

Determinants of Women Participation in Micro and Small Enterprises (MSEs) in Hadiya Zone, Ethiopia

Abstract

Women's participation in Micro and Small Enterprises endeavors assume a noteworthy function in poverty reduction, however, the determinants of their participation decision and the intensity of participation have not been satisfactorily examined. The examination looked to distinguish the determinants of women participation choices in MSEs in the Hadiya Zone, Southern Ethiopia. The investigation was grounded on cross-sectional review information from 385 women Micro and Small Enterprises undertakings participant and non-participant that were assigned through a combination of multistage, systematic random, and proportional to the size of the population procedures. Different data collection methods such as semi-structured interview schedule, key informants interview, focus group discussion, and personal observation was utilized to acquire the required primary data. Secondary data was acquired from empirical reports, government policy documents, national statistical reports, journal articles and reports of different organizations occupied with MSEs advancement. The descriptive statistics in combination with econometric were utilized. Heckman's two-stage selection model was applied to recognize factors influencing women's participation and intensity of participation in MSEs. The estimation result of the first-stage Heckman selection model indicates that educational status, access to credit, business remittance, and initial capital were emphatically and fundamentally impact the likelihood of women participation decision in MSEs while age was negatively related and does significantly determine the participation of the women. The *after effects* of the second stage Heckman model demonstrated that the intensity of the women's participation in Micro and Small Enterprises was significantly and positively influenced by educational status, access to market, access to transportation, and achievement motivation. Hence, the result of this study recommends that government and concerned bodies are anticipated to enhance the educational level, skill, and knowledge development training, provide aids and subsidized to income, credit facilities, and the remittance-receiving channels, rehabilitation of the road. It is also suggested that women should formulate their own goals and they should participate in business by their own choice nevertheless of other alternatives accomplish well and actions need to be accepted to offer incentives for women who have faced a lack of available initial capital in the study area.

Key words: Women, Participation, *Micro and Small Enterprises*, Heckman two stage model

1. Introduction

A micro and small enterprise has increasingly been seen as to be the driver of income creation; industrial propensity and ultimately reducing poverty in the world (Kiraka *et al.*, 2013). It has been widely accepted as an engine of employment creation then it contributes positively to the income-earning. Experimental examinations have discovered that the extent of employment made by the MSEs sector on the world is about 48% of the employment in North Africa, 6.2% in the United States, 22.3% in China, 80% in India, 67% in Japan, 51% in Latin America and 65% in Asia (Endalsasa, 2012 as cited in Fesseha, 2017). Thus, participation in MSE is important for the generation of income for the basic goods and services and thereby reducing poverty.

Most importantly developing countries have been generally recognized the role of MSE for poor people particularly for women is evident from their relatively large share of economic growth. It is accounted for that Micro and Small Enterprises in developing nations represent about 60% of the GDP and about 70% of employment (GEM, 2016). The report unveiled that Micro and Small Enterprises not just had a commitment to the employment creation yet in addition the area has become a point of convergence of easing of poverty through income generation in non-industrial nations. Additionally, the Micro and Small Enterprises ventures are significant in light of the fact that the sector assumes a huge part in poverty easing by enhancing income-earning and acquisition of assets (Paul, 2014). An examination did in Kenya by Misango *et al.*, (2013) found that women had used earned income from the sector for meeting their basic needs for instance housing, food, clothing and ultimately reducing poverty.

The micro and small enterprises in Ethiopia has been playing the impact to the generating income and as a means of income sources for the poor people and hence reducing poverty like other developing countries (MoFED, 2014). A study of micro and small enterprises issue is well suited to the case of Ethiopia principally due to them that a private sector like it has become the second-largest source of income earnings. The government has anticipated that the sector attracts job creation and income-earning and therefore sustainable income creation which in turn reduces

poverty. Knowing the impact of micro and small enterprises and being mindful of the economic significance of the sector, the government has prioritized the micro and small promotion and development strategy in the poverty reduction program since 1997 and revised the existed strategy in 2011 for allowing suitable situations (MoFED, 2014). Growth and transformation plan of Ethiopia has given due attention to the MSEs as an essential to provide as a basis to offer employment opportunities to the poor people then generating income and thereby increase domestic saving and reduce poverty, particularly helping the poor women (FMSDA, 2017). It is clear that Micro and Small Enterprises is important in improving the pay of needy individuals. This improved salary utilizes the poor to obtain better schooling, sound health, and empowers them to alleviate poverty.

