationship between micro-saving and women-empowerment, (5) micro-insurance has significant positive effect on women-empowerment, (6) vulnerability does not moderate the relationship between micro-insurance and women-empowerment, (7) micro-training/skill development has significant positive effect on women-empowerment, (8) vulnerability does not moderate the relationship between micro-training/skill development and women-empowerment, (9) social capital has significant positive effect on women-empowerment, and (10) vulnerability moderates the relationship between social capital and women-empowerment.

The partial least square (PLS) path modeling results indicate that microfinance factors namely micro-credit, micro-saving, micro-insurance and training/skill development are significantly related with women-empowerment. Social capital was also found to be significantly related to women-empowerment. Additionally, all these factors (micro-credit, micro-saving, micro-insurance, training/skill development, social capital) are positively related to women-empowerment.

The moderating role of vulnerability between microfinance factors and women-empowerment was also examined together with the moderating role of vulnerability between social capital and women-empowerment. It was found that the moderation between micro-credit and women-empowerment is statistically significant. Thus, the analysis shows that vulnerability is a moderating variable between micro-credit and women-empowerment. However, the moderating result of vulnerability between other microfinance factors (micro-saving, micro-insurance, training/skill development) and women-empowerment was found statistically insignificant.

The moderating role of vulnerability between social capital and women-empowerment was found statistically significant and the results of the analysis showed that this relationship is positive. Thus, vulnerability is a moderating variable between social capital and women-empowerment.

Lastly, it was revealed that all the microfinance factors including micro-credit, micro-saving, micro-insurance as well as training/skill development have significant relationships with women-empowerment. Social capital was also found to be significantly related to women-empowerment. Thus, H₁, H₃, H₅, H₇ and H₉ were accepted. The moderating relationship of vulnerability between micro-credit and women-empowerment was found to be significant with a negative moderating effect. Vulnerability was also found to moderate the relationship between social capital and women-empowerment. Therefore, H₂ and H₁₀ were accepted. However, the statistical test on the moderation effect of vulnerability between other microfinance factors namely micro-saving, micro-insurance and training/skill development found that the vulnerability does not moderate the relationship between micro-savings and women-empowerment, micro-insurance and women-empowerment, as well as training/skill development and women-empowerment. Hence, H₄, H₆ and H₈ were not supported by this study.

These results demonstrate that the microfinance factors have a significant positive relationship with women-empowerment. The delivery of microfinance factors such as micro-credit, micro-saving, micro-insurance and training/skill development contribute to women-empowerment. The same results were found in the case of social capital and women-empowerment. However, the presence of vulnerability posed a significant

negative impact on the positive effect of micro-credit on women-empowerment. In the case of social capital, vulnerability was found to enhance the positive effect of social capital on women-empowerment.

5.3 Theoretical Implications

The conceptual framework of the current study was drawn based on empirical evidence as well as theoretical gaps identified in prior literature. The support and explanation for the framework were drawn from two theoretical perspectives i.e. Mayoux's Feminist Empowerment Theory and Relational Theory of Risk. In this study, the vulnerability was incorporated as a moderating variable to better understand and explain the relationship between microfinance factors, social capital and women-empowerment.

5.3.1 Empirical Evidence in the Domain of Mayoux's Feminist Empowerment Theory and Relational Theory of Risk

This study provided theoretical implications through additional empirical evidence on Mayoux's Feminist Empowerment Theory. This theory links the microfinance institutions with women's well-being. It also includes a model which supports microcredit as a tool of women empowerment, particularly economic empowerment. This increased economic empowerment will lead towards more social empowerment and enhance the well-being of women (Mayoux, 2005). The framework of Mayoux's Feminist Empowerment Theory also indicated that women social network is beneficial for women-empowerment. The current study has proven as well that social capital has a significant positive effect on women-empowerment.

The framework of Mayoux's Feminist Empowerment Theory is missing one important element i.e. human capital which is used to perform income generating activities like women-run micro-enterprises. Micro-training/skill development programs are needed to develop human capital among women. As suggested in literature, there is a need to study credit jointly with training on entrepreneurship in developing and low-income countries (Harrison & Mason, 2007; Tazul, 2007). Micro-training/skill development programs are important because without proper training, poor people tend to misuse the obtained credit which in turn causes the failure of their business. They are then required to repay the borrowed credit to microfinance institutions which drags them towards deeper poverty. As most microfinance institutions provide training services, this element should be included in the framework of Mayoux's Feminist Empowerment Theory.

Firstly, the current study has filled this gap and extended the theory by adding the element of micro-training/skill development programs into the framework of Mayoux's Feminist Empowerment Theory which makes it complete with three types of capital namely financial capital, human capital and social capital. The framework of the current study presented in Figure 3.3 also depicts the three types of capital (financial capital = micro-credit, micro-saving, micro-insurance; human capital = micro-training/skill development programs, social capital) which are essential in the success of women-owned businesses. Therefore, to increase the level of women-empowerment in Pakistan through microfinance institutions, a mixture of capitals (financial capital, human capital, social capital) is most crucial.

The present study also attempted to test the moderating role of vulnerability between microfinance factors and women-empowerment. As discussed in the third chapter, the literature reported inconsistencies between various microfinance factors and women-empowerment. Therefore, this study justifies the use of a moderating variable in the framework.

This study attempted to fill this literature gap by incorporating vulnerability to make the relationship between microfinance factors and women-empowerment clearer. It is recommended by literature that the relationship between vulnerability and microfinance should be examined in future research (Banerjee, & Jackson, 2017).

Vulnerability as a moderating variable is taken based on the Relational Theory of Risk. As comprehensively discussed in the literature, the Relational Theory of Risk comprise three parts namely a risk object, object at risk and relationship of risk (Boholm & Corvellec, 2011). Vulnerability is taken as a risk object. According to the Relational Theory of Risk, vulnerability is an object due to which women-empowerment is at stake.

It was proven by the results of this study that vulnerability has a negative effect on the relationship between micro-credit and women-empowerment. Moreover, it was also proven that vulnerability is a moderating variable between social capital and women-empowerment. However, it has a different effect as supported by Ul-Hameed *et al.* (2018). Thus, the study investigated the moderating role of vulnerability.

Vulnerability is a factor which decreases the positive contribution of microfinance services on women-empowerment. Thus, it limits the positive effect of microfinance services. As such, Mayoux's Feminist Empowerment Theory omits the element of vulnerability as it claims that microfinance services are capable enough to enhance women-empowerment (Mayoux, 2005). However, due to vulnerability factors, Mayoux's Feminist Empowerment Theory fails to justify this statement. Therefore, in different conditions where the vulnerability exists such as in the Southern Punjab of Pakistan, Mayoux's Feminist Empowerment Theory is not supported.

Secondly, the current study filled this gap and extended the theory by adding the vulnerability factor in the framework of Mayoux's Feminist Empowerment Theory. Vulnerability is one of the limitations of Mayoux's Feminist Empowerment Theory. Hence, it should be included in the framework of this theory to better clarify the relationship between microfinance institutions and women-empowerment.

Thirdly, the current study highlighted the importance of three types of capital (financial capital, human capital, social capital). These three types of capitals are mandatory to empower women community. Most of the time female get loan from microfinance institutions but cannot run the micro-enterprises due to not having proper educational level. In this case, they need human capital through training programs. Moreover, social capital is also helpful in case of emergency or to handle vulnerability shocks. Therefore, missing of one capital is the wastage of other capitals. Hence, provision of these three capitals together is most important.

In short, the current study has extended Mayoux's Feminist Empowerment Theory by adding the two major factors into the framework of the theory namely human capital development in the form of training/skill development programs and vulnerability.

5.4 Practical Implications

The current study provided several practical understandings in connection to women-empowerment and relevant practices in Pakistan's microfinance institutions. Several important implications are given below.

Firstly, the findings suggested that for women-empowerment, microfinance services are most important. However, these services are not beneficial if all of them are not provided at the same time. It means that the three types of capital i.e financial capital, human capital and social capital jointly determine women-empowerment. The omission of one capital means wastage for all the other capitals for women-empowerment. Thus, women-empowerment level can be better improved through the provision of all the three capitals at the same time.

Secondly, the findings suggested that vulnerability is one of the most important factors in empowering women. Vulnerability factors are those which can minimize the positive effect of microfinance or can turn the positive effect of microfinance into a negative effect. Therefore, in the process of women-empowerment, vulnerability factors such as social, economic, environmental and political factors should be considered equally.

Thirdly, this study has more importance for microfinance institutions. As the fundamental objective of microfinance institutions is to reduce poverty level and

enhance women-empowerment, they can use the findings from this study to improve women-empowerment. This study is important for microfinance institutions because it highlights the three types of capital (financial capital, human capital, social capital) that are mandatory in enhancing women-empowerment. It was found that various microfinance institutions provide only one or two types of capital to poor women, where most of the time it decreases the positive effect or converts the positive effect of this capital into a negative effect. A similar result ensues if credit is provided to the poor and uneducated women for business purposes without any training or entrepreneurial education. Thus, this study reveals the reasons why the various microfinance institutions in Pakistan are still unable to empower women in Southern Punjab i.e. because they do not provide the three capitals and because various vulnerability factors destroy the women-run micro-enterprises. From this, there is a clear indication for microfinance institutions to provide the three types of capitals rather than just one or two and to develop different strategies to reduce the effects of vulnerability. Therefore, this study poses a major importance for microfinance institutions particularly those operating in Southern Punjab, Pakistan.

Fourthly, microfinance institutions should focus on women aged 36 to 40. Because the current study proved that the women within this age range are more likely to participate in microfinance institutions. Similarly, the women having education level equal to matriculation were more involved in micro-enterprises. Therefore, microfinance institutions should give higher priority on the women with matriculation education background. The Pakistan government should also focus on to reduce the poverty level, as the current study proved that 62.9% of the female population is living below the poverty line. Additionally, microfinance institutions should work

more on married women as the study findings suggest that they were having brighter prospect to obtain microfinance services.

Fifthly and finally, this study is also important for the Government of Pakistan and State Bank of Pakistan (SBP) to get valuable insight while devising strategies for women-empowerment. This study also highlights the various reasons as to why women-empowerment is hard to achieve in Southern Punjab, Pakistan, despite the existence of countless microfinance institutions in this region for many decades.

5.5 Methodological Implications

The following are the methodological implications drawn from the present study. The study employed PLS path modeling to assess every latent variable's psychometric property. Therefore, to contribute methodologically, the present study employed one of the most robust approaches (i.e. PLS Path modeling) for assessing the psychometric properties of each of the latent variable in the study. The applications of PLS-SEM could provide better results. It has the ability to handle complex data and complex model which is suitable to get accurate results. Therefore, the use of PLS-SEM is most significant while examining the effect of microfinance factors on women-empowerment.

Moreover, the current study also provided methodological implications through sampling design. In other studies, sampling design was found to be one of the constraints in obtaining accurate results. This study applied one of the most suitable sampling techniques which is area cluster sampling. In rare cases, any study applied this technique in women-empowerment. Basically, it is evident from the literature that

this technique is most suitable when the population is spread on a wide area. Other studies did not use the area cluster sampling as these studies did not cover the whole population, due to which results might differ. Thus, this study applied a better sampling technique to cover the concerned population. Therefore, area cluster sampling is necessary while examining the effect of microfinance factors on women-empowerment to cover the whole population. Additionally, the sampling design could be better implemented if the feedback is also considered from the micro-credit providers. For instance, if the feedback from the various microfinance organizations is also included, it will create a balance between the feedback of female clients and microfinance organizations. Thus, this will significantly help in obtaining better results.

5.6 Limitations and Suggestions for Future Research

Besides the robust results provided in the current study that supported a good number of hypothesis, it is essentially important to interpret those findings in line with the limitations of the study. First, a cross-sectional design was adopted due to which causal inferences from the population were not possible. Thus, future research may consider a longitudinal design to test the theoretical body of the constructs over a longer period for responsive confirmation of the postulated relationships of this study.

Secondly, the current study applied self-reported measures for all the variables. Self-reported measures could affect the behaviours, attitude and feelings of the randomly selected participants thus creating the probabilities of social disability, as mentioned by various studies (Dodaj, 2012; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Randall & Fernandes, 1991). Even though the current study had attempted to mitigate

these issues by confirming anonymity and refining the items of the scale (Podsakoff *et al.*, 2003; Podsakoff, MacKenzie, & Podsakoff, 2012), there are still probabilities of the existence of these issues. Hence, future researchers may wish to use other strategies to assess the relationship between microfinance factors, social capital, vulnerability and women-empowerment.

Thirdly, it was quite difficult to offer generalizability of the results due to the reason that the sample of the current study was primarily based in Southern Punjab, Pakistan, covering only one province/state of the country. Consequently, it would be suitable to include another province/state of Pakistan in the sample of this study for improved generalization of the findings. If the sample is taken from all provinces of Pakistan, the findings might differ. Thus, future research is required to address this possibility.

Fourthly, the current study potentially tested the moderating effect of vulnerability on the relationship between microfinance factors, social capital and women-empowerment. The current study used four dimensions of vulnerability namely environmental, social, economic, and political. Collectively carrying all these dimensions might give different implications because the vulnerability factors are generally related to specific regions. A region might have environmental vulnerability, but not economic vulnerability; other regions might have social vulnerability, but not political vulnerability, whilst another region might have economic and political vulnerabilities, but not environmental vulnerability. Thus, the selection of vulnerability dimensions is a much sensitive process, and it might be in accordance with the existence of the vulnerability. Future research selection of

vulnerability dimensions should hence be based on the existence of vulnerability factors.

Fifthly and finally, another major limitation of this study is that data is collected from poor women in Southern Punjab, Pakistan. A major portion of this population is less educated. They might have perceived the questions wrongly which might have affected the results of the study. Thus, it is more suitable to use a mixed method approach i.e. quantitative and qualitative, which is something that future researches should put under serious consideration. Additionally, the current study does not provide any open-ended questions. Thus, leaving no platform for the respondents to provide their own opinions and responses. Open ended questions may help in strengthening the findings whilst confirming the issue, Therefore, the absence of any open-ended questions in the study is considered to be one of the limitations of the current study.

5.7 Conclusion

All the evidence towards the expanding association about the moderating function of vulnerability on microfinance factors and women-empowerment relationship is provided in the current study, whilst key theoretical propositions were supported by the findings of the study.

Despite some limitations, the answers to all the research questions as well as objectives have been successfully provided by the current study. While several studies have observed microfinance and women-empowerment, this study addressed the theoretical gap by incorporating social, economic, environmental and political

vulnerabilities as the significant moderating variables. The study successfully provided theoretical as well as empirical support for the moderating role of vulnerability on the relationship between microfinance institutions and women-empowerment.

The current study had also potentially assessed how vulnerability theoretically moderates the relationship between exogenous latent variables and endogenous latent variable. The theoretical framework of the current study potentially complements the Mayoux's Feminist Empowerment Theory by examining the effect of vulnerability on the relationships between the microfinance factors and women-empowerment. Moreover, the current study also provided several critical practical implications for the microfinance institutions and State Bank of Pakistan. Furthermore, several directions for future research were suggested by drawing upon the limitations of the study.

In conclusion, valuable theoretical, practical, and methodological ramifications to the emerging body of knowledge in the field of microfinance and women-empowerment have been added by the current study. Key results of the study show that microfinance factors namely micro-credit, micro-saving, micro-insurance and micro-training/skill development are the major contributors to women empowerment. Apart from the microfinance factors, social capital is also one of the major contributors to women empowerment. However, social, economic, environmental and political vulnerabilities are among the limiting factors towards women empowerment.

The Government of Pakistan should ensure various strategies to reduce vulnerability. The Government, microfinance institutions and the State Bank of Pakistan should try to enhance the level of social and economic design-making among poor women. It will automatically reduce social vulnerability such as gender discrimination, negative cultural aspects, norms and beliefs. The Government should support women-owned micro-enterprises to reduce economic vulnerability. For instance, the Government of Pakistan should be providing various loan schemes to facilitate women economic activity. This could be possible if the government facilitate the existing microfinance institutions through funds as well as by delivering various other opportunities to provide training to poor women. Additionally, any efforts and actions taken by the Government of Pakistan to increase the number of microfinance institutions in Southern Punjab will also help to resolve various issues related to the women. Political vulnerability could also be reduced by taking strategic measures to enhance developmental activities in the area of Southern Punjab. Moreover, the Government should develop a separate body which mitigates environmental issues such as water shortage, food shortage, diseases and natural disasters. The environmental issues will continuously demotivate the poor women by physically damaging their micro-enterprises. The destruction of micro-enterprises through environmental factors shall lead towards deeper poverty. Thus, it is important for the Government of Pakistan to take any necessary actions such as providing financial aid and logistic assistance to mitigate the effect of chronic environmental factors.

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APPENDICES

APPENDIX 1

Questionnaire

Women-Empowerment

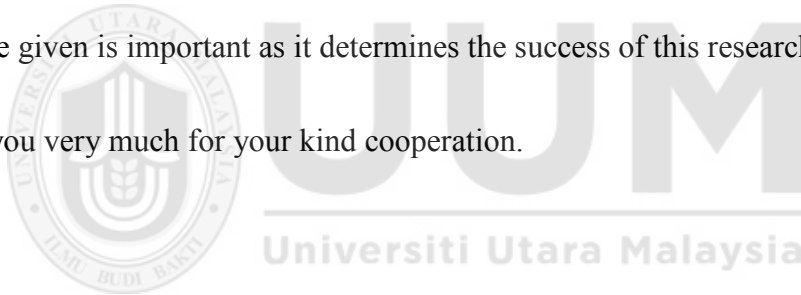
Dear Respondent,

I am a PhD student from Universiti Utara Malaysia, conducting a research entitled *“Effect of microfinance factors, social capital and vulnerability on women-empowerment in Southern Punjab, Pakistan”* The prime objective of this study is to highlight the impact of microfinance factors on women-empowerment and role of vulnerability in Southern Punjab, Pakistan.

Attached is a brief survey questionnaire that will take 5 to 10 minutes to complete. All information provided is strictly confidential and will only be used for research and academic purposes.

Your cooperation and participation in this research are greatly appreciated. Every response given is important as it determines the success of this research.

Thank you very much for your kind cooperation.



Yours sincerely,

Waseem Ul Hameed
Universiti Utara Malaysia
E-mail: expert_waseem@yahoo.com
Ph # +92 334 6169730, +60 168570523

سو النامہ

خواتین کی با اختیاری

عزیز مدعا ،

میں یونیورسٹی اُترا ملائیشیا سے پی ایچ ڈی کا طالب علم ہوں اور ایک تحقیقی مطالعہ کر رہا ہوں جس کا عنوان ""مائیکرو و فائنانس عناصر، سماجی سر ما یہ اور خطرناک عناصر کے جنوبی پنجاب، پاکستان کی خواتین کی بااختیاری پر اثرات" ہے۔ اس تحقیقی مطالعہ کا مقصد جنوبی پنجاب پاکستان کی خواتین کے با اختیار ہونے پر مائیکرو فائنانس عناصر کے اثرات کا جائزہ لینا ہے۔

ایک مختصر جائزے کا سو النامہ منسلک ہے جو مکمل کرنے کے لیے 5-10 منٹ کا وقت درکار ہے۔ اس میں فراہم کی جانے والی تمام معلومات راز دارانہ ہیں۔ جو کہ صرف تحقیقی مطالعہ اور تعلیمی مقاصد کیلئے استعمال کی جائیں گی۔ اس مطالعہ میں آپ کے تعاون اور شرکت کو بہت سراہا جائے گا۔ ہر دیا جانے والا جواب اہم ہے کیونکہ یہ اس تحقیقی مطالعہ کی کامیابی کا تعین کر تاہے۔

آپ کے تعاون کا بہت شکریہ



UUM
Universiti Utara Malaysia

آپ کا مخلص

وسیم الحمید

یونیورسٹی اُترا ملائیشیا

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**EFFECT OF MICROFINANCE FACTORS, SOCIAL CAPITAL AND
VULNERABILITY ON WOMEN-EMPOWERMENT IN SOUTHERN
PUNJAB, PAKISTAN**

"مائیکرو و فائنانس عناصر، سماجی سر ما یہ اور خطرناک عناصر کے جنوبی پنجاب، پاکستان
کی خواتین کی باختیاری پر اثرات"

Questionnaire

سوالنامہ

A PhD Research Survey

پی ایچ ڈی تحقیقی مطالعہ

This questionnaire has five sections, A-E. Please answer all the questions. There are no right or wrong answer. Your spontaneous and honest response is important to the success of this research.

یہ سوالنامہ 1 تا 5 حصوں پر مشتمل ہے۔ براہ مہربانی تمام سوالات کے جواب دیں۔ اس میں کوئی صحیح یا غلط جواب نہیں ہے۔ آپ کا ذاتی اور ایماندارانہ جواب اس تحقیقی مطالعہ کی کامیابی کے لیے اہم ہے۔

Section A: Demographic Information

حصہ ۱ - ذاتی معلومات

The questions below are related to personal data. Please **TICK** or **CIRCLE** one box which is best applicable to you.

نیچے دیئے گئے سوالات ذاتی معلومات کے متعلق ہیں۔ برائے مہربانی کسی ایک ڈبہ پر نشان یا دائرہ لگائیں۔ جس کا آپ کے ساتھ بہترین اطلاق ہوتا ہے۔

- Age (Years old)** 15-20 21-25 26-30
عمر (سالوں میں) 31-35 36-40 Above
40 سے زیادہ
- Highest Education Level** Primary پرائمری Middle مڈل Matriculation میٹرک

Intermediate ہائیر سیکنڈری Bachelor بیچلر

Others (Please specify) _____

ان کے علاوہ (برائے مہربانی وضاحت)

- Daily Income Rate** Below USD\$2 Above USD\$2
روزانہ آمدنی کی شرح USD\$2 سے کم USD\$2 سے زیادہ

1USD\$ = 105PKR
2USD\$ = 210PKR

Marital Status

ازدواجی حیثیت

 Single

غیر شادی شدہ

 Married

شادی شدہ

 Divorced

طلاق یا فتنہ

Occupation

پیشہ

 Employed

ملازم

 Unemployed

بے روزگار

 Self-Employed

خود مختار

 Full time house wife

خاتون خانہ

 Others (Please specify) ____

ان کے علاوہ (برائے مہربانی وضاحت)



UUM
Universiti Utara Malaysia

Section B: Women-Empowerment

حصہ ب - خواتین کی بااختیاری

The following section has been designed to obtain your opinion about your empowerment level. For each statement, please indicate the extent to which you agree or disagree with the statement by **ticking** or **circling** an appropriate number on the five-point scale provided. Please read the following statement and mark accordingly:

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5= Strongly Agree,

مندرجہ ذیل حصہ آپ کی اقتصادی اور سماجی بااختیاری کے بارے میں رائے حاصل کرنے کے لیے بنایا گیا ہے۔ ہر سوال کے لئے، براہ کرم فراہم کردہ پیمانے پر نشان یا دائرہ لگا کر بتائیں کہ کس حد تک آپ اس سے اتفاق یا اختلاف کرتی ہیں۔ براہ کرم مندرجہ ذیل بیان پڑھیں اور اس کے مطابق نشان دہی کریں۔

1=بہت زیادہ اختلاف، 2=اختلاف، 3=غیر جانبدار، 4=اتفاق، 5=بہت زیادہ اتفاق

01	WE1	I have sufficient independent savings. میری اپنی ذاتی بچت ہے۔	1	2	3	4	5
02	WE2	I am confident to face financial crisis. میں مالیاتی بحران کا سامنا کرنے کے لیے پُر اعتماد ہوں۔	1	2	3	4	5
03	WE3	I have own sufficient assets like house/land/livestock in my name. میں اثاثہ جات جیسے گھر/زمین/مویشی کی مالک ہوں۔	1	2	3	4	5
04	WE4	I am involved in decision making related to improvement in the home. میں گھر کی بہتری سے متعلق فیصلوں میں شامل ہوں۔	1	2	3	4	5
05	WE5	I am involved in decision making related to household expenses. میں گھر کے اخراجات سے متعلق فیصلوں میں شامل ہوں۔	1	2	3	4	5
06	WE6	I am involved in decision making related to large purchases. میں بڑے پیمانے پر خریداری سے متعلق فیصلوں میں شامل ہوں۔	1	2	3	4	5
07	WE7	I can buy clothes or other essentials for myself without permission of my family. میں اپنے شوہر کی اجازت کے بغیر اپنی ذات کے لیے کپڑے اور ضروری چیزیں خرید سکتی ہوں۔	1	2	3	4	5
08	WE8	I have been given the authority to go outside the home alone. مجھے اکیلے گھر سے باہر جانے کا اختیار دیا گیا ہے۔	1	2	3	4	5
09	WE9	I am involved in decision regarding children's education/marriage/career. میں بچوں کی تعلیم / شادی / مستقبل کے فیصلوں میں شامل ہوں۔	1	2	3	4	5

10	WE10	I can discuss about birth control methods. میں پیدائش کنٹرول کرنے کے طریقوں سے متعلق تبادلہ خیال کر سکتی ہوں۔	1	2	3	4	5
11	WE11	Microfinance has given me better right to use income. مائیکرو فائنانس نے مجھے آمدنی کو استعمال کرنے کا بہتر حق دیا ہے۔	1	2	3	4	5
12	WE12	Microfinance has allowed me to make contribution in household expenditure. مائیکرو فائنانس نے مجھے گھر کے اخراجات میں حصہ لینے کی صلاحیت دی ہے۔	1	2	3	4	5
13	WE13	I feel myself exercising greater control over resources after participation in microfinance. مائیکرو فائنانس میں حصہ لینے کے بعد وسائل کے اختیار کے معاملے میں خود کو زیادہ پُر جوش محسوس کرتی ہوں۔	1	2	3	4	5
14	WE14	Microfinance has allowed me to better participate in decision making related to financial matters of the family. مائیکرو فائنانس نے مجھے خاندان کے فیصلوں میں حصہ لینے کی صلاحیت دی ہے۔	1	2	3	4	5
15	WE15	Microfinance has increased my level of information. مائیکرو فائنانس نے میری معلومات بڑھا دی ہیں۔	1	2	3	4	5
16	WE16	Dealing with loan officer has helped me in increasing my general ability to resolve interpersonal conflicts. قرضہ دینے والے آفسر کے ساتھ بات چیت نے ذاتی مسائل حل کرنے کی صلاحیت بڑھا دی ہے۔	1	2	3	4	5
17	WE17	Microfinance has increased my dignity and has made me feel more respected. مائیکرو فائنانس نے میرا وقار اور عزت بڑھا دی ہے۔	1	2	3	4	5
18	WE18	Use of microfinance has eased or increased my level of mobility. مائیکرو فائنانس میں حصہ لینے کے بعد میری نقل و حرکت بڑھ گئی ہے۔	1	2	3	4	5
19	WE19	Microfinance has allowed me to raise voice against women discrimination. مائیکرو فائنانس نے مجھے تفریق کے خلاف بولنے کی صلاحیت دی ہے۔	1	2	3	4	5
20	WE20	Use of micro credit has increased my level of participation in decision making. لون کے استعمال نے میری فیصلوں میں حصہ لینے کی صلاحیت بڑھا دی ہے۔	1	2	3	4	5
21	WE21	Microfinance has allowed me to move towards a state of freedom from domestic violence.	1	2	3	4	5

		مائیکرو فائنانس نے مجھے گھریلو ظلم سے آزادی دی ہے۔					
22	WE22	I have been able to take part in political campaigns with more ease or frequency after participation in microfinance. مائیکرو فائنانس میں حصہ لینے کے بعد سیاسی مہمات میں آسانی اور زیادہ سے زیادہ حصہ لے سکتی ہوں۔	1	2	3	4	5
23	WE23	After the participation in microfinance my ease or participation in public/communal gatherings has increased. مائیکرو فائنانس میں حصہ لینے کے بعد میں آسانی سے لوگوں کے ساتھ بیٹھ سکتی ہوں۔	1	2	3	4	5
24	WE24	Microfinance has led me to better express my viewpoint. مائیکرو فائنانس نے مجھے میرا نقطہ نظر بیان کرنے کی بہتر صلاحیت دی ہے۔	1	2	3	4	5
25	WE25	After participation in microfinance I have been able to give vote to a person of my choice. مائیکرو فائنانس میں حصہ لینے کے بعد میں اپنی مرضی کے انسان کو ووٹ دی سکتی ہوں۔	1	2	3	4	5



Section C: Microfinance Factors

حصہ پ - مائیکروفائنانس عناصر

The following section has been designed to obtain your opinion about the effect of microfinance factors on women-empowerment. For each statement, please indicate the extent to which you agree or disagree with the statement by **ticking** or **circling** an appropriate number on the five-point scale provided. Please read the following statement and mark accordingly:

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5= Strongly Agree

مندرجہ ذیل حصہ خواتین کے باختیار ہونے پر مائیکروفائنانس عناصر کے اثرات کے متعلق آپ کی رائے لینے کے لیے بنایا گیا ہے۔ ہر بیان کے لیے فراہم کردہ پیمانے پر مناسب نشان یا دائرہ لگا کر بتائیں کہ کس حد تک آپ اس سے اتفاق یا اختلاف کرتی ہیں۔ براہ کرم مندرجہ ذیل بیان پڑھیں اور اس کے مطابق نشان دہی کریں۔

بہت زیادہ اتفاق = 5, اتفاق = 4, غیر جانبدار = 3, اختلاف = 2, بہت زیادہ اختلاف = 1

Micro-Credit چھوٹا قرضہ

26	MC1	The loan interest is reasonable. قرضے پر سود کی شرح مناسب ہے۔	1	2	3	4	5
27	MC2	The loan obtaining procedure is simple. قرض حاصل کرنے کا طریقہ کار آسان ہے۔	1	2	3	4	5
28	MC3	The loan amount is sufficient. قرض کی رقم کافی ہے۔	1	2	3	4	5
29	MC4	The loan repayment period is sufficient. قرض کی ادائیگی کی مدت کافی ہے۔	1	2	3	4	5
30	MC5	The loan repayment procedure is easy. قرض کی واپسی کا طریقہ کار آسان ہے۔	1	2	3	4	5

Micro-Saving چھوٹی بچت

31	MS1	The saving interest is reasonable. بچت پر منافع مناسب ہے۔	1	2	3	4	5
32	MS2	The saving product options are attractive. بچت پر منافع حاصل کرنے کے آپشنز پر کشش ہیں۔	1	2	3	4	5
33	MS3	The procedures are simple. طریقہ کار آسان ہے۔	1	2	3	4	5
34	MS4	The saving withdrawal is easy. بچت کی رقم نکلوانا آسان ہے۔	1	2	3	4	5
35	MS5	An adequate amount of cash must be maintained in the saving account for future benefits. مستقبل کے فوائد حاصل کرنے کے لیے بچت والے کھاتے میں مناسب رقم برقرار رکھنا ضروری ہے۔	1	2	3	4	5

Micro-Insurance چھوٹی انشورنس / بیمہ

36	MI1	Insurance coverages are beneficial. انشورنس/بیمہ کی کوریج فائدہ مند ہے۔	1	2	3	4	5
37	MI2	Availability of different insurance policies are satisfactory. مختلف بیمہ / انشورنس پالیسیوں کی دستیابی تسلی بخش ہے۔	1	2	3	4	5
38	MI3	Obtaining an insurance policy is essential. انشورنس بیمہ یا پالیسی حاصل کرنا ضروری ہے۔	1	2	3	4	5
39	MI4	Insurance policy premiums are reasonable. انشورنس/بیمہ پالیسی کی اقساط مناسب ہیں۔	1	2	3	4	5
40	MI5	Insurance claims are promptly paid. انشورنس/بیمہ کلیم کی ادائیگی فوری طور پر کی جاتی ہے۔	1	2	3	4	5

Micro-Training/Skill Development تربیت / مہارت کی بہتری

41	TSD1	Training and Skills development programs are useful in helping me to run my business. تربیت اور مہارت کی بہتری کے پروگرام میرے کاروبار کو چلانے میں مدد گار ہیں۔	1	2	3	4	5
42	TSD2	The frequency of skills development programs is adequate. مہارتوں کی بہتری کے پروگراموں کی تعداد مناسب ہے۔	1	2	3	4	5
43	TSD3	Training and skill development programs are useful in improving my social status. تربیت اور مہارت کی بہتری کے پروگرام میری سماجی حیثیت کو بہتر بنانے میں مدد گار ہیں۔	1	2	3	4	5
44	TSD4	Training and skill development programs are useful in improving my family life. تربیت اور مہارت کی بہتری کے پروگرام میرے خاندان کی زندگی کو بہتر بنانے میں مدد گار ہیں۔	1	2	3	4	5
45	TSD5	Training and skill development programs are useful in helping me to develop my personal attributes/qualities. تربیت اور مہارت کی بہتری کے پروگرام میری ذاتی خصوصیات / صلاحیات کو فروغ دینے کے لیے مدد گار ہیں۔	1	2	3	4	5

Section D: Social Capital

حصہ ت - سماجی سر ما یہ

The following section has been designed to obtain your opinion about the effect of social capital on women-empowerment. For each statement, please indicate the extent to which you agree or disagree with the statement by **ticking or circling** an appropriate number on the five-point scale provided. Please read the following statement and mark accordingly:

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5= Strongly Agree

مندرجہ ذیل حصہ خواتین کے باختیار ہونے پر سماجی سر ما یہ کے اثرات کے متعلق آپ کی رائے لینے کے لیے بنایا گیا ہے۔ ہر بیان کے لیے فرام کردہ پیمانے پر مناسب نشان یا دائرہ لگا کر بتائیں کہ کس حد تک آپ اس سے اتفاق یا اختلاف کرتی ہیں۔ براہ کرم مندرجہ ذیل بیان پڑھیں اور اس کے مطابق نشان دہی کریں۔
بہت زیادہ اتفاق = 5, اتفاق = 4, غیر جانبدار = 3, اختلاف = 2, بہت زیادہ اختلاف = 1

46	SC1	Discussions with my family members and relatives help me to develop and expand my enterprise. میرے خاندان کے ممبران اور رشتہ داروں کے ساتھ بات چیت میرے کاروبار کی ترقی اور اس کو بڑھانے میں مددگار ہے۔	1	2	3	4	5
47	SC2	Discussions with my close friends help me to develop and expand my enterprise. اپنے قریبی دوستوں کے ساتھ بات چیت میرے کاروبار کی ترقی اور اس کو بڑھانے میں مددگار ہے۔	1	2	3	4	5
48	SC3	My connections with potential or existing customers help me to develop and expand my enterprise. ممکنہ یا موجودہ گاہکوں کے ساتھ میرا رابطہ میرے کاروبار میں ترقی اور اس کو بڑھانے میں مددگار ہے۔	1	2	3	4	5
49	SC4	My connections with potential or existing stakeholders help me to develop and expand my enterprise. ممکنہ یا موجودہ شراکت داروں کے ساتھ میرا رابطہ میرے کاروبار کی ترقی اور اس کو بڑھانے میں مددگار ہیں۔	1	2	3	4	5
50	SC5	My connections with potential or existing suppliers, distributors or manufacturers help me to develop and expand my enterprise. ممکنہ یا موجودہ چیزیں مہیا کرنے والوں، تقسیم کرنے والوں یا چیزیں بنانے والوں کے ساتھ میرا رابطہ میرے کاروبار کی ترقی اور اس کو بڑھانے میں مددگار ہے۔	1	2	3	4	5

51	SC6	My enterprise's social and professional networks help me to develop and expand my enterprise. میرے کاروبار کے سماجی اور پیشہ وارانہ رابطے میرے کاروبار کی ترقی اور اس کو بڑھانے میں مددگار ہیں۔	1	2	3	4	5
52	SC7	My connections with these people enable my enterprise to receive updated business information. ان لوگوں کے ساتھ میرا رابطہ میرے کاروبار کو جدید معلومات حاصل کرنے کے قابل بناتا ہے۔	1	2	3	4	5



Section E: Vulnerability (Environmental, Social, Economic, Political)

حصہ ٹ - خطرے کا سامنا (ماحولیاتی، سماجی، اقتصادی، سیاسی)

The following section has been designed to obtain your opinion about the effect of vulnerability factors on women-empowerment. For the scale given below, **circle** or **tick** the score based on the likelihood of the following hazardous factors that adversely effect on your enterprise and properties. Please read the following statement and mark accordingly:

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5= Strongly Agree,

مندرجہ ذیل حصہ خطرناک عناصر کے بارے میں آپ کی رائے حاصل کرنے کے لئے بنایا گیا ہے جو خواتین کی با اختیار کی کے لئے خطرہ ہیں۔ نیچے دیے گئے پیمانے کے مطابق، مندرجہ ذیل خطرناک عناصر کے احکامات پر مبنی اسکور کو نشان یا دائرہ لگائیں جو آپ کے کاروبار یا اثاثہ جات پر منفی اثر انداز ہو سکتے ہیں۔ براہ کرم مندرجہ ذیل بیان پڑھیں اور اس کے مطابق نشان دہی کریں۔

بہت زیادہ اتفاق = 5، اتفاق = 4، غیر جانبدار = 3، اختلاف = 2، بہت زیادہ اختلاف = 1

53	VALNA1	Drought related stress affects my ability to prepare and recover from hazards/disasters. خشک سالی سے ہونے والی پریشانی میری خطرات / آفات سے نمٹنے اور ان سے بحالی کی صلاحیت پر اثر انداز ہوتی ہے۔	1	2	3	4	5
54	VALNA2	Heavy rain and flood affects my ability to prepare and recover from hazards/disasters. بہت زیادہ بارش اور سیلاب میری خطرات / آفات سے نمٹنے اور ان سے بحالی کی صلاحیت پر اثر انداز ہوتے ہیں۔	1	2	3	4	5
55	VALNA3	Water quality problems affect my ability to prepare and recover from hazards/disasters. پانی کے معیار کے مسائل خطرات / آفات کیلئے تیار ہونے اور ان سے بحالی کی صلاحیت کو متاثر کرتے ہیں۔	1	2	3	4	5
56	VALNA4	Drainage problems affect my ability to prepare and recover from hazards/disasters. پانی کی نکاسی کے مسائل خطرات / آفات کیلئے تیار ہونے اور ان سے بحالی کی صلاحیت کو متاثر کرتے ہیں۔	1	2	3	4	5
57	VALNA5	Erosion affects my ability to prepare and recover from hazards/disasters. پانی کا کٹاؤ، میری خطرات / آفات سے بچنے کی تیاری اور ان سے بحالی پر اثر انداز ہوتا ہے۔	1	2	3	4	5

58	VALNA6	Sediment deposition in the river in my area affects my ability to prepare and recover from hazards/disasters. / دریا کے بہاؤ کے مسائل میری خطرات / آفات سے بچنے کی تیاری اور ان سے بحالی پر اثر انداز ہوتے ہیں۔	1	2	3	4	5
59	VALNA7	Sewer back-up problems in my area affect my ability to prepare and recover from hazards/disasters. میرے علاقے میں سیلاب کے پانی سے ہونے والے مسائل میری خطرات / آفات سے بچنے کی تیاری اور ان سے بحالی کی صلاحیت پر اثر انداز ہوتے ہیں۔	1	2	3	4	5
60	VALNA8	Flood hazards from downstream flood structures affects my ability to prepare and recover from hazards/disasters. ڈھلوان کی طرف سیلاب کے بھاؤ کے خطرات، خطرات / آفتوں سے نمٹنے اور ان سے بحالی کی صلاحیت پر اثر انداز ہوتے ہیں۔	1	2	3	4	5
61	VALNA9	Water quantity affects my ability to prepare and recover from hazards/disasters. پانی کی مقدار میری خطرات / آفات کیلئے تیار ہونے اور ان سے بحالی کی صلاحیت پر اثر انداز ہوتی ہے۔	1	2	3	4	5
62	VALNA10	Insufficient income affects my ability to prepare and recover from hazards/disasters. کم آمدنی خطرات / آفات کیلئے تیار ہونے اور ان سے بحالی کی صلاحیت کو اثر انداز کرتی ہے۔	1	2	3	4	5
63	VALNA11	Aging process affects my ability to prepare and recover from hazards/disasters. عمر بڑھنے کا عمل خطرات / آفات کیلئے تیار ہونے اور ان سے بحالی کی صلاحیت پر اثر انداز ہوتا ہے۔	1	2	3	4	5
64	VALNA12	Physical disability affects my ability to prepare and recover from hazards/disasters. جسمانی معذوری خطرات / آفات کیلئے تیار ہونے اور ان سے بحالی کی صلاحیت پر اثر انداز ہوتی ہے۔	1	2	3	4	5
65	VALNA13	Being a single earning hand affects my ability to prepare and recover from hazards/disasters. واحد آمدنی کا ذریعہ میری خطرات / آفاتوں کی تیاری اور ان سے بحالی کی صلاحیت پر	1	2	3	4	5

		اثر انداز ہوتا ہے۔					
66	VALNA14	Emotional stress from past flooding and other hazards affects my ability to prepare and recover from hazards/disasters. ماضی میں سیلاب اور دیگر خطرات کی ذہنی پریشانی خطرات / آفات کیلئے تیار ہونے اور ان سے بحالی کی صلاحیت پر اثر انداز ہوتی ہے۔	1	2	3	4	5
67	VALNA15	The lack of opportunities (due to gender discrimination, culture, beliefs) to be involved in resource (e.g., social, economic) decision-making affects my ability to prepare and recover from hazards/disasters. وسائل (سماجی، اقتصادی) سے متعلق فیصلوں میں شمولیت کی کمی (جنسی تفریق، ثقافت، عقائد) کی وجہ سے خطرات / آفتوں سے نمٹنے اور ان سے بحالی کی صلاحیت پر اثر انداز ہوتے ہیں۔	1	2	3	4	5
68	VALNA16	Lack of economic development activities in my area affects my capacity to prepare and recover from hazards/disasters. میرے علاقے میں معاشی ترقیاتی سرگرمیوں کی کمی میری خطرات / آفات سے نمٹنے اور ان سے بحالی کی صلاحیت کو متاثر کرتی ہے۔	1	2	3	4	5
69	VALNA17	Inappropriate land-use and development by the government in my area affect my capacity to prepare and recover from hazards/disasters. میرے علاقے میں حکومت کی طرف سے غیر مناسب زمین کا استعمال اور ترقی خطرات / آفات سے نمٹنے اور ان سے بحالی کے لئے میری صلاحیت کو متاثر کرتے ہیں۔	1	2	3	4	5
70	VALNA18	A lack of community cohesiveness and partnerships affects my capacity to prepare and recover from hazards/disasters. برادری میں ہم آہنگی اور شراکت داریوں کی کمی کی وجہ سے خطرات / آفتوں سے نمٹنے اور ان سے بحالی کے لئے میری صلاحیت پر اثر انداز ہوتی ہے۔	1	2	3	4	5
71	VALNA19	Community conflict affects my capacity to prepare and recover from hazards/disasters. برادری میں تنازعات خطرات / آفات سے نمٹنے اور ان سے بحالی کے لئے میری	1	2	3	4	5

		صلاحیت پر اثر انداز ہوتے ہیں۔					
72	VALNA20	Out-migration affects my capacity to prepare and recover from hazards/disasters. ایک جگہ سے دوسری جگہ منتقلی خطرات / آفات سے نمٹنے اور بحالی کے لئے میری صلاحیت پر اثر انداز ہوتی ہے۔	1	2	3	4	5
73	VALNA21	Inappropriate resource use by government affects my capacity to prepare and recover from hazards/disasters. حکومت کی طرف سے غیر مناسب وسائل کا استعمال خطرات / آفات سے نمٹنے اور ان سے بحالی کے لئے میری صلاحیت پر اثر انداز ہوتے ہیں۔	1	2	3	4	5



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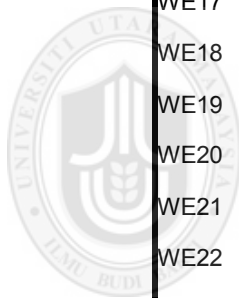
APPENDIX 2