Women form an imperative part of the workforce and the development pretended by them can't be isolated from the financial perspectives (Ermias *et al.*, 2017). The role of women participation in MSEs on income generation and ultimately poverty alleviation is one of the areas that have recently created debate among scholars. A study conducted by Ebisa (2012) showed that about 65% of women in Ethiopia engaged in micro-enterprises while 26% of them in small scale enterprises. Their participation in micro and small enterprises directly helps for the alleviation of poverty by increasing their income level. In this case, women in the MSEs sector enabled them to earn income. This earned income uses them to become free of poverty. For that reason, shreds of evidence from (Christiana, 2012) suggested that the MSEs empowered women to increase their income, acquire assets, and provide basic needs, for instance, health, food, education, and clothing. In addition, it is clear that through participation in micro-enterprises, women allowed to sustain the livelihood them and their households. This is because MSEs are mainly used by women to deal with the viewpoint for independent work which indicates an opportunity to misuse their capacities, simultaneously give a positive impact on the formation of assets and promoting income-earning and then alleviating poverty (Rahel *et al.*, 2010).

The participation of women in MSE became a fact as a way of improving better living and exiting them from poverty through increasing income levels and accumulates assets in Ethiopia by and large and in the investigation region specifically. Evidence suggests that due to the fact micro and small enterprise provides the income-earning opportunity for women who unable to create access to earn money. Also, it allows them to spend their income for immediate basic needs for instance food, health care, and income generated from the MSEs sector is also used for assets creation (Alemtsehay, 2016). A study carried out in Ethiopia disclosed that women's participation had a positive impact on poverty by improving consumption, increasing their income-earning, and boosting their living standards (Araya, 2014).

Though the participation of women in MSE has a great potential in income generation, acquisition of the asset, and thereby alleviation of poverty, their participation is controlled by multifaceted but then exactly untested elements that do affect in the sector such as insufficient institutional support, lack of sufficient capital to expand their business, lack of business networks, lack of training and access to market (Getu, 2015). Women participation are not constrained only to influencing factor alone but also they have experienced the joint result of poor information flow, negative attitude of society to their business and lack of social acceptability (Mulugeta, 2010). Also, women share an important role in MSEs which the government of Ethiopia has formulated and applied as a strategy for income-earning, and ultimately poverty reduction, their participation in the MSE has not made a substantial effect on growth (Dagmawit *et al.*, 2016). Furthermore, the policymakers and others did not look at the way in which the women's participation in MSE is affected with different limiting factors due to the lack of empirical shreds of evidence that help to understand well the determinants of participation choice and intensity of participation. As the outcome, there is a gap towards the factors affecting women's participation choice and intensity of participation in MSE in Ethiopia when all is said in done and in the investigation region specifically. Among the various discussions, there is almost no exact proof on the determinants of women participation in MSE utilizing econometric methods. Various investigations have been completed on this issue are descriptive and qualitative in nature. With this, there are no investigations that delivered sound experimental outcomes utilizing the Heckman two-stage determination model that can connect the research gap and policy makers for ameliorative exercises. Consequently, this examination means to give observational proof on the determinants of ladies' cooperation in MSE in Ethiopia utilizing data gathered from the three administrative towns of the Hadiya zone. It is normal that the outcomes may use to knowledgeable dynamic cycles at various levels for planning poverty reduction strategies and enhance inspiration to an energetic argument that has happened concerning the women's participation in Micro and Small Enterprise as a significant strategy against poverty alleviation.