Missing Value and its treatment

Statistics

	N	
	Valid	Missing
MC1	351	2
MC2	353	0
MC3	353	0
MC4	353	0
MC5	353	0
MS1	353	0
MS2	352	1
MS3	353	0
MS4	353	0
MS5	353	0
MI1	353	0
MI2	352	1
MI3	353	0
MI4	353	0
MI5	353	0
TSD1	353	0
TSD2	353	0
TSD3	353	0
TSD4	353	0
TSD5	353	0
SC1	353	0
SC2	353	0
SC3	353	0
SC4	353	0
SC5	353	0
SC6	353	0
SC7	352	1
WE1	351	2

WE2	353	0
WE3	353	0
WE4	353	0
WE5	353	0
WE6	353	0
WE7	353	0
WE8	353	0
WE9	353	0
WE10	353	0
WE11	353	0
WE12	353	0
WE13	353	0
WE14	353	0
WE15	353	0
WE16	353	0
WE17	353	0
WE18	353	0
WE19	353	0
WE20	353	0
WE21	353	0
WE22	353	0
WE23	353	0
WE24	353	0
WE25	351	2
VLNA1	351	2
VLNA2	353	0
VLNA3	353	0
VLNA4	353	0
VLNA5	353	0
VLNA6	353	0
VLNA7	353	0
VLNA8	353	0
VLNA9	353	0
VLNA10	353	0
VLNA11	353	0
VLNA12	353	0



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VLNA13	353	0
VLNA14	353	0
VLNA15	353	0
VLNA16	353	0
VLNA17	353	0
VLNA18	353	0
VLNA19	353	0
VLNA20	353	0
VLNA21	353	0
Age	353	0
Highest_Education_Level	353	0
Daily_Income_Rate	353	0
Marital_Status	353	0
Occupation	353	0

Treatment of Missing Value



Result Variables

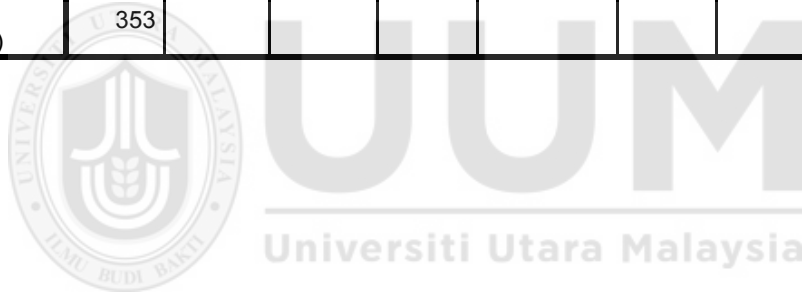
	Result Variable	N of Replaced Missing Values	Case Number of Non-Missing Values		N of Valid Cases	Creating Function
			First	Last		
1	MC1_1	2	1	353	353	SMEAN(MC1)
2	MS2_1	1	1	353	353	SMEAN(MS2)
3	MI2_1	1	1	353	353	SMEAN(MI2)
4	SC7_1	1	1	353	353	SMEAN(SC7)
5	WE1_1	2	1	353	353	SMEAN(WE1)
6	WE25_1	2	1	353	353	SMEAN(WE25)
7	VLNA1_1	2	1	353	353	SMEAN(VLNA1)

APPENDIX 3

Normality of the Data

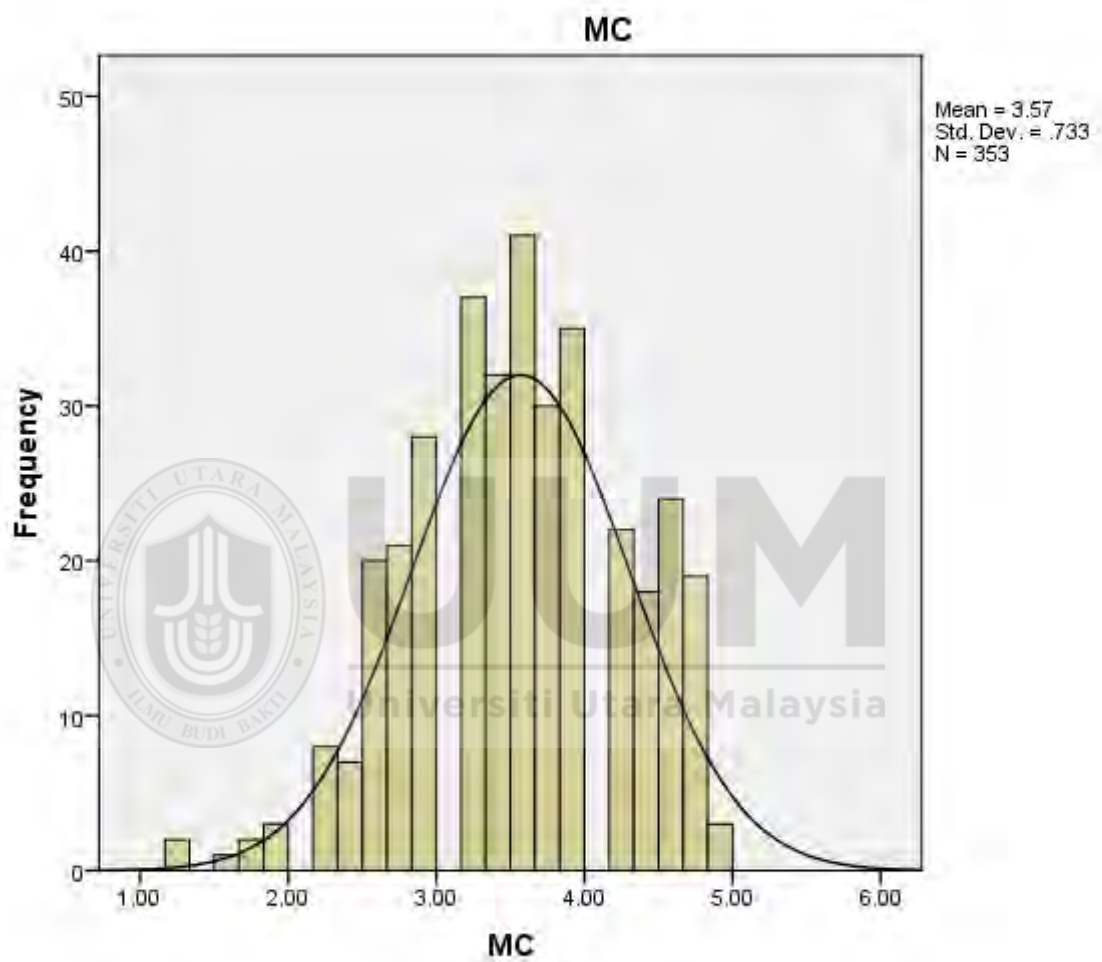
Descriptive Statistics

	N	Minimu	Maximu	Mean	Std.	Skewness		Kurtosis	
	Statistic	m	m	Statistic	Deviation	Statistic	Std.	Statistic	Std.
	c	Statistic	Statistic	c	Statistic	c	Error	c	Error
MC	353	1.20	5.00	3.5688	.73334	-.245	.130	-.206	.259
MS	353	1.00	5.00	3.9196	.85186	-.511	.130	-.071	.259
MI	353	1.00	5.00	3.7284	.94518	-.587	.130	-.226	.259
TSD	353	1.00	5.00	3.9671	.78657	-.431	.130	.026	.259
SC	353	1.57	5.00	3.8293	.71849	-.564	.130	-.014	.259
WE	353	1.16	4.88	3.6564	.60105	-.575	.130	.712	.259
VLNA	353	1.00	5.00	3.7692	.68377	-.566	.130	.591	.259
Valid N (listwise)	353								