2. RESEARCH METHODOLOGY

2.1. Description of the Study Area

The study was conducted in the Hadiya zone of Southern Nations Nationalities and People Region, Ethiopia which is bounded to the South with Kambata Tembaro zone, to the east with Halaba-special woreda and Silte zone, with Oromia region and Yem special woreda to the north and to the west with Silte zone. The two detached woredas of the zone such as Misrak and Mirab-badewacho are bordered to Kambata Tembaro zone, Oromia region, Halaba-special woredas and Wolaita zone. The zone has three agro-ecological zones namely dega, woinadega and Kola with altitude ranges from 501 to 3000 meters above sea level. It is located in the Northwestern part of the Southern Ethiopia with the estimated population of the 1,611,119 whereby 801,476(49.75%) males and 809,643 (50.25%) females (CSA,2007). The average annual rainfall of the zone ranging from 801mm to 1400 mm. The zone has about 346958.5 hectare total land mass with average annual temperature ranging from 12.6°C to 27.51°C respectively. The economy of the zone is predominantly agriculture-based followed by private business activities. However, micro and small enterprise activities such as leather and leather products, cafeteria and restaurant, municipal services, beauty saloons, internet café, wood and wood products, metal work and products, food and beverages, agro-processing, metal works, furniture products, cloth selling, retail shops, whole sale of local products, retail trade, coffee and tea, and maintenance are dominant women participated activities contribute a noteworthy proportion to earn income (HZEIDO, 2018).

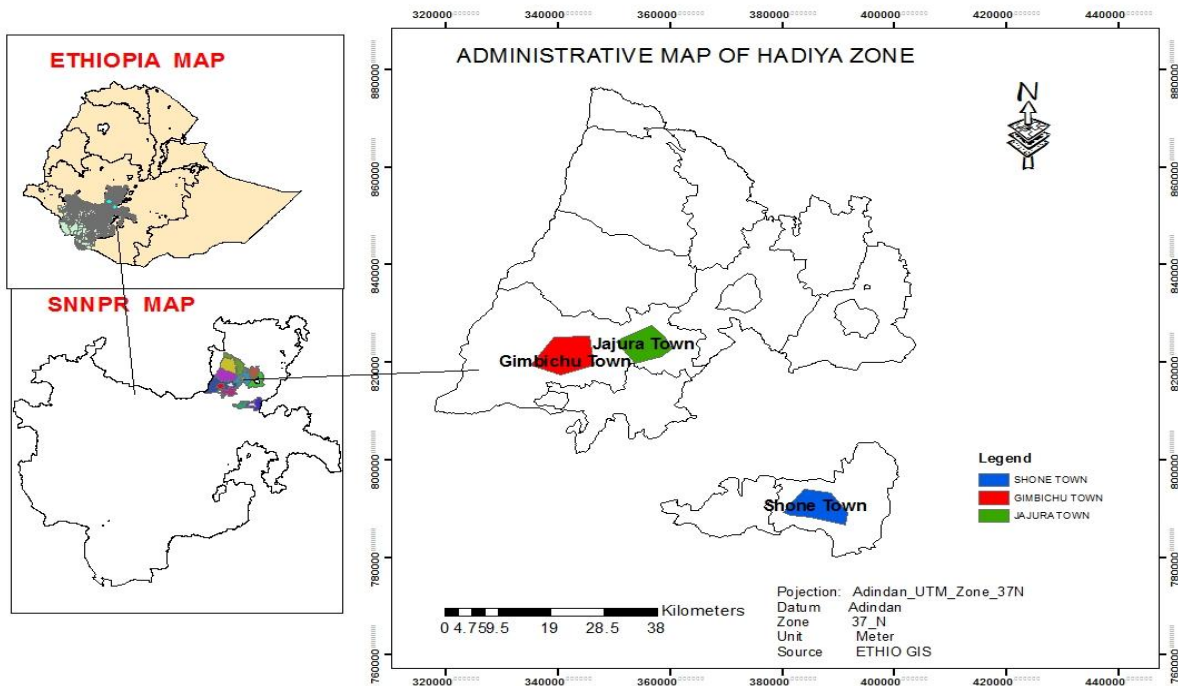


Figure 1. Map of the study area

2.2. Sample Size Determination and Sampling Technique

2.2.1. Sample Size Determination

There is no regular basis so as to decide the correct sample size of the examination. This is on the grounds that the sample of the investigation relies upon the idea of the examination populace and the reason for the investigation. In deciding the representative sample of this investigation, the sample size determination formula of Cochran (1963)

was adopted. Hence, the sample size of this investigation was determined based on the Cochran formula demonstrated as follows. In the formula, n is the sample size of the examination and e is the desired degree of precision, 5%, Z is the confidence interval which is 1.96 for 95% of the confidence. The value of Z is taken from the statistical table. This study was followed to sample the women MSE participants and non-participants in this case at least 95% significant level of confidence was obtained and the precision desired was not exceed 0.05, P is the estimated proportion of participants on the total population, which is 0.57 and Q is the expected proportion of non-participants on the targeted population which is $Q=0.44$). Hence, the sample size of the present study was determined from a total population of 1906 participants and non-participant of MSEs in sample towns. In view of that, the sample size of the study is calculated as below.