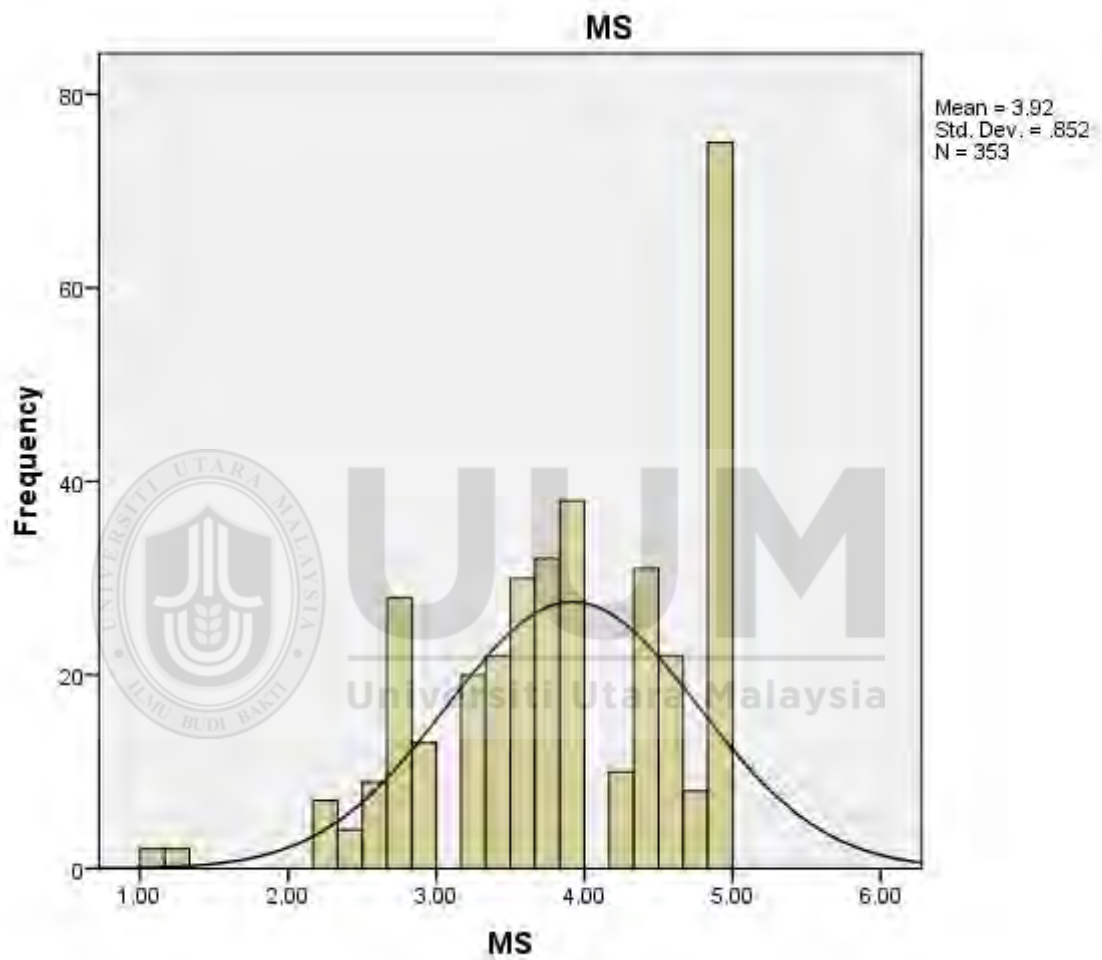


Histogram

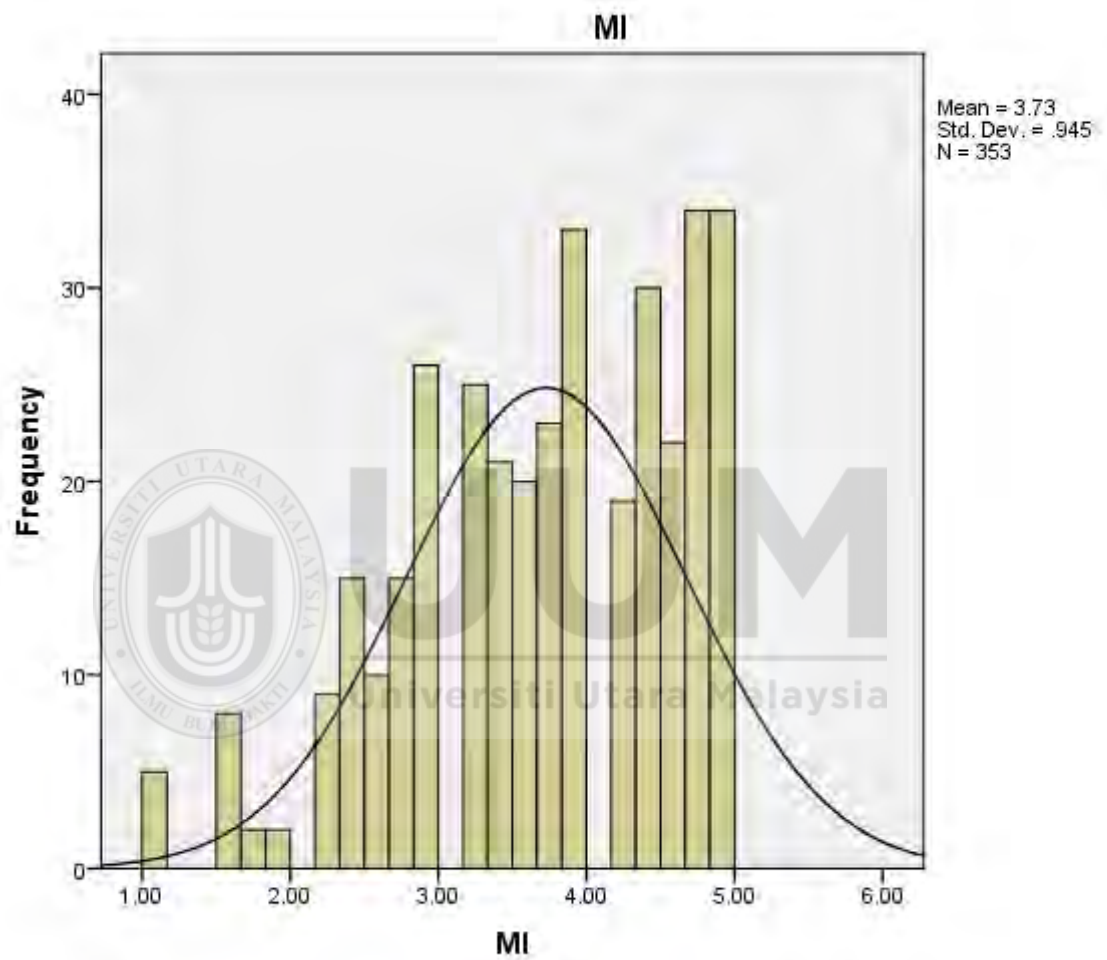
Micro-Credit



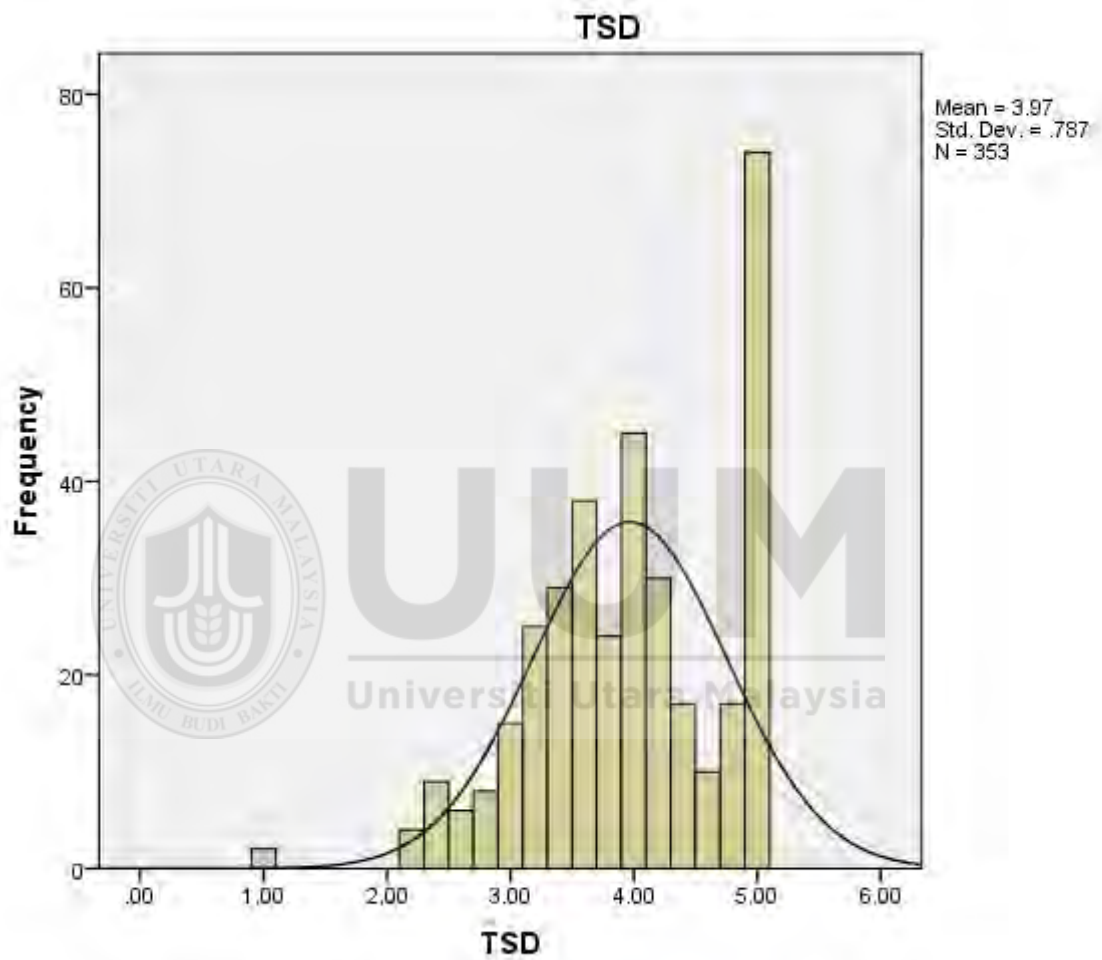
Micro-Saving



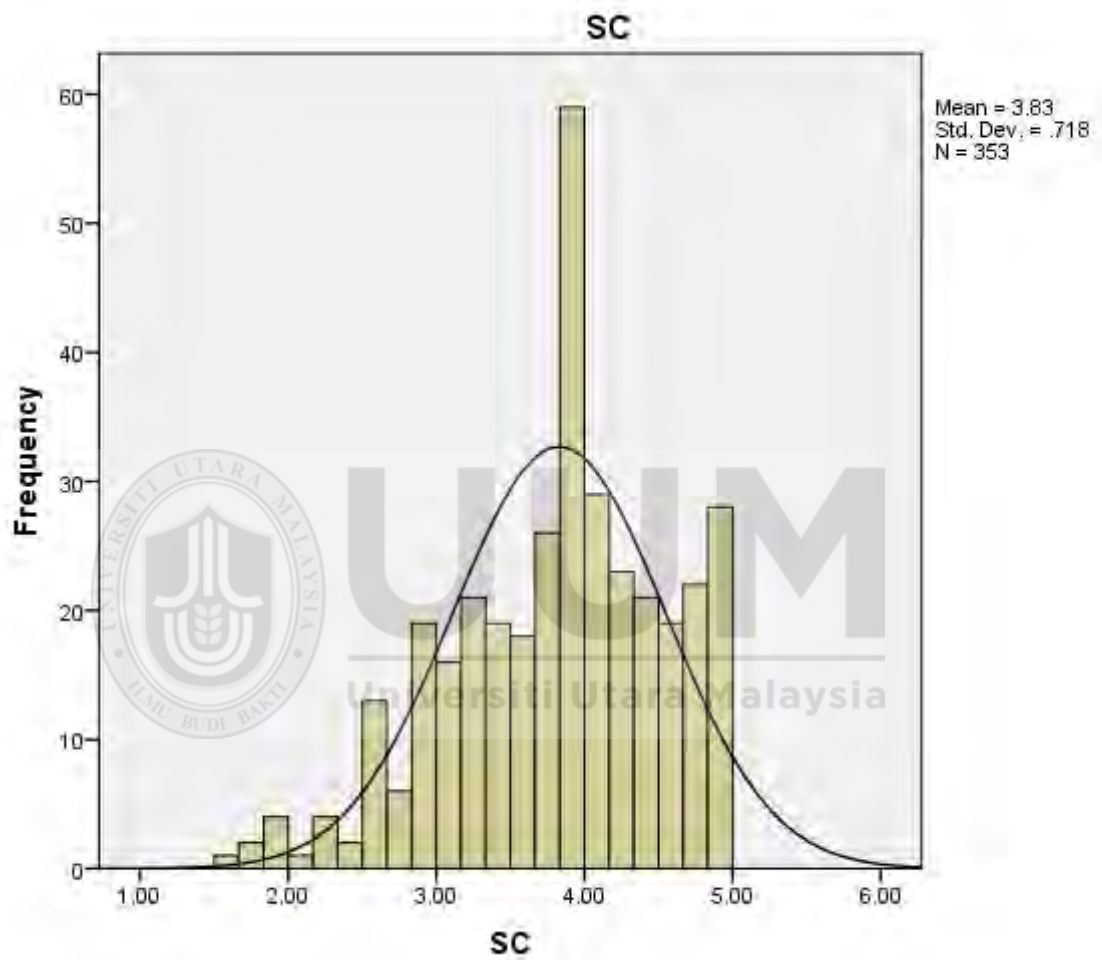
Micro-Insurance



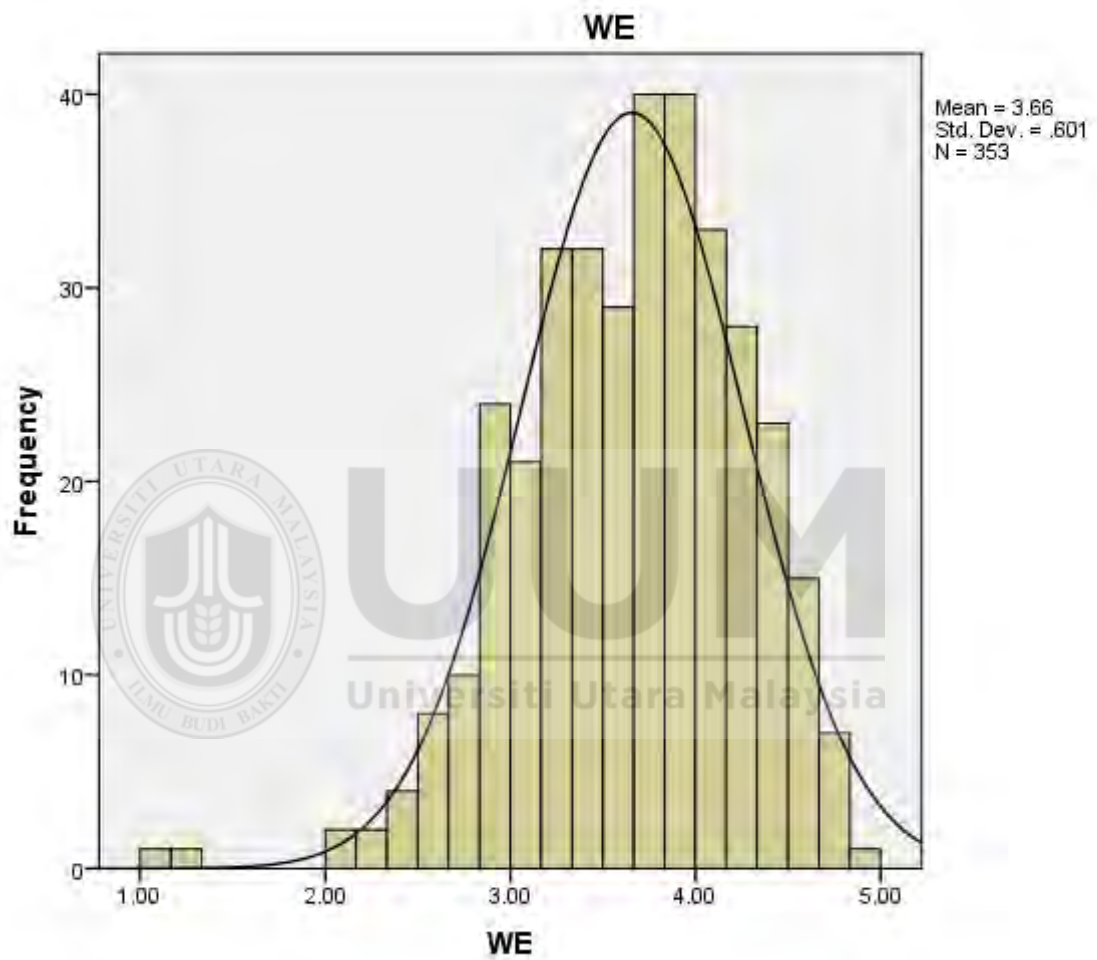
Training/Skill Development



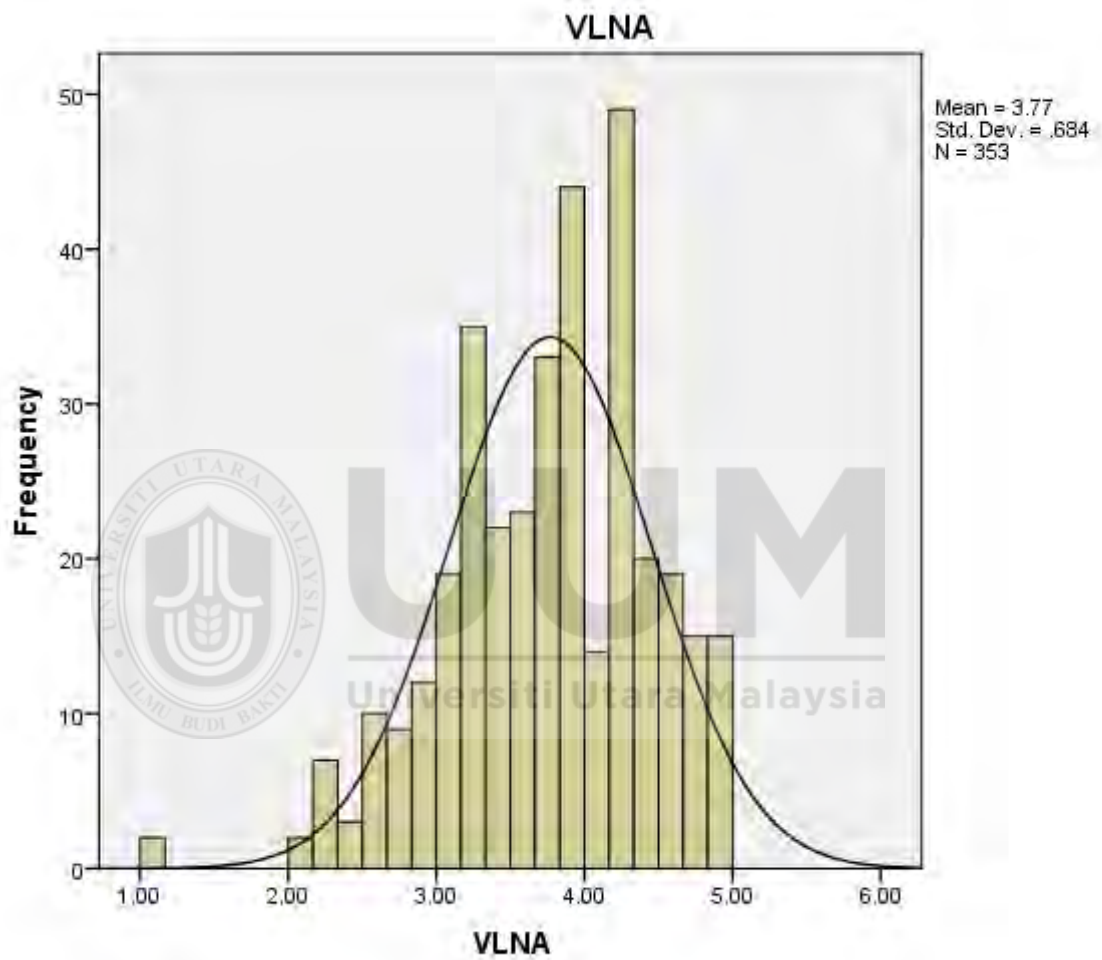
Social Capital



Women-Empowerment



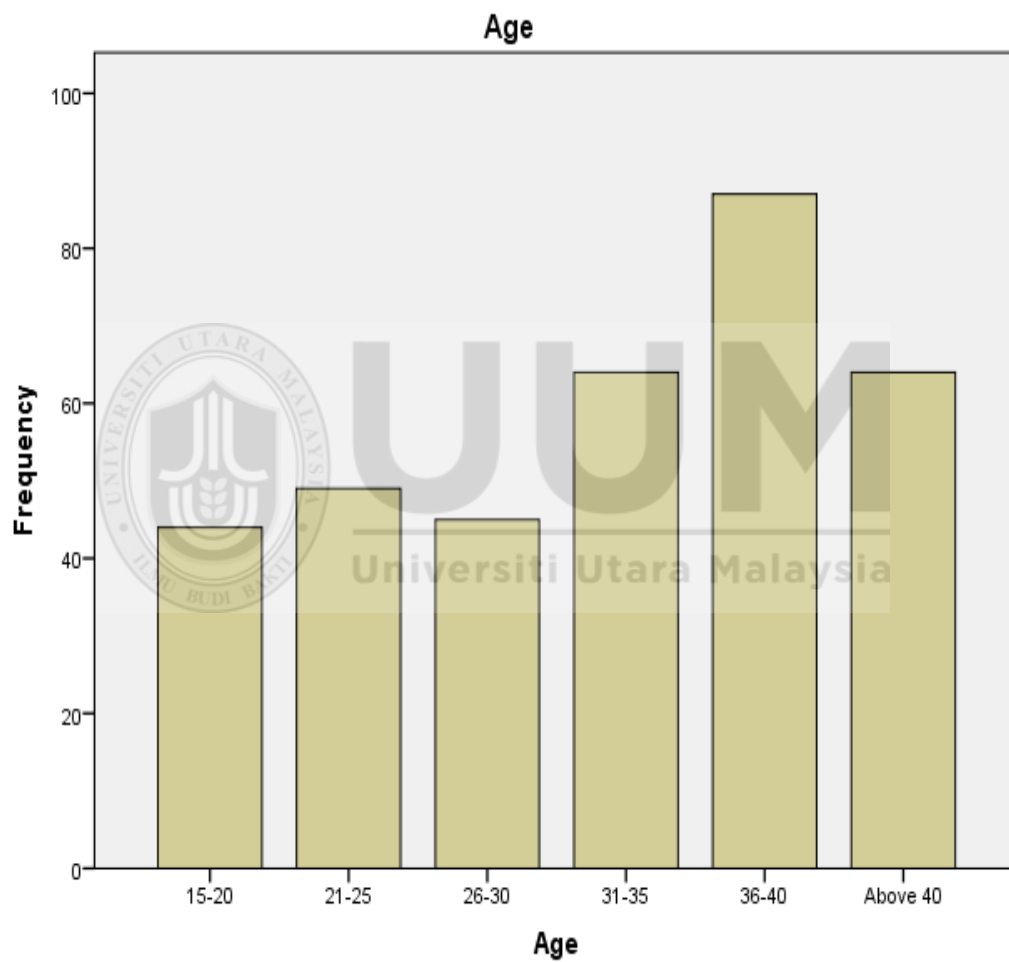
Vulnerability



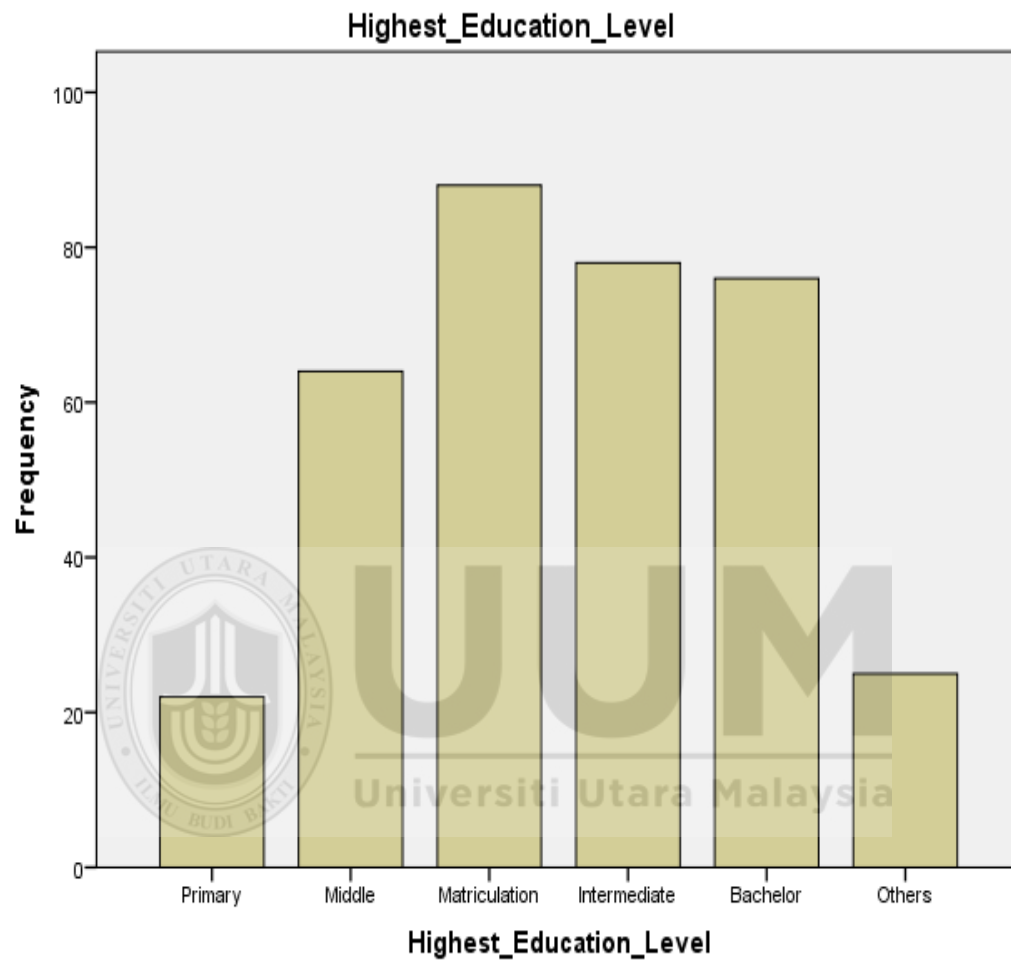
APPENDIX 4

Demographic Profile of the Respondents

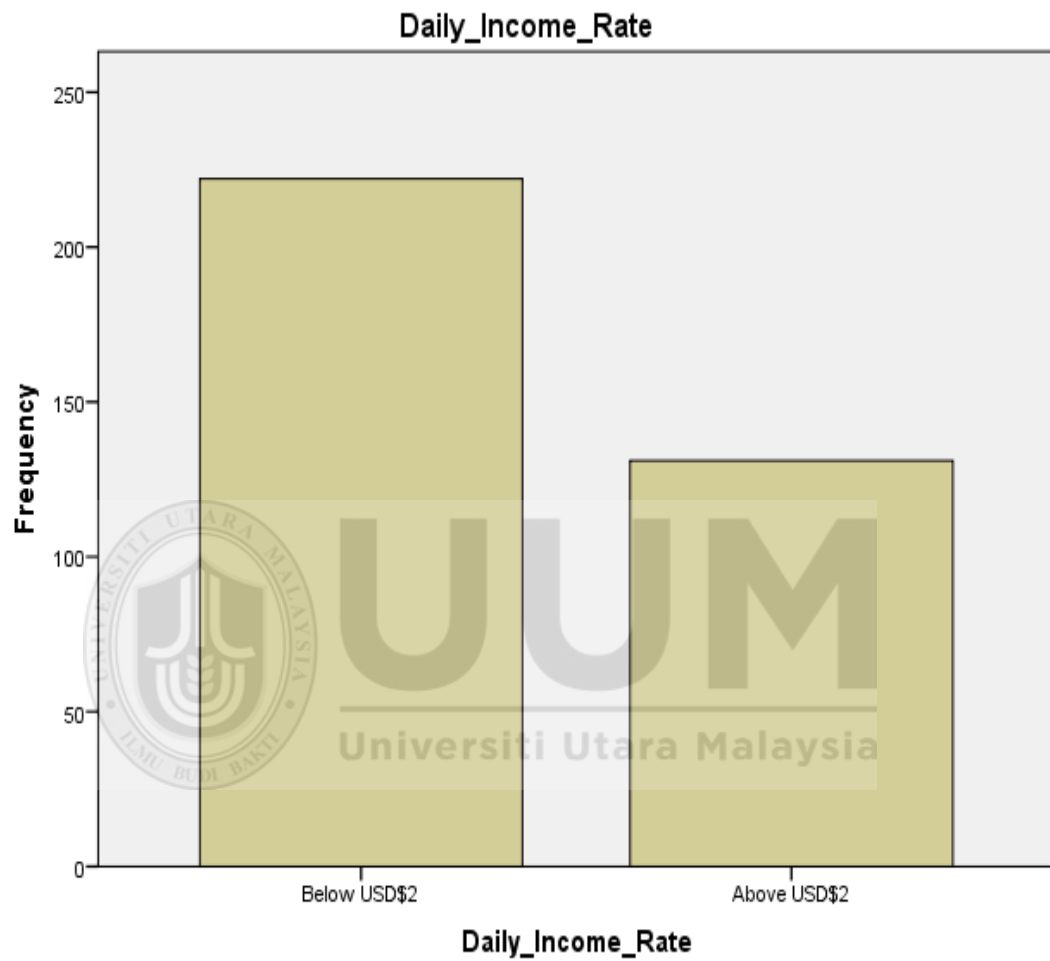
Age



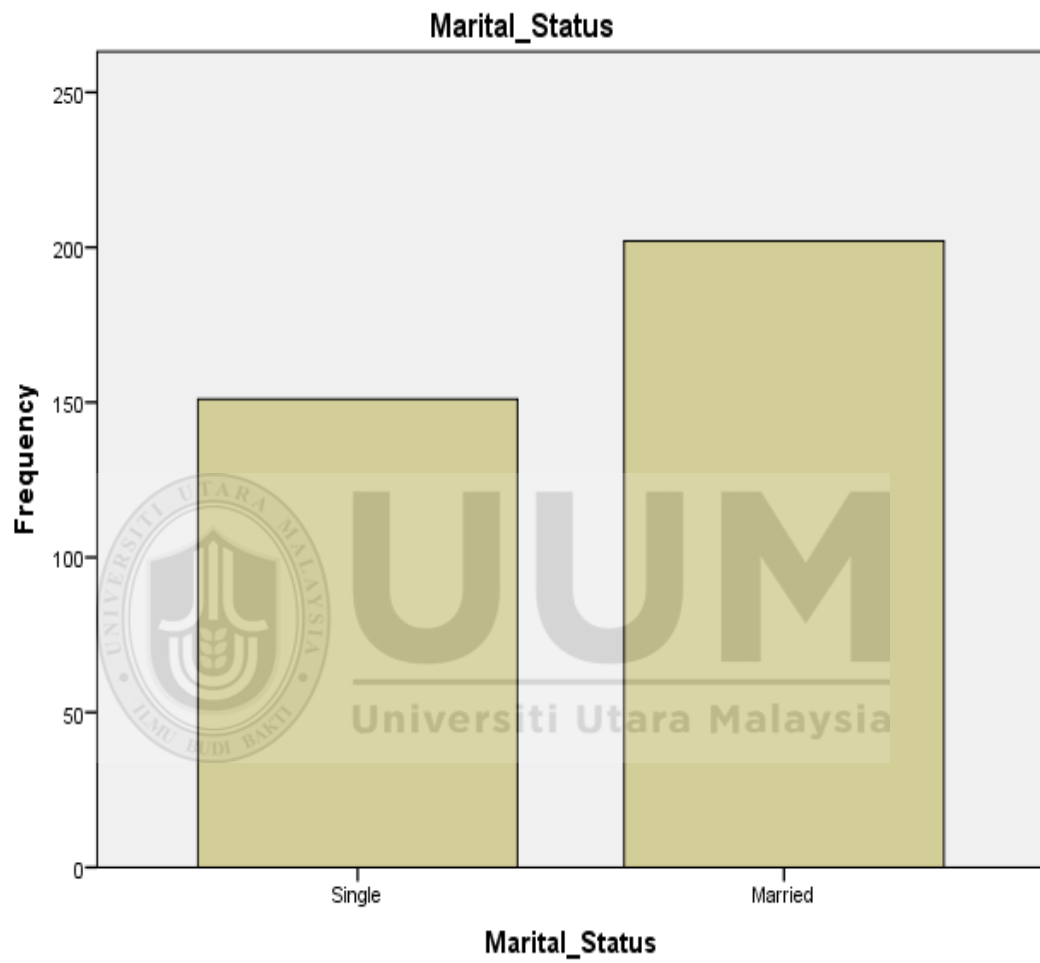
Highest Education Level



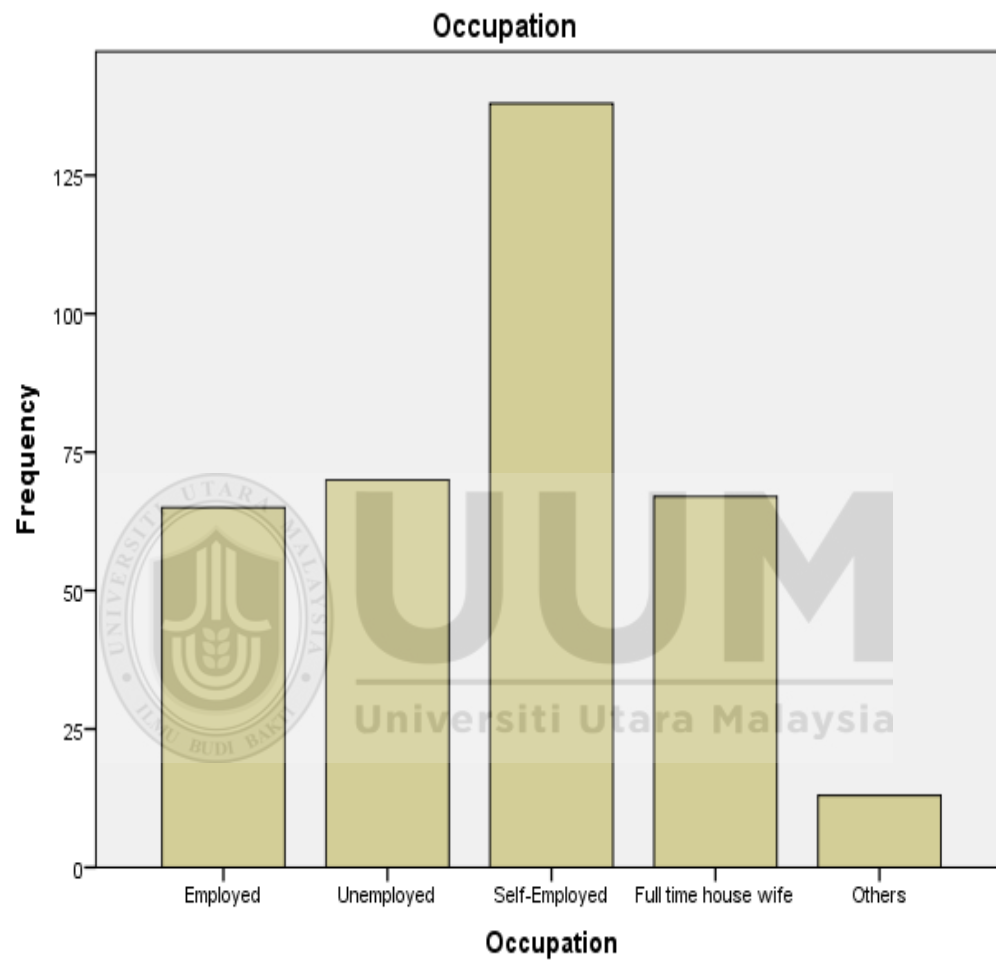
Daily Income Rate



Marital Status



Occupation

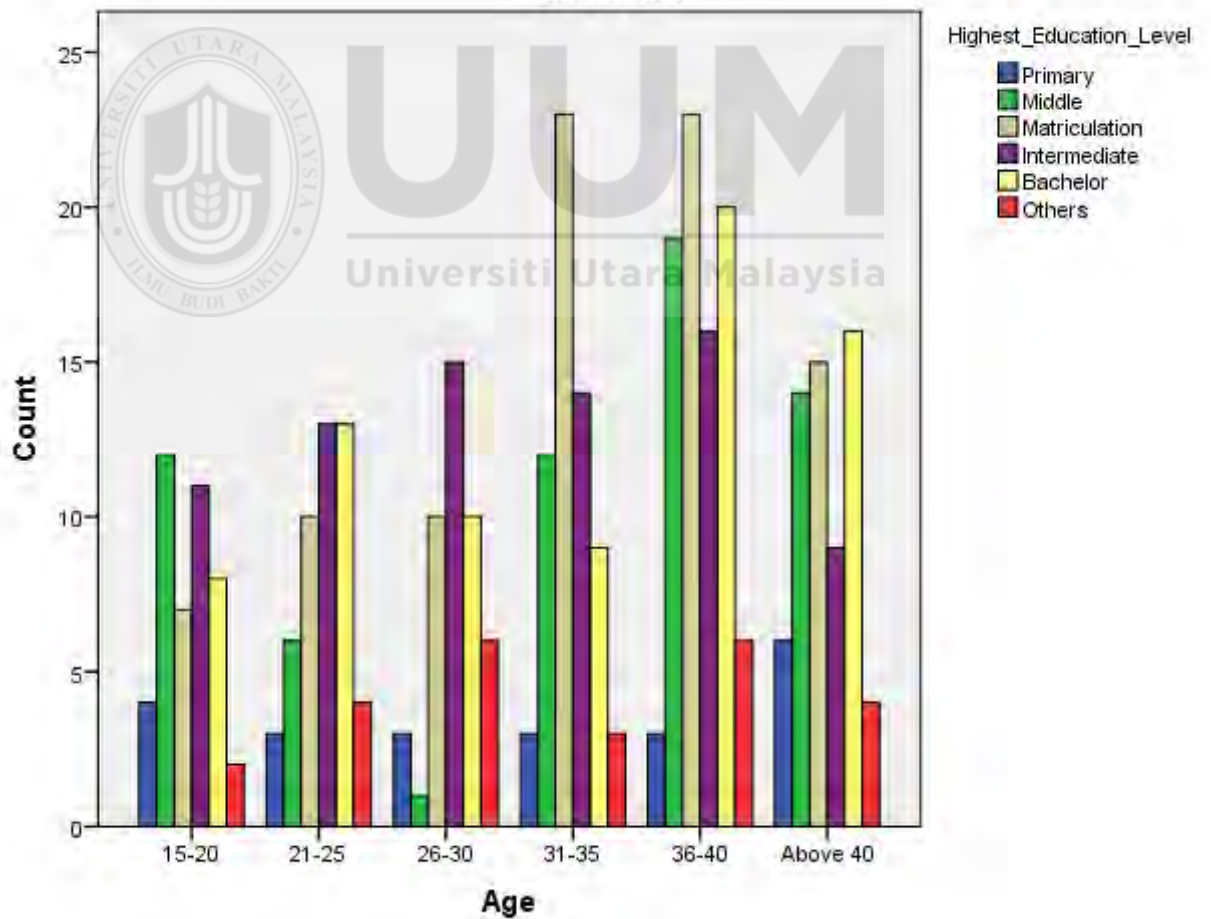


Age * Highest_Education_Level Crosstabulation

Count

		Highest_Education_Level					Total	
		Primary	Middle	Matriculation	Intermediate	Bachelor		Others
Age	15-20	4	12	7	11	8	2	44
	21-25	3	6	10	13	13	4	49
	26-30	3	1	10	15	10	6	45
	31-35	3	12	23	14	9	3	64
	36-40	3	19	23	16	20	6	87
	Above 40	6	14	15	9	16	4	64
Total		22	64	88	78	76	25	353

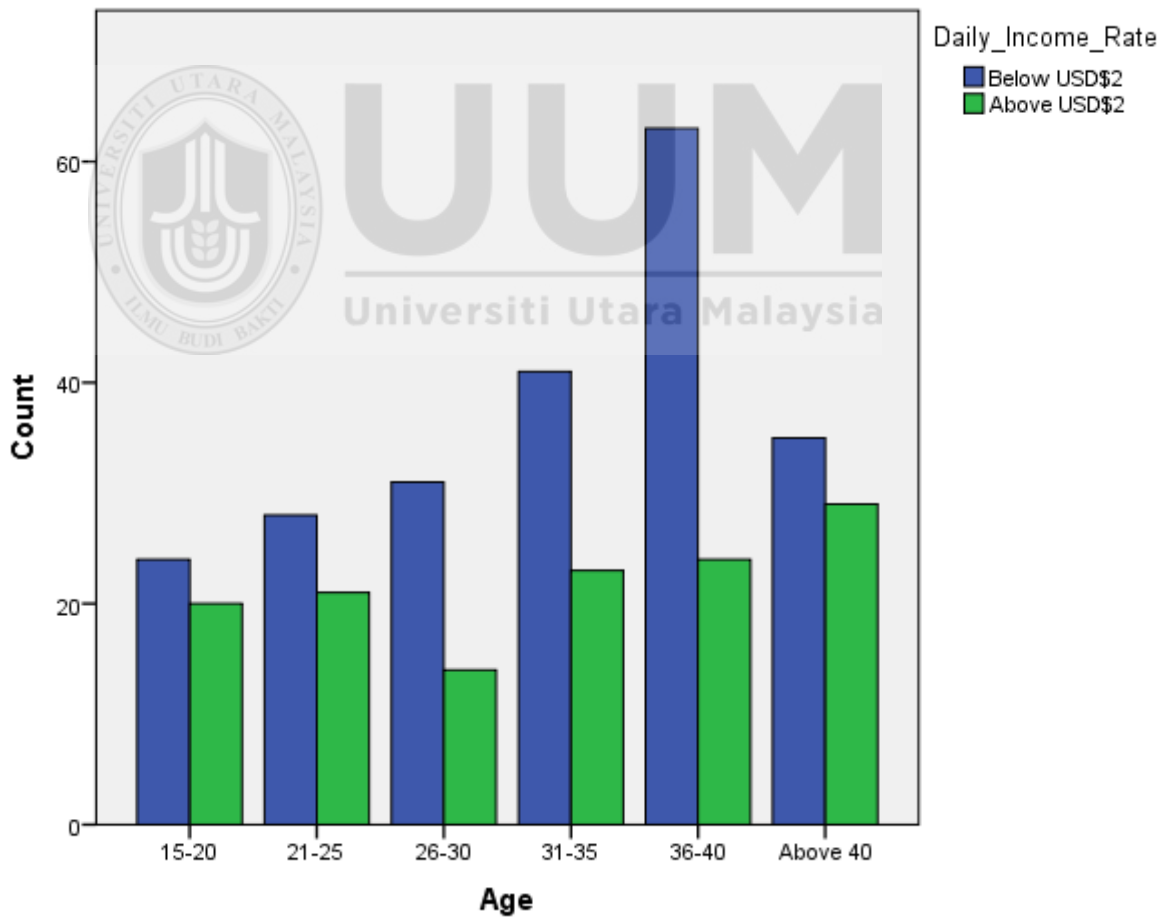
Bar Chart



Age * Daily_Income_Rate Crosstabulation

Count		Daily_Income_Rate		Total
		Below USD\$2	Above USD\$2	
Age	15-20	24	20	44
	21-25	28	21	49
	26-30	31	14	45
	31-35	41	23	64
	36-40	63	24	87
	Above 40	35	29	64
	Total		222	131

Bar Chart

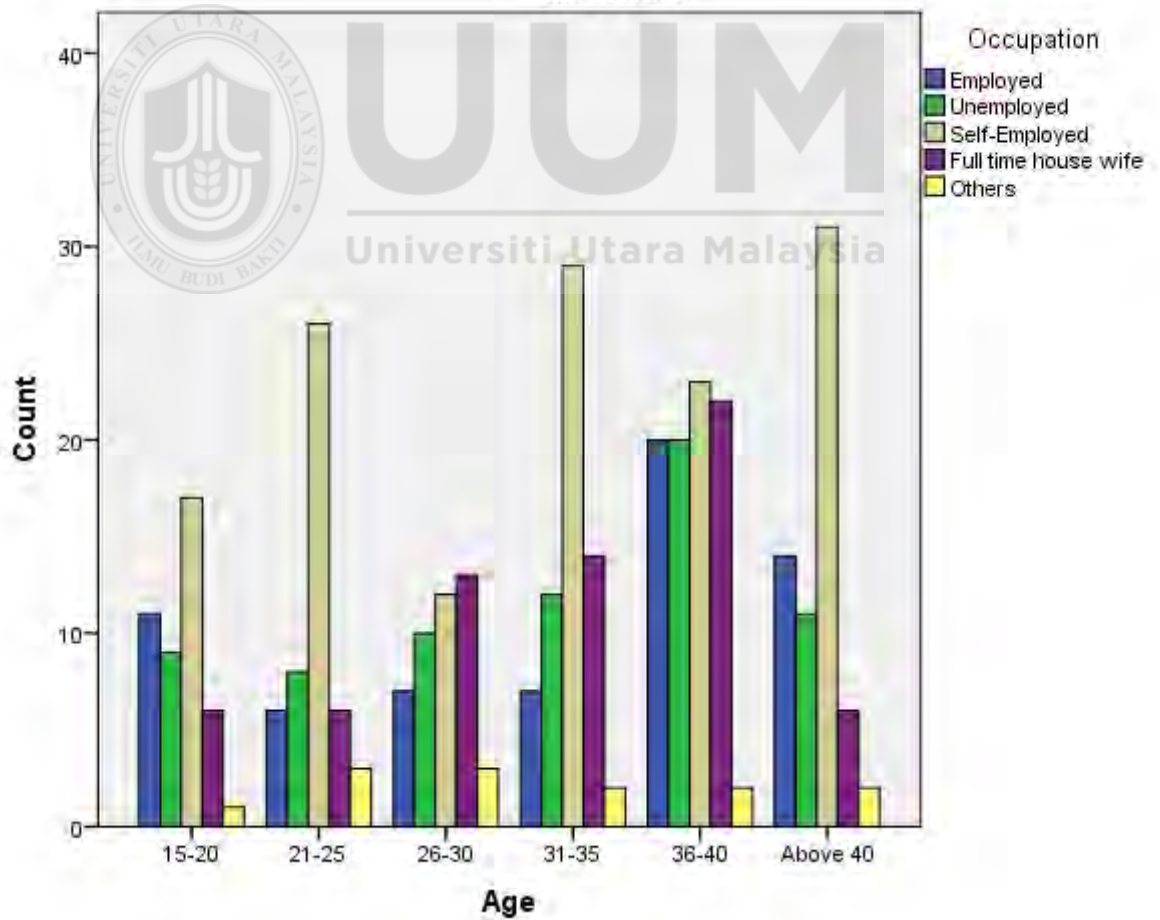


Age * Occupation Crosstabulation

Count

		Occupation					Total
		Employed	Unemployed	Self-Employed	Full time house wife	Others	
Age	15-20	11	9	17	6	1	44
	21-25	6	8	26	6	3	49
	26-30	7	10	12	13	3	45
	31-35	7	12	29	14	2	64
	36-40	20	20	23	22	2	87
	Above 40	14	11	31	6	2	64
Total		65	70	138	67	13	353

Bar Chart

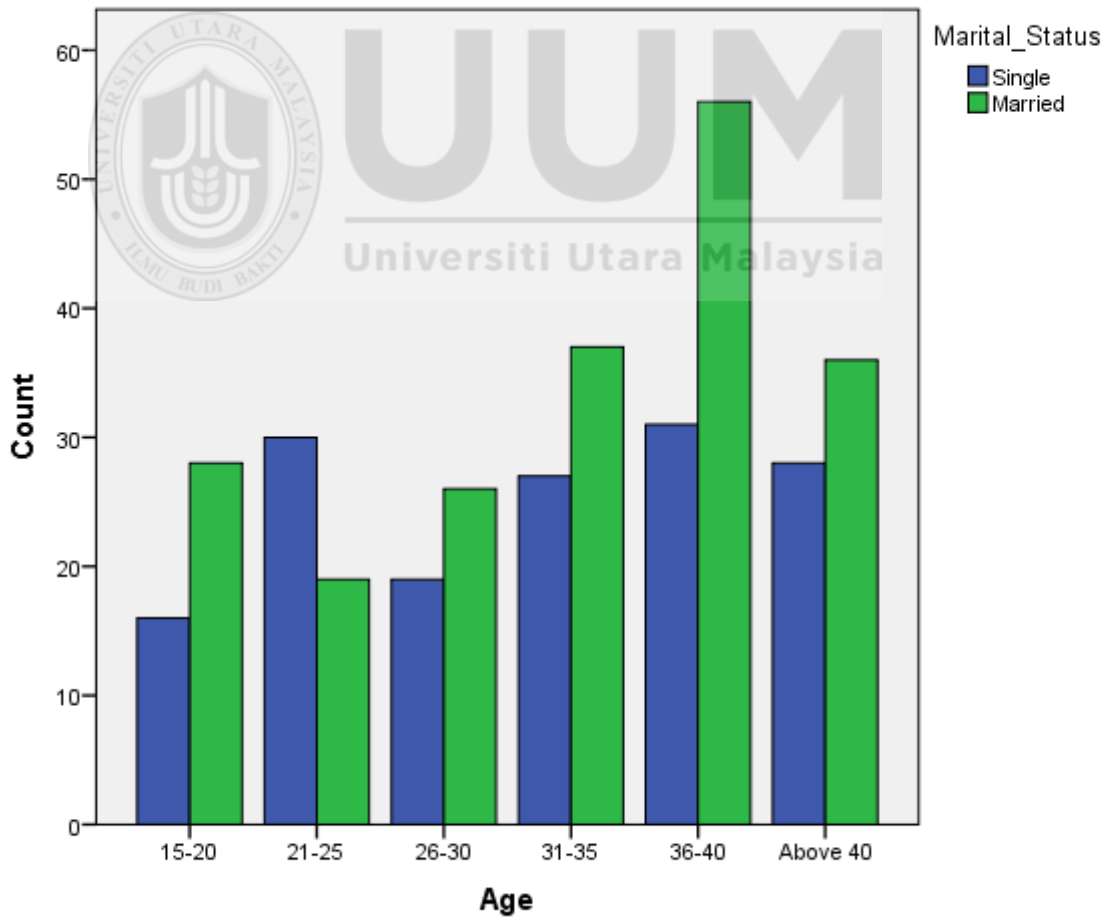


Age * Marital_Status Crosstabulation

Count

		Marital_Status		Total
		Single	Married	
Age	15-20	16	28	44
	21-25	30	19	49
	26-30	19	26	45
	31-35	27	37	64
	36-40	31	56	87
	Above 40	28	36	64
Total		151	202	353

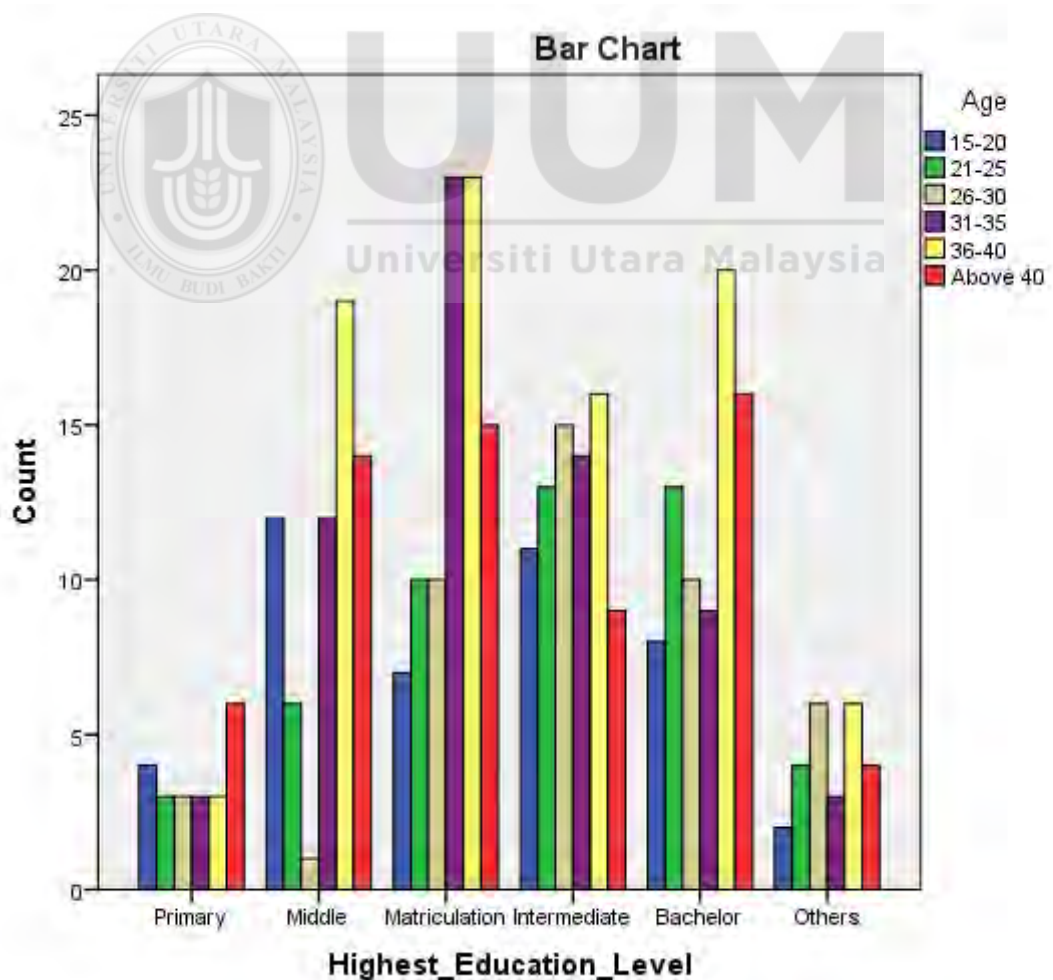
Bar Chart



Highest_Education_Level * Age Crosstabulation

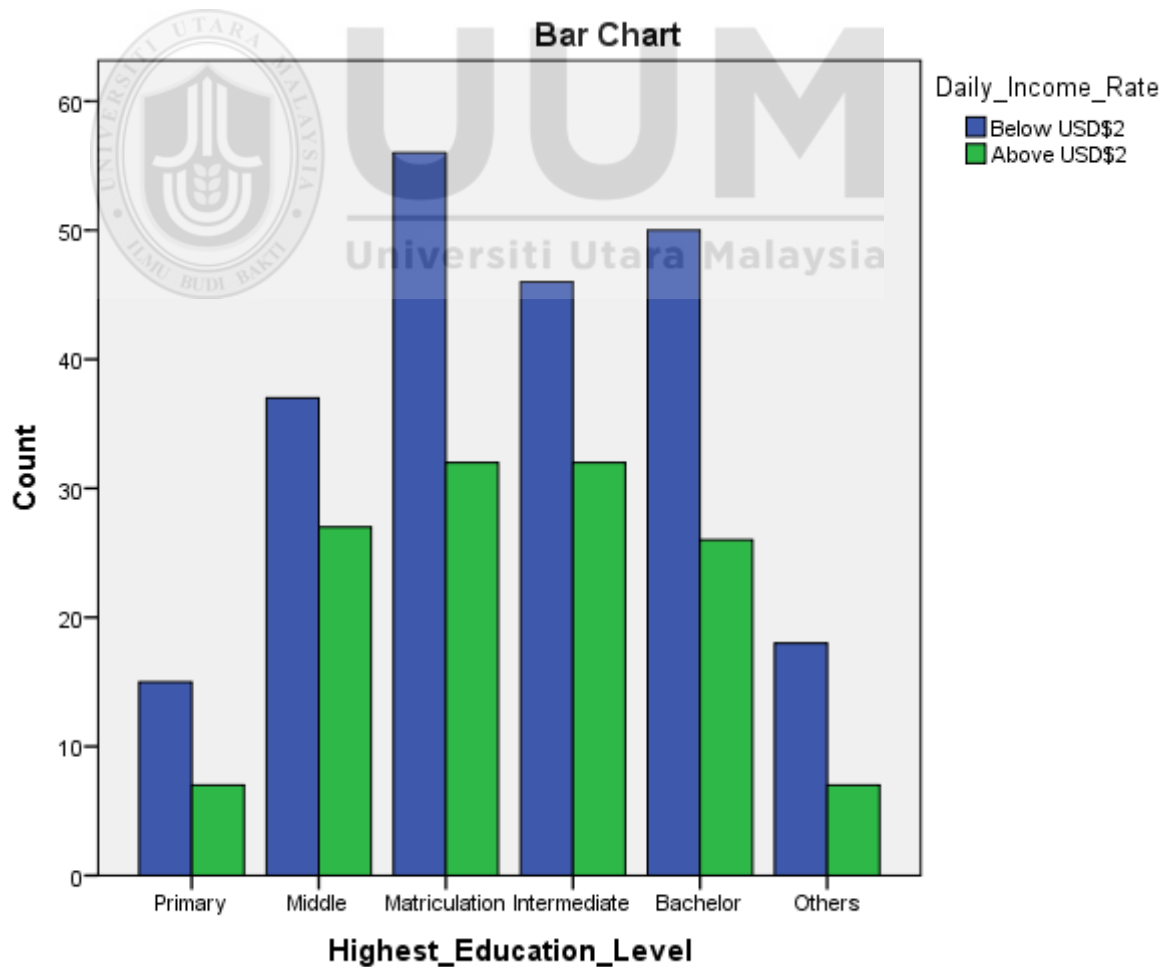
Count

		Age						Total
		15-20	21-25	26-30	31-35	36-40	Above 40	
Highest_Education_Level	Primary	4	3	3	3	3	6	22
	Middle	12	6	1	12	19	14	64
	Matriculation	7	10	10	23	23	15	88
	Intermediate	11	13	15	14	16	9	78
	Bachelor	8	13	10	9	20	16	76
	Others	2	4	6	3	6	4	25
Total		44	49	45	64	87	64	353