$$n = \frac{Z^2 P Q}{e^2}$$

$$n = \frac{(1.96)^2 (0.57)(0.44)}{(0.05)^2}$$

$$n = 385$$

2.2.2. Sampling Technique

The multistage sampling procedure was utilized for choosing a representative sample from the objective populace in this study. In the primary stage, three administrative towns such as Gimbichu, Jaguar, and Shone were selected purposively from the targeted zone because of the larger number of women MSE participants present in the towns rather than in other Woredas. In the second stage, a stratified random sampling technique was utilized to choose the sample for the study from the investigation region. The utilization of a stratified random sampling technique was legitimized on the process that the number of inhabitants in intrigue is heterogeneous; henceforth, it is important to group the number of inhabitants in enthusiasm into non-overlapping strata. In the second stage, a stratified random sampling technique was used to select the sample for study from the study area. The use of a stratified random sampling technique was justified on the milled that the population of interest is heterogeneous; hence, it is necessary to classify the population of interest into non-overlapping strata. The varied population of concern in each town was divided into two strata. These are women MSE participants and non-participants. With this regard, women participated in trade; service and manufacturing activities were selected through purposive sampling technique from each sample administrative town because of the largest numbers of women involved there rather than others. To this end, the sample women participant in each stratum was sampled proportionate to the proportion of participants in the sector in the towns. The Proportional to sample size distribution technique was used to decide the sample size of each stratum. The total sample size from participants and non-participants were proportionally distributed to each administrative town based on the ratio of sample size and the total population of the study, in this case, $215/1074=0.2$ is the multiplication factor to sample the proportional sample size of the women MSEs participant in each town (Tekle *et al.*,2016). From participants 89 from Gimbichu, 60 from Jajura, and 66 from Shone town and similarly, sample size from non-participants were again proportionally distributed to each town based on $170 /832 = 0.20432$ is the multiplication factor whereby the total number of non-participants in each town are multiplied to provide the proportional sample size in each town that is the sample of 170 women MSE non-participants in this case 62 from Gimbichu,53 from Jajura, and 55 from Shone were proportionally selected from each town. The total sample size proportionally selected was 385 (151 from Gimbichu, 113 from Jajura town, and 121 from Shone. Finally, the systematic sampling technique was employed using sampling fraction formula such as $K=N/n$ formula whereas K =sampling fraction, N = total population, n =sample size of the study to draw each sample woman from both MSE participants and non-participants by taking their lists from each town administration of enterprise and industry development and trade and industry development office. This is because of systematic random sampling every woman in the population could have the same chance of being sampled. Therefore, systematic random sampling was used through the selection of ($K=1906 /385=4.95$ which is 5) every fifth (5th) woman from the sampling frame.

2.3. Methods of Data Collection

Quantitative and Qualitative data were gathered from primary and secondary sources. The primary quantitative data from primary sources were assembled through a semi-structured interview schedule with a plan while qualitative data was obtained through Focus Group Discussion, key Informants Interview, and Personal observation. Pre-testing of the interview schedule was directed to update those interview schedules that couldn't pass on the necessary message to the respondents. It could use as an open door for the researcher to alter the research instruments to furnish responses that were in accordance with the investigation objectives and questions. So as to conduct the data collection process with two enumerators for every sample town were recruited based on their knowledge of the socio-economic concepts, the culture of the society, and proficiency of the local language. All the enumerators were prepared before the data collection work. In like manner, to make the successful interview process, the training was given by the researcher to the enumerators on the objectives of the investigation, on the substance of the interview, interview procedure, the nature of the data collection method, and on the requires ethics during the data collection process. Secondary data was procured from a literature review of the published or unpublished materials including journals, books, newspaper, and review of dissertations relating to MSEs, written documents from each town of enterprises and industry development office, trade and industry development office, microfinance institution, women, children and youth office of the study area.

2.4. Method of Data Analysis

2.4.1. Descriptive Analysis

Prior to the data analysis, the gathered data was reviewed in the schedule to declare that no fundamental information is lost. Descriptive statistical tools, for example, mean, standard deviation, and percentage while inferential statistics, for example, chi-square and t-tests were utilized to test association and mean the difference between independent and dependent variables respectively. The qualitative data from the respondents and documented reports were analyzed by interpretation, conceptualization, and tabulation of data.