Highest_Education_Level * Daily_Income_Rate Crosstabulation

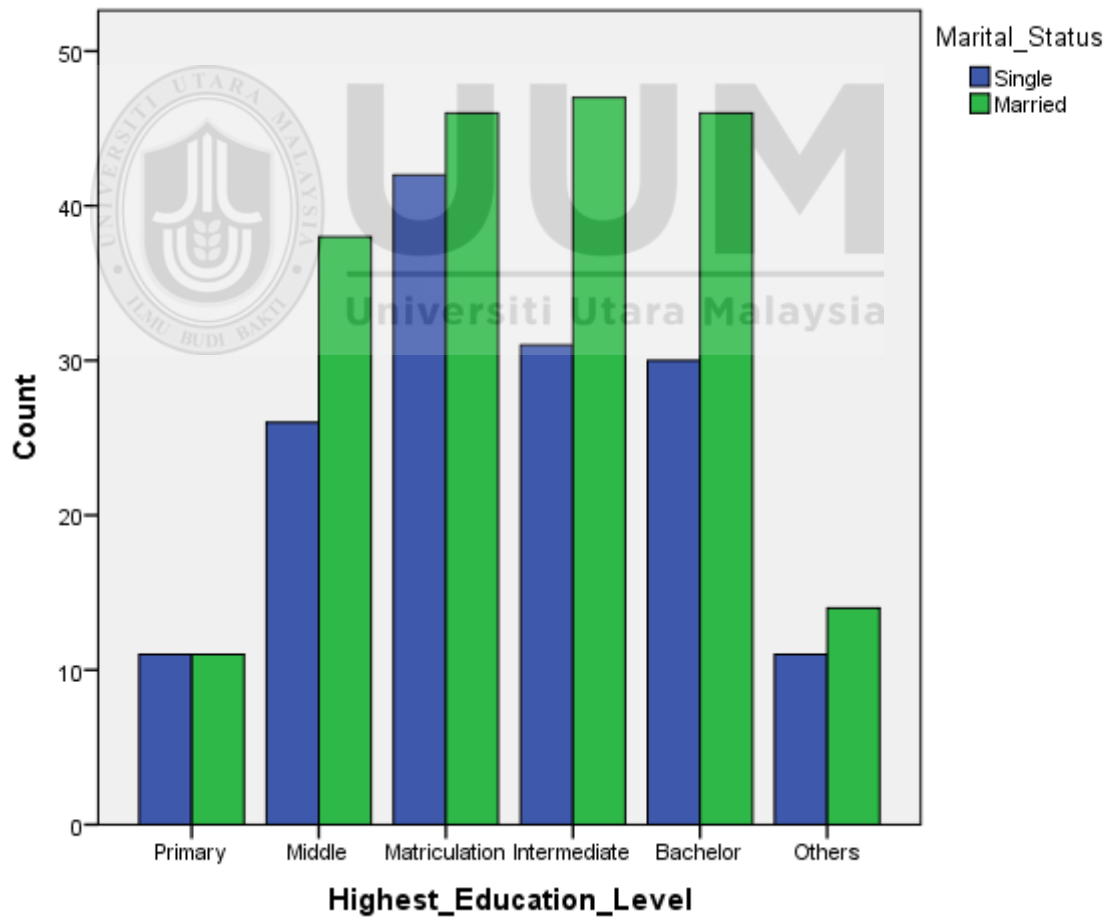
Count		Daily_Income_Rate		Total
		Below USD\$2	Above USD\$2	
Highest_Education_Level	Primary	15	7	22
	Middle	37	27	64
	Matriculation	56	32	88
	Intermediate	46	32	78
	Bachelor	50	26	76
	Others	18	7	25
Total		222	131	353



Highest_Education_Level * Marital_Status Crosstabulation

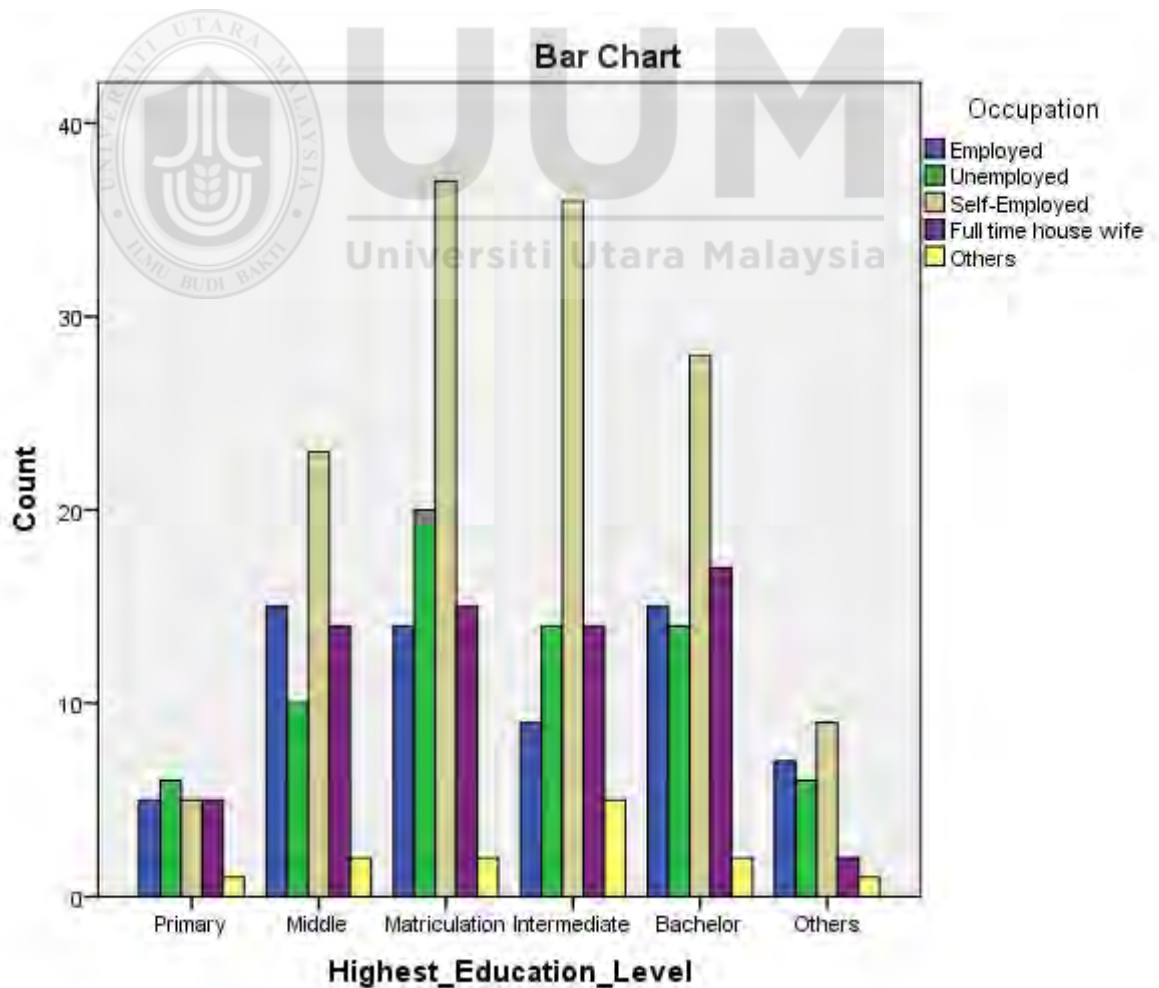
Count		Marital_Status		Total
		Single	Married	
Highest_Education_Level	Primary	11	11	22
	Middle	26	38	64
	Matriculation	42	46	88
	Intermediate	31	47	78
	Bachelor	30	46	76
	Others	11	14	25
Total		151	202	353

Bar Chart



Highest_Education_Level * Occupation Crosstabulation

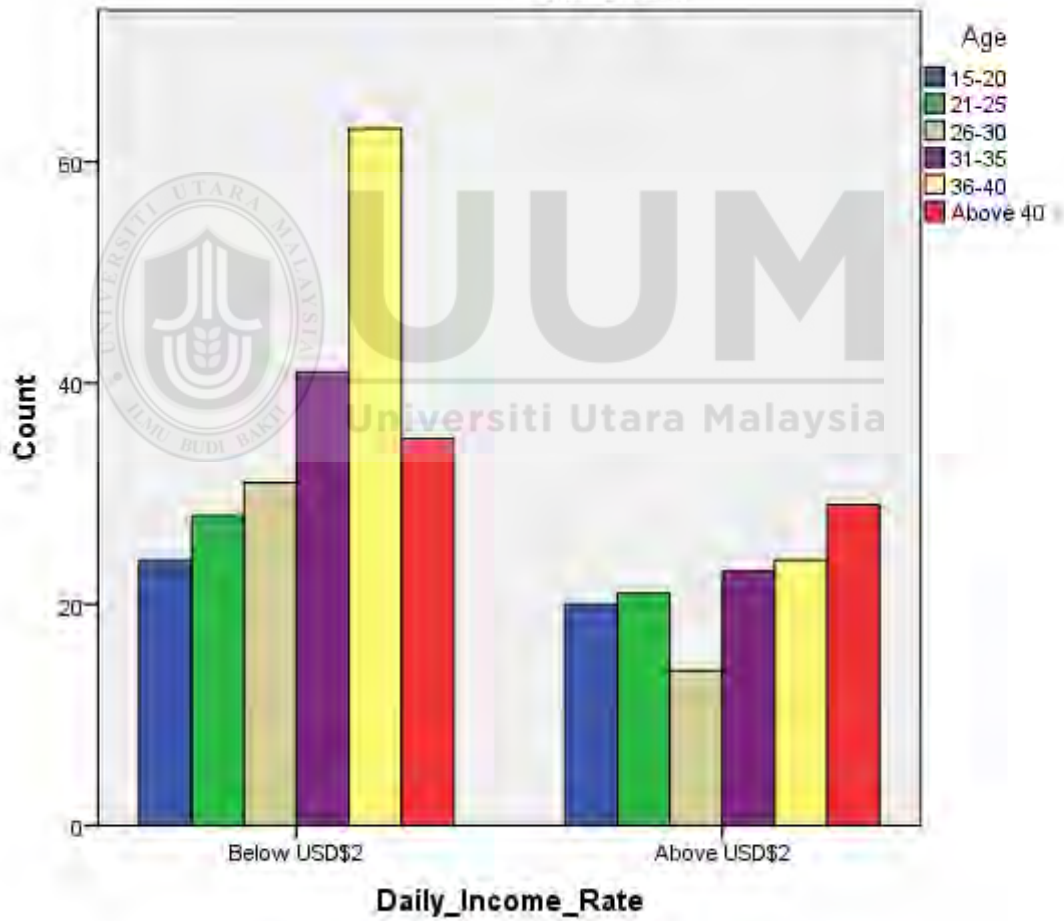
Count		Occupation					Total
		Employed	Unemployed	Self-Employed	Full time house wife	Others	
Highest_Education_Level	Primary	5	6	5	5	1	22
	Middle	15	10	23	14	2	64
	Matriculation	14	20	37	15	2	88
	Intermediate	9	14	36	14	5	78
	Bachelor	15	14	28	17	2	76
	Others	7	6	9	2	1	25
	Total		65	70	138	67	13



Daily_Income_Rate * Age Crosstabulation

Count		Age						Total
		15-20	21-25	26-30	31-35	36-40	Above 40	
Daily_Income_Rate	Below USD\$2	24	28	31	41	63	35	222
	Above USD\$2	20	21	14	23	24	29	131
Total		44	49	45	64	87	64	353

Bar Chart

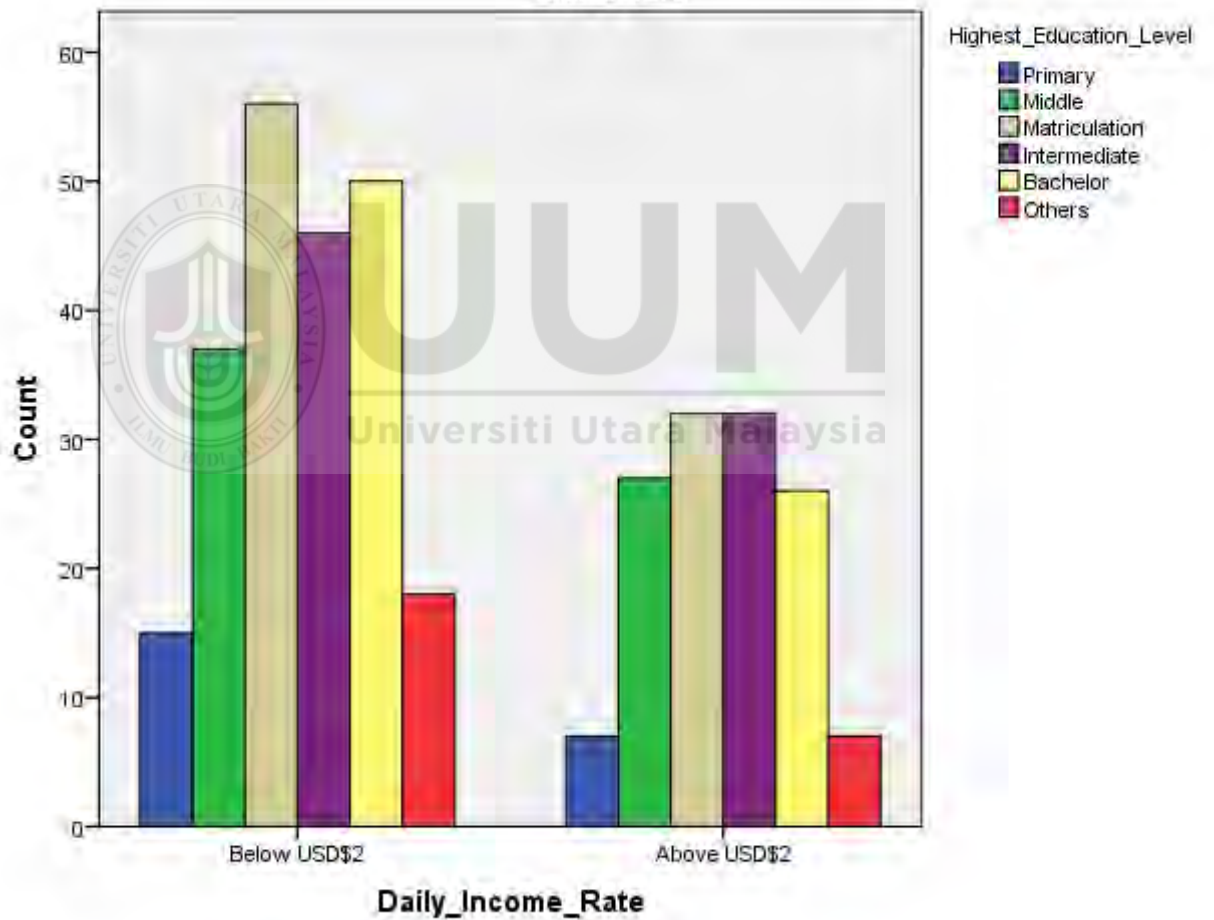


Daily_Income_Rate * Highest_Education_Level Crosstabulation

Count

	Highest_Education_Level						Total
	Primary	Middle	Matriculation	Intermediate	Bachelor	Others	
Daily_Income_Rate Below USD\$2	15	37	56	46	50	18	222
Above USD\$2	7	27	32	32	26	7	131
Total	22	64	88	78	76	25	353

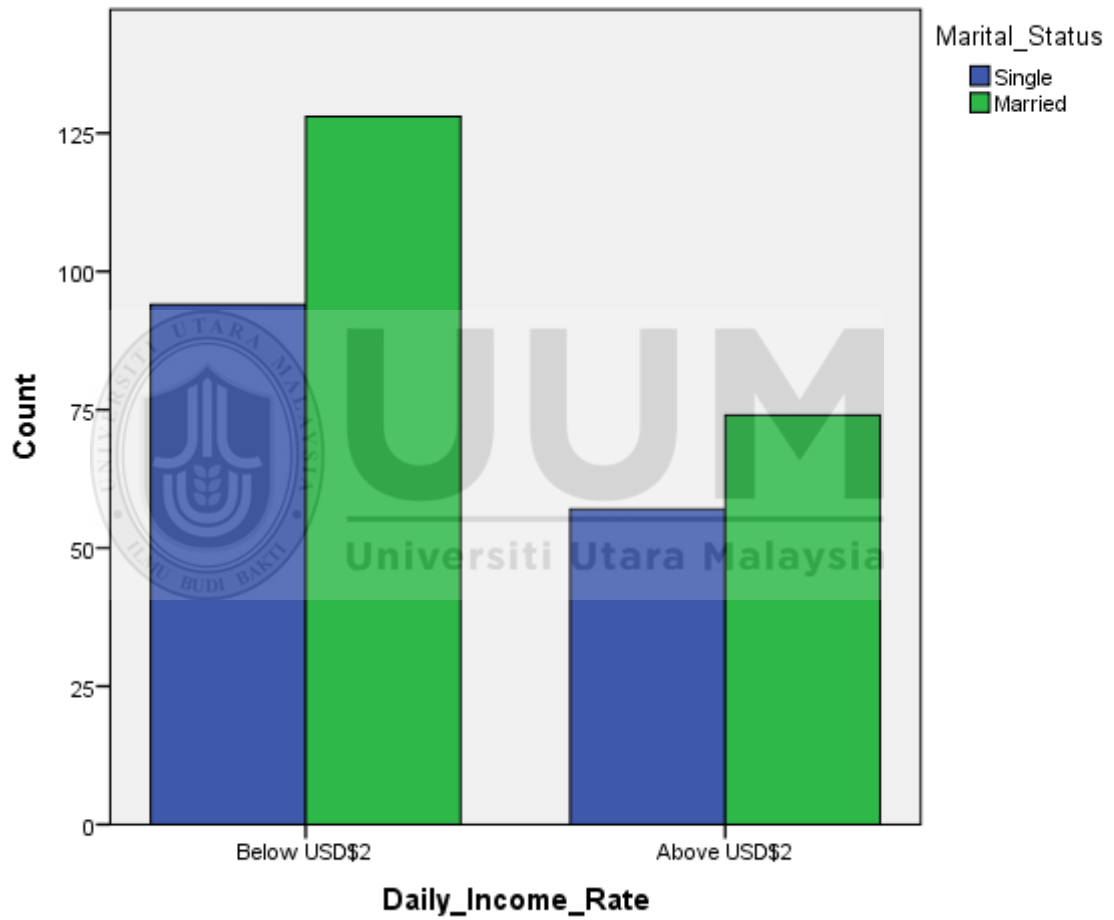
Bar Chart



Daily_Income_Rate * Marital_Status Crosstabulation

Count		Marital_Status		Total
		Single	Married	
Daily_Income_Rate	Below USD\$2	94	128	222
	Above USD\$2	57	74	131
Total		151	202	353

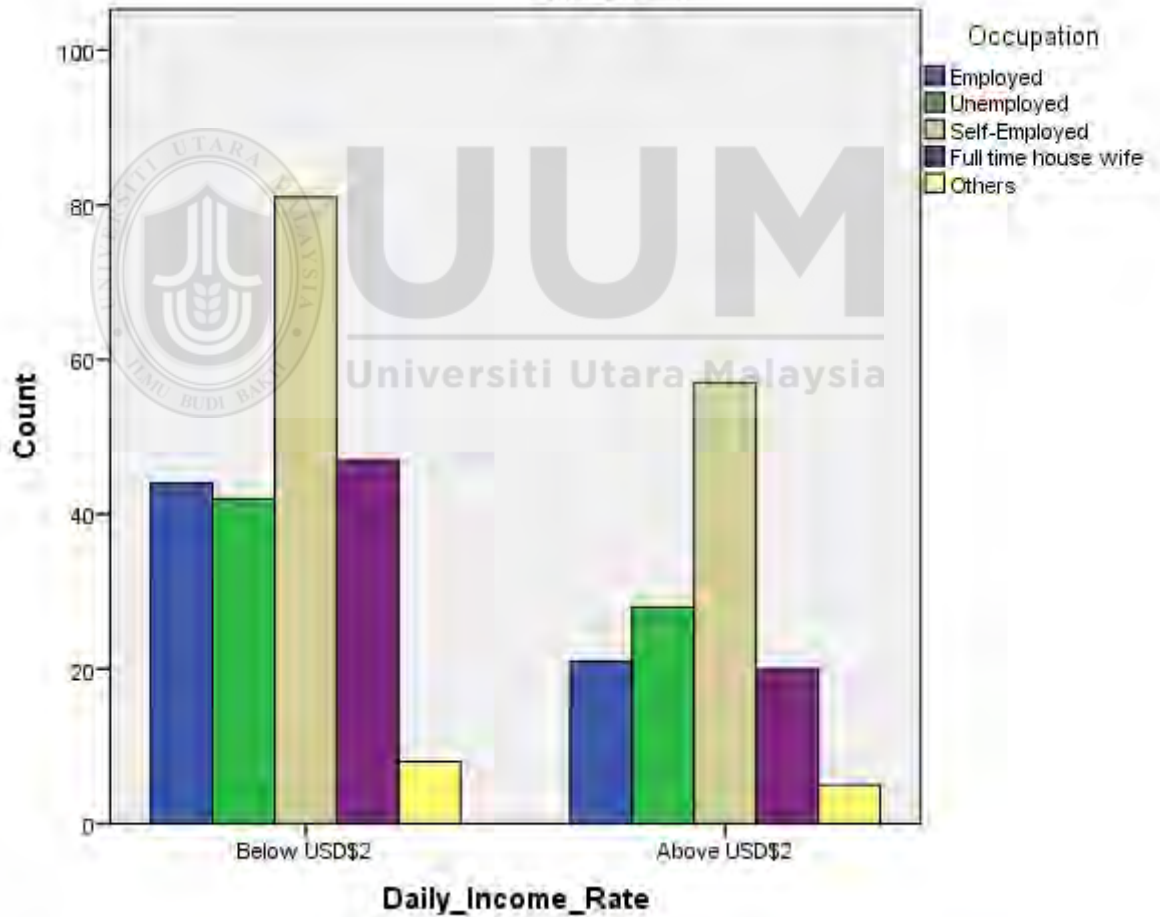
Bar Chart



Daily_Income_Rate * Occupation Crosstabulation

Count	Occupation					Total
	Employed	Unemployed	Self-Employed	Full time house wife	Others	
Daily_Income_Rate Below USD\$2	44	42	81	47	8	222
Daily_Income_Rate Above USD\$2	21	28	57	20	5	131
Total	65	70	138	67	13	353

Bar Chart

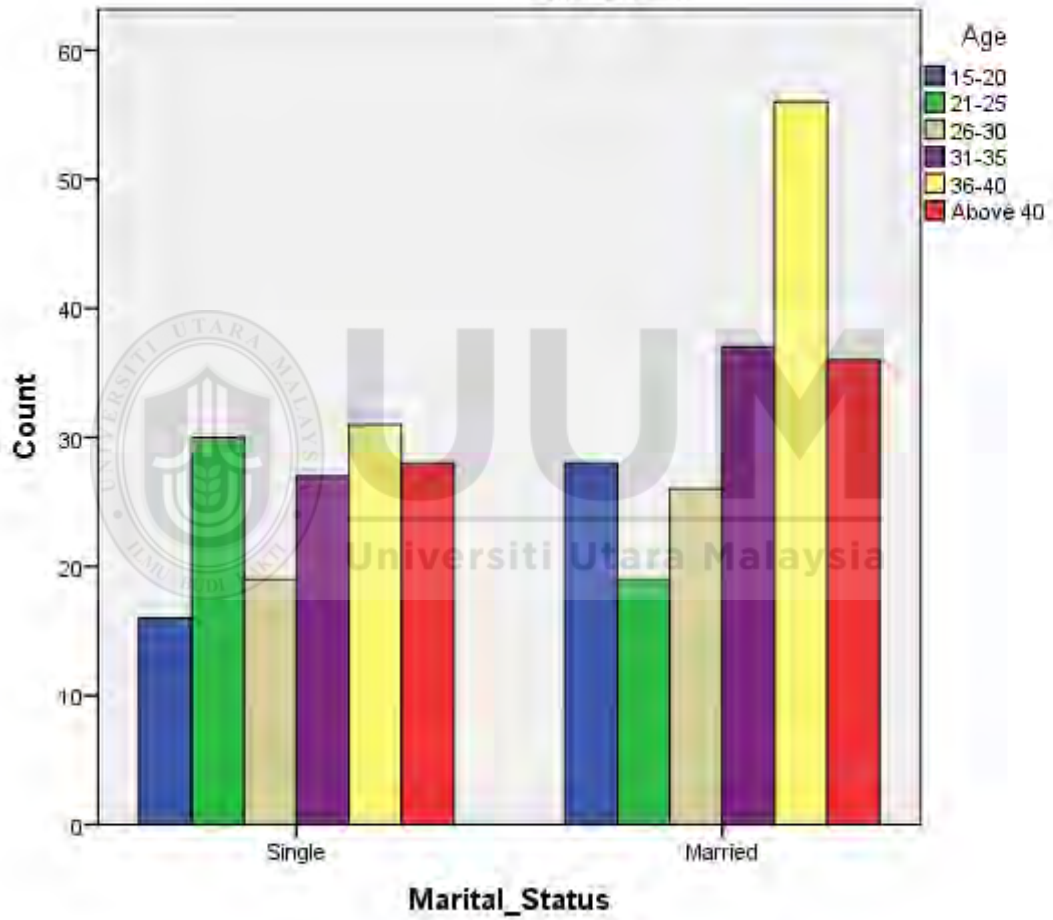


Marital_Status * Age Crosstabulation

Count

		Age						Total
		15-20	21-25	26-30	31-35	36-40	Above 40	
Marital_Status	Single	16	30	19	27	31	28	151
	Married	28	19	26	37	56	36	202
Total		44	49	45	64	87	64	353

Bar Chart

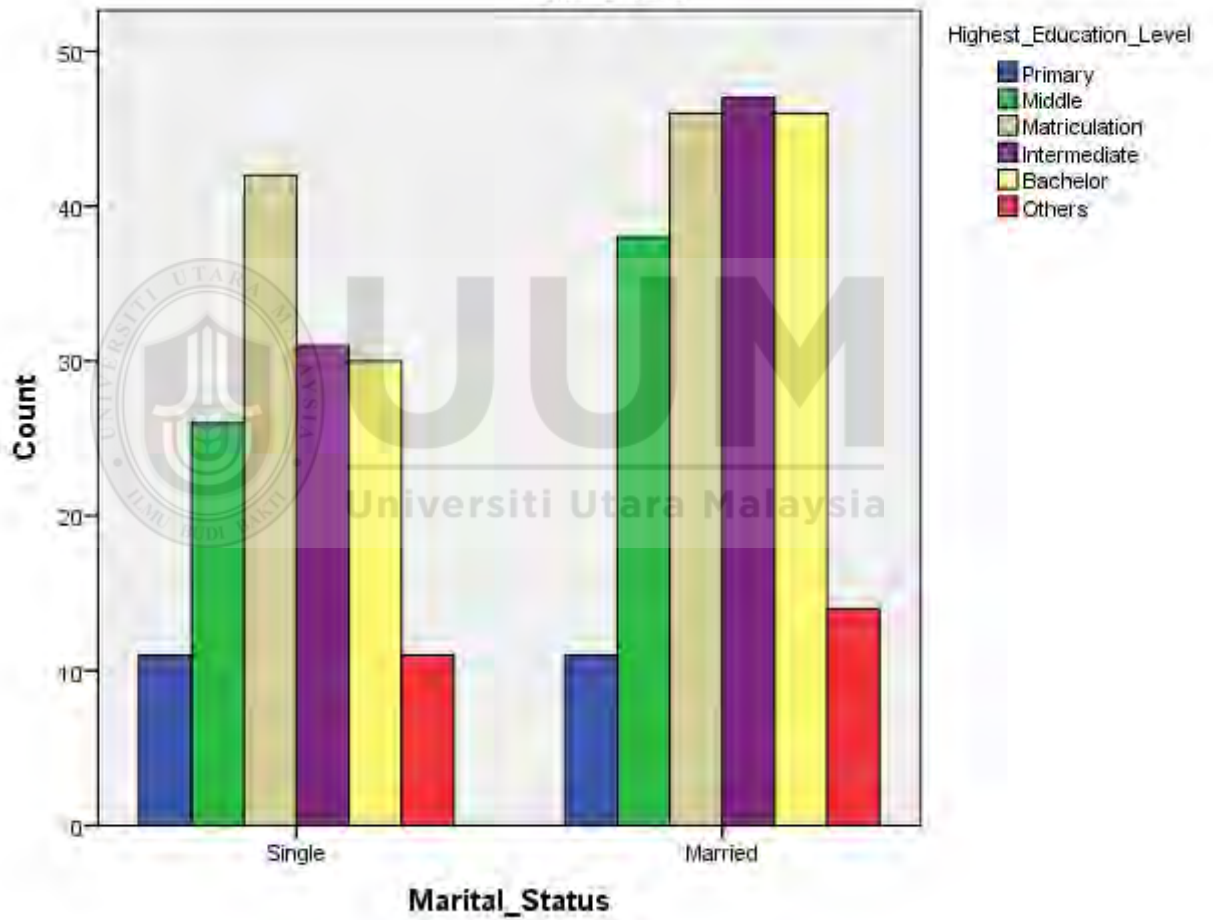


Marital_Status * Highest_Education_Level Crosstabulation

Count

		Highest_Education_Level						Total
		Primary	Middle	Matriculation	Intermediate	Bachelor	Others	
Marital_Status	Single	11	26	42	31	30	11	151
	Married	11	38	46	47	46	14	202
Total		22	64	88	78	76	25	353

Bar Chart

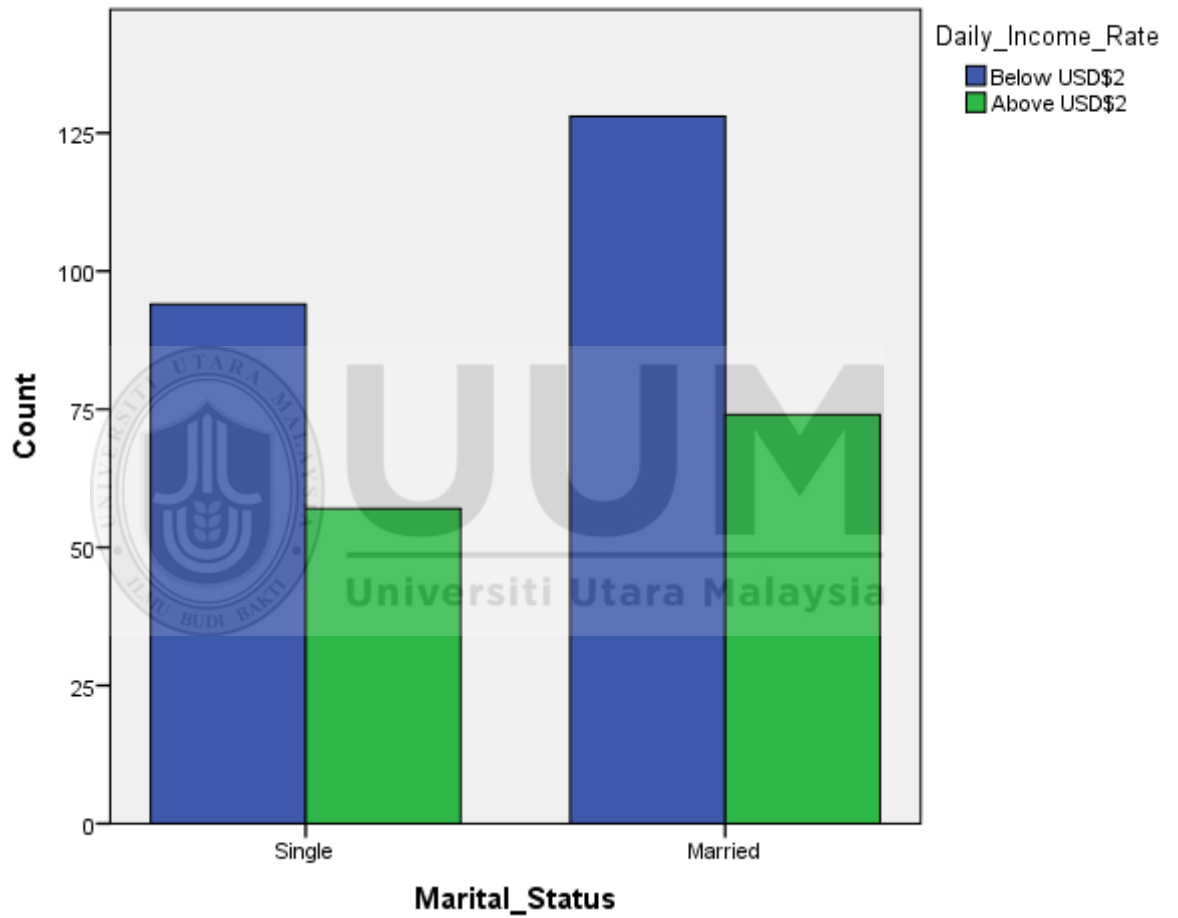


Marital_Status * Daily_Income_Rate Crosstabulation

Count

		Daily_Income_Rate		Total
		Below USD\$2	Above USD\$2	
Marital_Status	Single	94	57	151
	Married	128	74	202
Total		222	131	353

Bar Chart

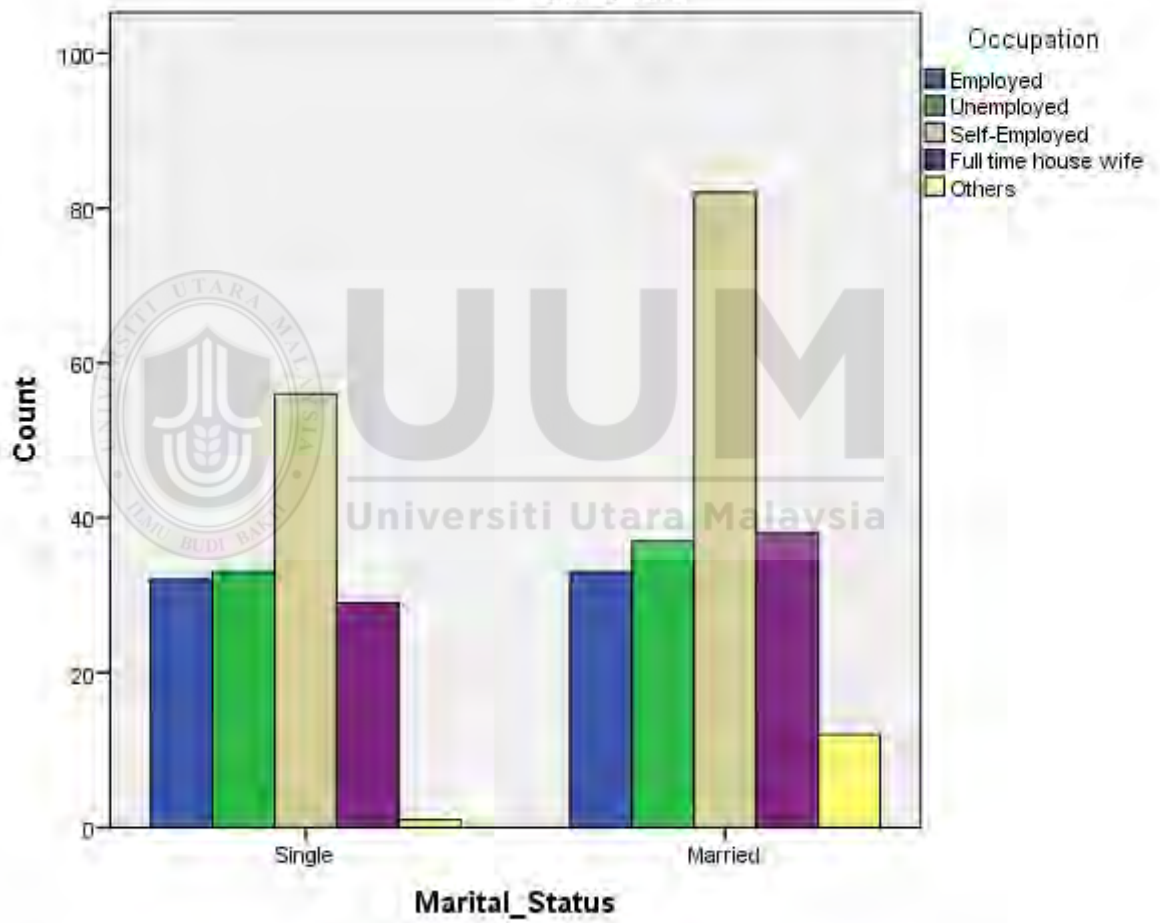


Marital_Status * Occupation Crosstabulation

Count

		Occupation					Total
		Employed	Unemployed	Self-Employed	Full time house wife	Others	
Marital_Status	Single	32	33	56	29	1	151
	Married	33	37	82	38	12	202
Total		65	70	138	67	13	353

Bar Chart

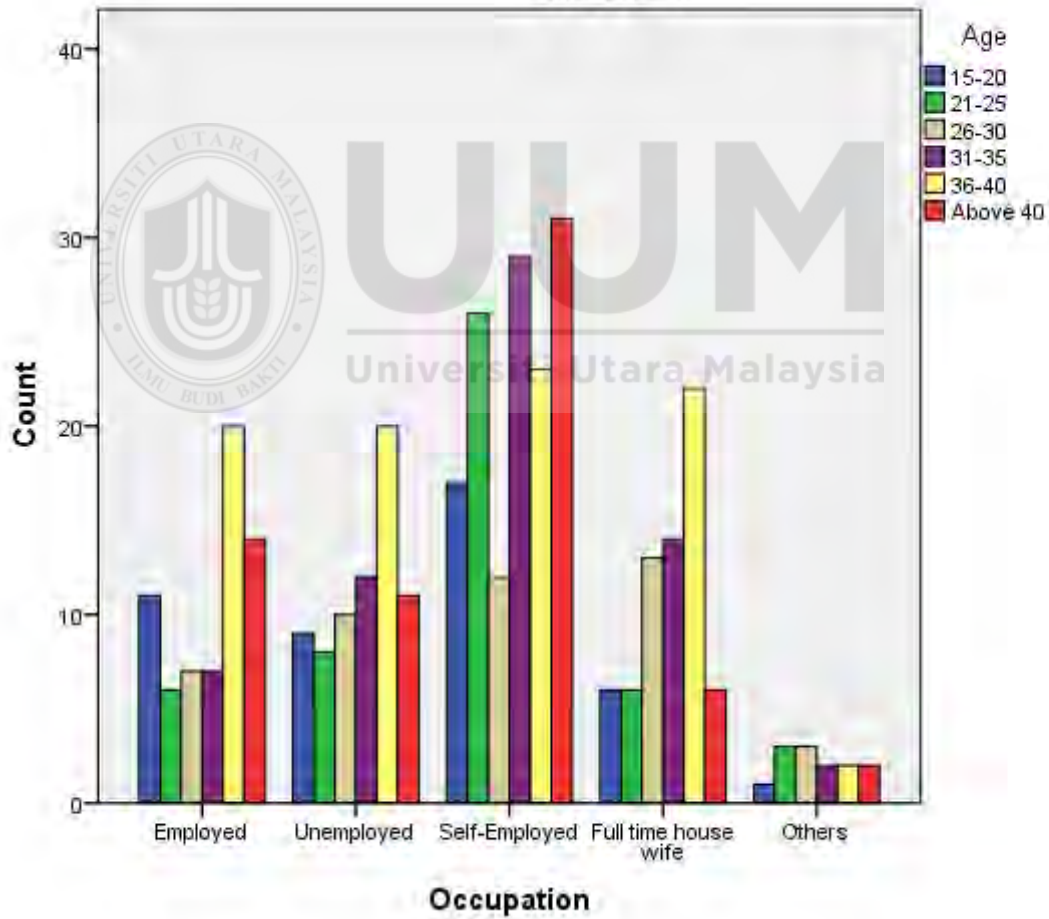


Occupation * Age Crosstabulation

Count

		Age						Total
		15-20	21-25	26-30	31-35	36-40	Above 40	
Occupation	Employed	11	6	7	7	20	14	65
	Unemployed	9	8	10	12	20	11	70
	Self-Employed	17	26	12	29	23	31	138
	Full time house wife	6	6	13	14	22	6	67
	Others	1	3	3	2	2	2	13
Total		44	49	45	64	87	64	353

Bar Chart

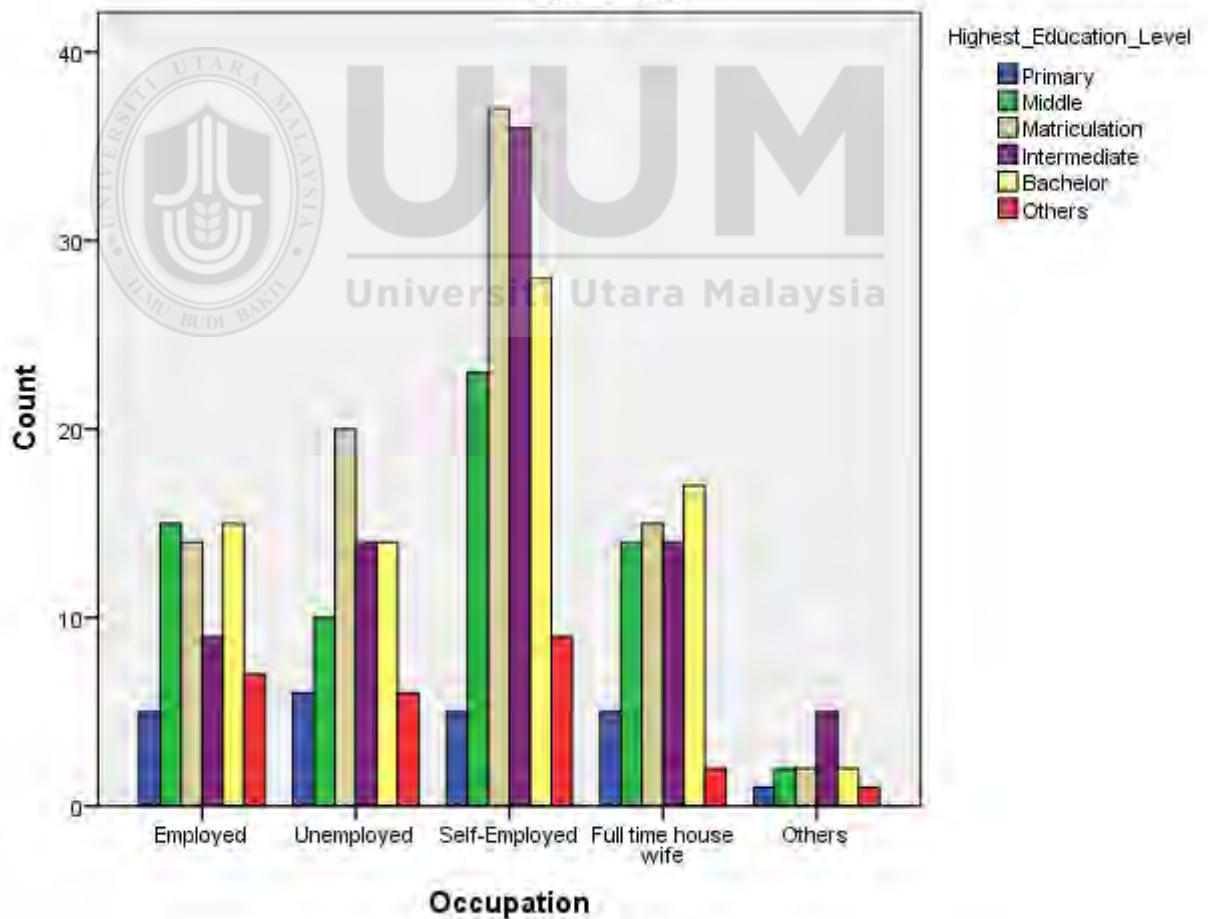


Occupation * Highest_Education_Level Crosstabulation

Count

		Highest Education Level					Total	
		Primary	Middle	Matriculation	Intermediate	Bachelor		Others
Occupation	Employed	5	15	14	9	15	7	65
	Unemployed	6	10	20	14	14	6	70
	Self-Employed	5	23	37	36	28	9	138
	Full time house wife	5	14	15	14	17	2	67
	Others	1	2	2	5	2	1	13
Total		22	64	88	78	76	25	353

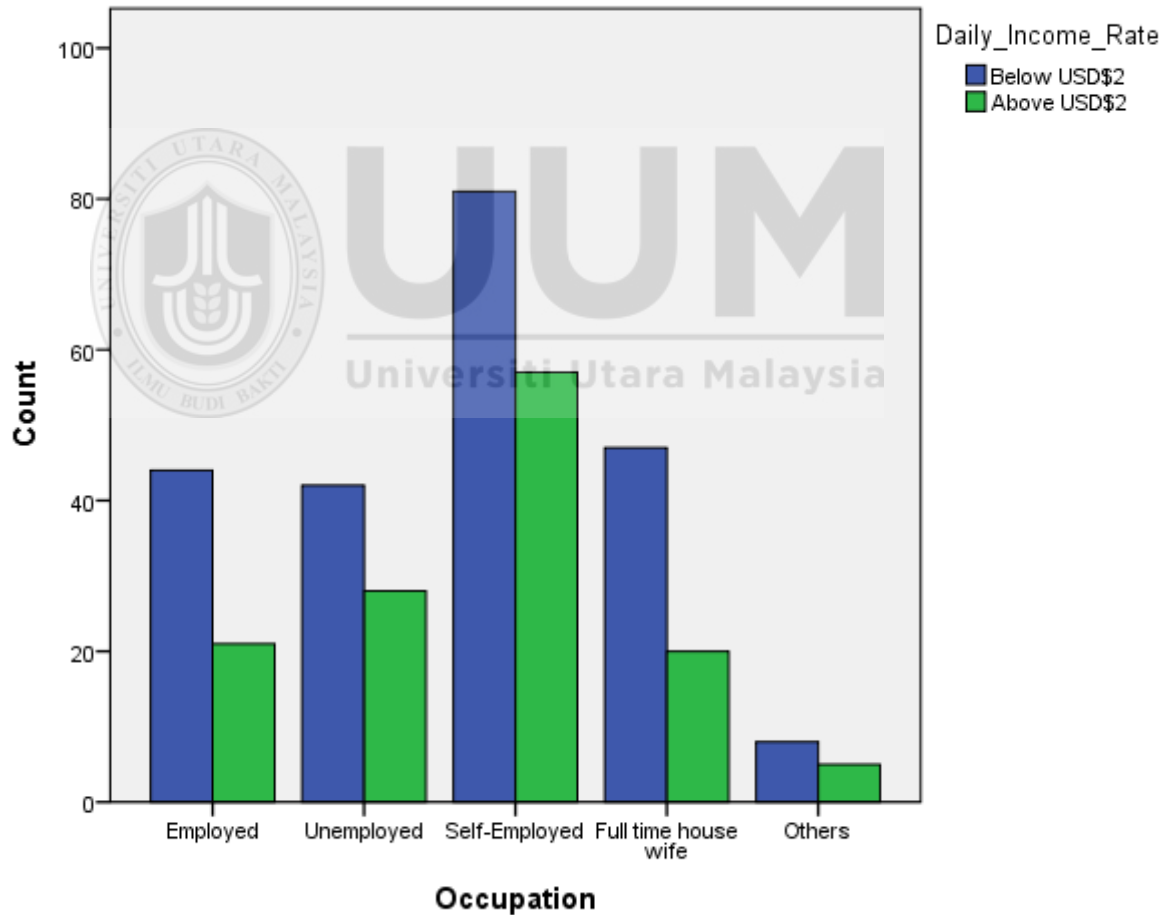
Bar Chart



Occupation * Daily_Income_Rate Crosstabulation

Count		Daily_Income_Rate		Total
		Below USD\$2	Above USD\$2	
Occupation	Employed	44	21	65
	Unemployed	42	28	70
	Self-Employed	81	57	138
	Full time house wife	47	20	67
	Others	8	5	13
Total		222	131	353

Bar Chart

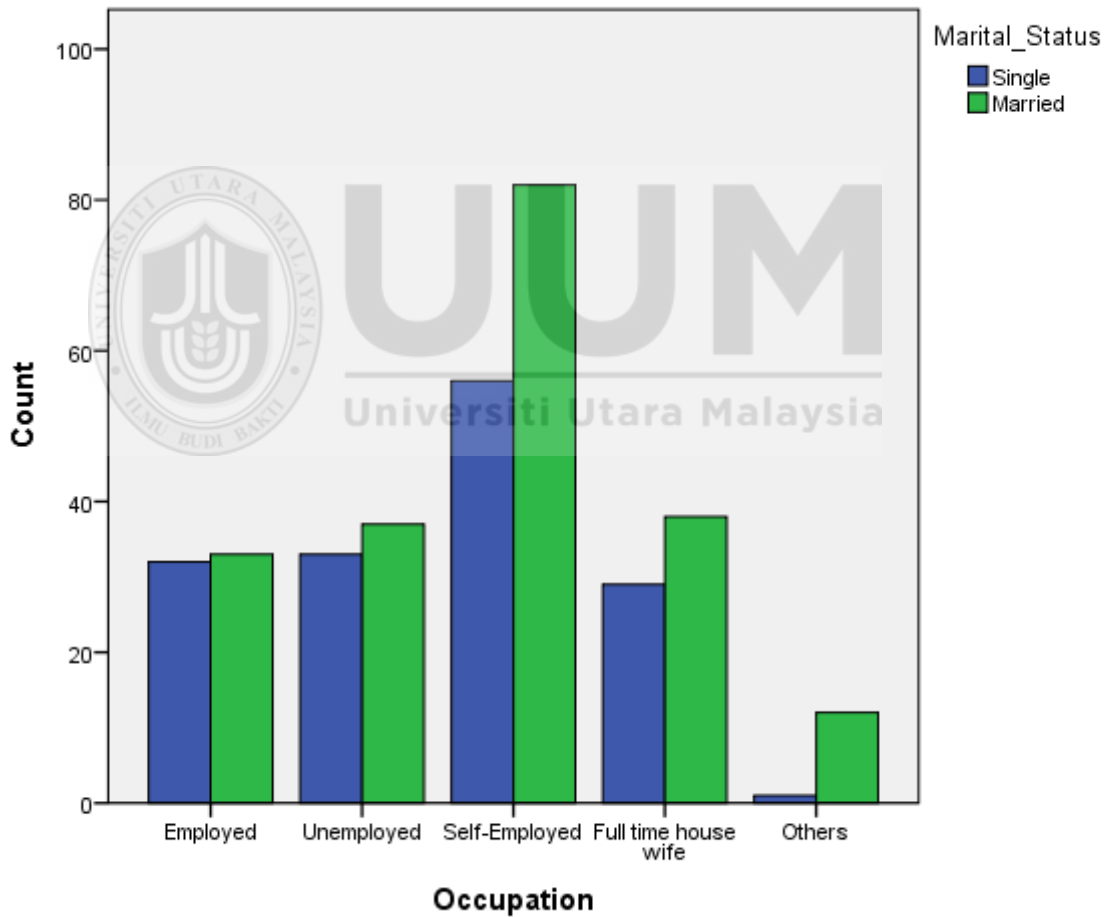


Occupation * Marital_Status Crosstabulation

Count

		Marital_Status		Total
		Single	Married	
Occupation	Employed	32	33	65
	Unemployed	33	37	70
	Self-Employed	56	82	138
	Full time house wife	29	38	67
	Others	1	12	13
Total		151	202	353

Bar Chart



Age * MC Crosstabulation

Count		MC																		Total	
		1.2	1.60	1.80	2.00	2.20	2.40	2.60	2.80	3.00	3.20	3.40	3.60	3.80	4.00	4.20	4.40	4.60	4.80		5.00
Age	15-20	0	0	0	1	1	0	4	2	3	6	4	7	1	7	3	1	2	1	1	44
	21-25	0	0	0	1	1	2	3	3	6	5	5	3	5	4	2	1	5	2	1	49
	26-30	0	0	1	1	3	0	1	4	4	7	4	4	1	5	1	4	3	2	0	45
	31-35	0	0	0	0	1	1	4	3	5	3	11	7	11	4	5	2	5	2	0	64
	36-40	1	0	1	0	0	3	5	6	7	9	5	9	7	7	5	7	6	8	1	87
Above 40	1	1	0	0	2	1	3	3	3	7	3	11	5	8	6	3	3	4	0	64	
Total		2	1	2	3	8	7	20	21	28	37	32	41	30	35	22	18	24	19	3	353

Age * Micro-Saving Crosstabulation

Count		Micro-Saving																Total	
		1.00	1.20	2.20	2.40	2.60	2.80	3.00	3.20	3.40	3.60	3.80	4.00	4.20	4.40	4.60	4.80		5.00
Age	15-20	0	0	0	1	1	2	1	0	1	3	3	8	2	8	6	1	7	44
	21-25	0	0	2	0	0	4	1	2	5	4	6	3	1	4	2	1	14	49
	26-30	0	0	1	0	2	5	1	4	5	4	3	8	2	1	2	2	5	45
	31-35	0	0	1	1	2	9	2	5	3	6	5	5	1	6	2	1	15	64
	36-40	1	1	1	0	3	3	3	4	4	7	11	10	3	6	6	2	22	87
Above 40	1	1	2	2	1	5	6	4	4	6	4	4	1	6	4	1	12	64	
Total		2	2	7	4	9	28	14	19	22	30	32	38	10	31	22	8	75	353

Age * Micro-Insurance Crosstabulation

Count

	Micro-Insurance																			Total
	1.0	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.2	4.4	4.6	4.8	5.0	
A 15-20	0	1	0	0	2	1	0	4	7	6	2	2	1	4	4	1	2	3	4	44
ge 21-25	0	1	1	1	1	3	0	2	4	1	1	1	6	4	2	8	4	4	5	49
26-30	0	2	0	0	0	2	1	1	8	4	3	5	0	2	3	5	2	2	5	45
31-35	0	0	0	0	3	4	3	1	4	2	6	5	7	9	4	3	1	7	5	64
36-40	2	3	1	1	2	1	3	5	1	9	6	5	3	7	2	9	6	11	10	87
Above 40	3	1	0	0	1	4	3	2	2	3	4	1	6	7	4	4	7	7	5	64
Total	5	8	2	2	9	15	10	15	26	25	22	19	23	33	19	30	22	34	34	353

Age * Micro-Training/Skill Development Crosstabulation

Count

	Micro-Training/Skill Development																	Total
	1.0	2.20	2.40	2.60	2.80	3.00	3.20	3.40	3.60	3.80	4.00	4.20	4.40	4.60	4.80	5.00		
A 15-20	0	1	1	0	0	4	5	1	4	5	6	2	2	1	5	7	44	
ge 21-25	0	0	0	1	2	3	3	3	5	2	9	5	0	2	0	14	49	
26-30	0	0	1	2	0	2	2	6	4	4	9	6	2	1	1	5	45	
31-35	0	1	2	0	2	3	4	7	5	5	4	7	2	3	2	17	64	
36-40	1	0	3	3	3	1	3	6	11	8	8	6	6	2	5	21	87	
Above 40	1	2	2	0	1	2	8	6	9	0	9	4	5	1	4	10	64	
Total	2	4	9	6	8	15	25	29	38	24	45	30	17	10	17	74	353	

APPENDIX 5

Key Findings of Prior Studies

Key Findings of Prior Studies based on previous literature

Previous Studies	Variables	Results
(Olajide <i>et al.</i> , 2016), (Sujatha Gangadhar & Malyadri, 2015), (Stromquist, 2015), (Malhotra & Schuler, 2005), (Malhotra <i>et al.</i> , 2002), (Mayoux, 2005)	Women-Empowerment	➤ Microfinance significant relationship with women-empowerment
(Kapila <i>et al.</i> , 2016), (Mahmood, 2011), (Kodamarty & Srinivasan, 2016), (Nasir & Farooqi, 2016), (Al-Shami <i>et al.</i> , 2016), (Atmadja <i>et al.</i> , 2016), (Garikipati, 2013), (Zoynul & Fahmida, 2013), (Cull, Asli Demirgüç-Kunt, & Morduch, 2009).	Micro-Credit	➤ Positive Impact on Women-empowerment ➤ Negative impact on women micro-enterprise
(Knowles, 2013), (Dupas & Robinson, 2013), (Gamberoni <i>et al.</i> , 2013), (Bernard <i>et al.</i> , 2016).	Micro-Saving	➤ Positive Impact on Women-empowerment ➤ Negative impact on women micro-enterprise
(Duvendack, 2011), (Mayoux, 2005), (Amudha <i>et al.</i> , 2014), (Kishor <i>et al.</i> , 2013), (Bernard <i>et al.</i> , 2016).	Micro-Insurance	➤ Positive Impact on Women-empowerment ➤ Negative impact on women micro-enterprise
(Bernard <i>et al.</i> , 2016), (Glaub & Frese, 2011), (Bischoff <i>et al.</i> , 2013), (Solomon <i>et al.</i> , 2013), (De Mel <i>et al.</i> , 2012), (R. B. Swain & Varghese, 2013),	Micro-Training	➤ Positive Impact on Women-empowerment

(Glaub & Frese, 2011).

(Mayoux, 2001), (Nega <i>et al.</i> , 2009), (Janssens, 2010), (Maclean, 2010).	Social Capital	➤ Positive Impact on Women-empowerment and women- micro-enterprise
(Banerjee & Jackson, 2017), (Ul-Hameed <i>et al.</i> , 2018), (Garikipati, 2008), (Kalpana, 2008), (Wright, Kasente, Semogerere, & Mutesasira, 1999).	Vulnerability	➤ Negative and positive impact on women-empowerment ➤ Microfinance reduces the vulnerability.



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APPENDIX 6

Summary of Measurements

Summary of Measurements

Variable	Definitions/Measures	Used in Studies
Women-Empowerment	Equipping women to be economically independent, self-reliant, as well as having positive esteem which enables women to face any challenging situation and also to contribute to development activities	(Kapila <i>et al.</i> , 2016)
	Women's empowerment lies in the ability of a woman to control her destiny.	(Kabeer, 2005)
	Measured by household economic decision making, Economic security, women's control over resources, women's control over family decisions, mobility and legal awareness	(Al-Mamun, Mazumder, & Malarvizhi, 2014)
	Economic, autonomy, social attitudes, education and network, communication and political participation level.	(Bali Swain & Wallentin, 2012)
	Socio-economic measures such as economic position, decision making power, knowledge and self-worthiness	(Aruna & Jyothirmayi, 2011)
	Measured by three economic indicators (personal income, savings behaviour and asset ownership)	(Sultana & Hasan, 2010)
	Psychological, social and economic	(Sarumathi & Mohan, 2011)
	Economic security, household decision making, mobility, family decision making	(Sujatha Gangadhar & Malyadri, 2015)

Micro-Credit	Microcredit is the provision of cash or loan in a smaller amount to micro and small entrepreneurs meant to improve their business operations.	(Asiama & Osei, 2007)
	Credit measured regarding loan size and use of loan	(Kuzilwa, 2005; Peter, 2001)
Micro-Saving	Measured regarding loan size, interest rate, the procedure Savings is the money saved with a micro-finance bank, mostly by the poor, to build up future resources for business and family use.	(Bernard <i>et al.</i> , 2016) (Mkpado & Arene, 2007)
	Savings measured regarding mandatory group savings and individual savings	(Vonderlack & Schreiner, 2002) (Vonderlack & Schreiner, 2002)
	Measured regarding interest rate, product options, procedure and withdrawal	(Bernard <i>et al.</i> , 2016)
Micro-Insurance	“The protection of low-income people against definite threats in exchange for regular premium payments proportionate to the likelihood and cost of the risk involved”.	(Churchill, 2006)
	Measured regarding benefits, policy options, premium and claim	(Bernard <i>et al.</i> , 2016)
Micro-Training	Microfinance factor which provides skills and experience to the women entrepreneurs for business.	(Akanji, 2006; Cheston & Kuhn, 2002; Kuzilwa, 2005)
	Measured regarding skill acquisition and business or management training	(Kickul, Gundry, & Sampson, 2007)
	Measured regarding usefulness for	(Bernard <i>et</i>

	business, family status, social life, attributes/qualities, the frequency of programs held.	<i>al.</i> , 2016)
Social Capital	The connections among individual's social networks and the norms of reciprocity and trustworthiness that arise from them.	(Putnam, 2000)
	Social capital measured regarding network diversity, network size and relationship strength or bonding	(Tata & Prasad, 2008)
	Group membership or networking and bonding	(Olomola, 2002)
	Network size, network activity, network density and network centrality	(Naala, 2016)
Vulnerability	A combination of factors that determine the degree to which someone's life, as well as a livelihood, is put at risk by a distinct and identifiable incident in nature or society.	(Wisner <i>et al.</i> , 2004)
	Measured regarding climate change vulnerability	(Forcella, Moser, & Gonzalez, 2016)
	Measured economic vulnerability	(Al-Mamun & Mazumder, 2015)
	Measured regarding environmental changes.	(Al-Khatib, 2000)
	Measured through the environment, social, economic and political factors.	(Stewart, 2007)

APPENDIX 7

Pilot Study Results

Table 1

Internal Consistency, Convergent Validity and Average Variance Extracted (AVE)

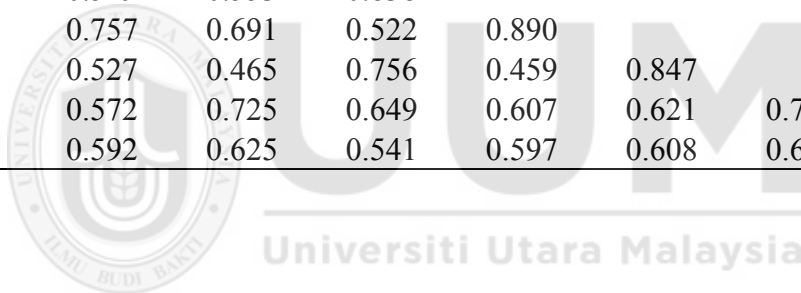
Construct	Indicators	Loadings	Cronbach Alpha	Composite Reliability	AVE
Micro-Credit (MC)	MC1	.732	.830	.886	.661
	MC2	.840			
	MC3	.897			
	MC4	.772			
Micro-Saving (MS)	MS1	.861	.894	.922	.703
	MS2	.874			
	MS3	.840			
	MS4	.838			
	MS5	.776			
Micro-Insurance (MI)	MI1	.896	.914	.939	.759
	MI2	.936			
	MI3	.929			
	MI4	.931			
	MI5	.623			
Training/Skill Development (TSD)	TSD1	.769	.899	.926	.717
	TSD2	.885			
	TSD3	.928			
	TSD4	.881			
	TSD5	.759			
Social Capital (SC)	SC1	.905	.932	.950	.717
	SC2	.930			
	SC3	.941			
	SC4	.943			
	SC5	.712			

Vulnerability (VLNA)	VLNA1	.588	.953	.959	.554	
	VLNA2	.521				
	VLNA5	.590				
	VLNA6	.662				
	VLNA7	.780				
	VLNA8	.859				
	VLNA9	.800				
	VLNA10	.808				
	VLNA11	.874				
	VLNA12	.859				
	VLNA13	.889				
	VLNA14	.781				
	VLNA15	.810				
	VLNA16	.656				
	VLNA17	.619				
	VLNA18	.761				
	VLNA19	.724				
	VLNA20	.715				
	VLNA21	.706				
	Women- Empowerment (WE)	WE1	.602	.935	.938	.541
		WE2	.535			
WE3		.501				
WE5		.591				
WE6		.672				
WE7		.770				
WE8		.759				
WE9		.820				
WE10		.818				
WE11		.864				
WE12		.759				
WE13		.851				
WE14		.801				
WE15		.810				

WE16	.645
WE17	.711
WE18	.756
WE19	.725
WE20	.715
WE21	.725
WE22	.540
WE24	.603

Table 2
Discriminant Validity

	MC	MI	MS	SC	TSD	VLNA	WE
MC	0.813						
MI	0.743	0.871					
MS	0.549	0.553	0.838				
SC	0.757	0.691	0.522	0.890			
TSD	0.527	0.465	0.756	0.459	0.847		
VLNA	0.572	0.725	0.649	0.607	0.621	0.744	
WE	0.592	0.625	0.541	0.597	0.608	0.621	0.744



APPENDIX 8

Data Analysis Factor Loadings

Factor Loading, Cronbach Alpha, Composite Reliability, Average Variance Extracted (AVE)

Construct	Indicators	Loadings	Cronbach Alpha	Composite Reliability	AVE
Micro-Credit (MC)	MC1	.812	.717	.837	.632
	MC2	.743			
	MC4	.828			
Micro-Saving (MS)	MS1	.795	.821	.882	.651
	MS2	.813			
	MS3	.810			
	MS4	.808			
Micro-Insurance (MI)	MI1	.898	.899	.928	.726
	MI2	.898			
	MI3	.911			
	MI4	.903			
	MI5	.608			
Training/Skill Development (TSD)	TSD1	.756	.832	.888	.666
	TSD2	.851			
	TSD3	.881			
	TSD4	.770			
Social Capital (SC)	SC1	.886	.921	.942	.766
	SC2	.928			
	SC3	.919			
	SC4	.904			
	SC5	.723			
Vulnerability (VLNA)	VLNA2	.513	.931	.940	.515
	VLNA6	.635			
	VLNA7	.714			
	VLNA8	.792			
	VLNA9	.775			
	VLNA10	.728			

	VLNA11	.822			
	VLNA12	.779			
	VLNA13	.823			
	VLNA14	.734			
	VLNA15	.736			
	VLNA16	.636			
	VLNA17	.665			
	VLNA18	.682			
	VLNA19	.660			
Women-	WE1	.566	.940	.944	.500
Empowerment	WE5	.542			
(WE)	WE6	.625			
	WE7	.700			
	WE8	.769			
	WE9	.746			
	WE10	.815			
	WE11	.810			
	WE12	.765			
	WE13	.805			
	WE14	.723			
	WE15	.724			
	WE16	.664			
	WE17	.689			
	WE18	.709			
	WE19	.696			
	WE20	.684			
	WE21	.742			