2.4.2. Econometric Analysis

The determining factors affecting women's participation in the micro and small enterprises have been identified by numerous empirical studies. The suitable econometric model can assist with distinguishing the determinants of women's participation in the Micro and Small Enterprises. In this investigation, Heckman's two-stage selection model was adopted in light of its favorable circumstances over the Tobit model in its capacity to remove selectivity bias and it isolates the impact of factors on the likelihood of participation (Heckman, 1979). Heckman advocates a two-stage assessment technique to exact the inclination because of self-choice in the choice to partake in MSE and result. In the first stage, the probit model assessment was actualized so as to recognize factors that influence the participation decision in MSE. Here, the dependent variable is hence dichotomous; showing whether or not participated in MSE (Wooldrige, 2002). In the second phase of the Heckman model, the intensity of participation in terms of the number of annual sales of products or services was utilized in the model.

$$\begin{aligned} Y^* &= P' \alpha + \varepsilon_1 \\ Y &= 1 \text{ if } Y^* > 0 \\ Y &= 0 \text{ if } Y^* \leq 0 \end{aligned} \tag{1}$$

Where, Y^* is the dependent variable that takes an estimation of 1 if women participated in MSEs and 0 otherwise., P is the vector of explanatory factors expected to decide the participation decision of women, α is the vector parameter to be estimated, ε_1 is the model the error term that is ordinarily circulated with mean zero and standard deviation in the choice and catches every single unmeasured variable, Y is a dependent variable which takes the worth 1 if a woman participated in MSEs, and 0 otherwise. The Probit model estimation unable to show how much a specific variable increase or decrease the probability of participation through independently variables on the probability of a woman to involve in MSEs. In this case, for continuous independently variables, the marginal effect was determined

by increasing coefficient estimate by the standard likelihood of participation by holding other independently and examined by contrasting probabilities of that outcome when dummy factors take their two distinct values (1 if participated and 0 otherwise while holding other independent factors at their sample mean values (Wooldridge, 2002). Consequently, the log-probability function which uses to secure parameter estimates and conforming marginal effects were accepted as:

$$\ln L\left(\frac{\alpha}{Y}, P\right) = \sum_{y=1} \ln(\phi(P' \alpha)) + \sum_{y=0} \ln(1 - \Phi(P' \alpha)) \quad (2)$$

The second-stage Heckman choice model (Heckman, 1979) was finished utilizing OLS regression alongside the probit estimate of the inverse mill's proportion to recognize factors that decide the intensity of participation. The Heckman selection equation is specified as:

$$\begin{aligned} P_i^* &= W_i \alpha + \epsilon_2 \\ P_i &= P_i^* \text{ if } P_i^* > 0 \\ P_i &= 0 \text{ if } P_i^* \leq 0 \end{aligned} \quad (3)$$

Where, P_i^* is the latent demonstrating the intensity of participation is represented by the annual sale of products or services included which is observed if $P_i^* > 0$ and unobserved, in any case, P_i is the observed significance of products and services in terms of annual sales, W_i = vector of the covariate for the unit i for determination equation which is a subset of P , α is a vector of coefficients for choice condition, ϵ_2 is a random disturbance for unit i for section equation. The limitation with the two equations (1 and 3) is that two-stage decision-making processes couldn't be independent because of unmeasured factors characterizing both discrete and continuous decisions consequently prompting the connection between errors of equations. The Mills proportion was made utilizing predicated likelihood values which are gotten from the first-stage probit model of participation choice. In addition, in the second step mills ratio was involved as one of the independent factors in the intensity of participation.

$$V = W_i \alpha + \lambda \left(\frac{\phi(W_i \alpha)}{\Phi(W_i \alpha)} \right) + \epsilon_3 \quad (4)$$

Where, v = the amount of annual sales of products or services and observed if only participation is yes, that is $v = 1$

$\phi(\cdot) / \Phi(\cdot)$ = is the Mill's ratio

λ = is the coefficient on the Mills ratio

ϕ = Denotes standard normal probability density function

Φ = Indicates standard cumulative distribution function

ϵ_3 = is not correlated with ϵ_1, ϵ_2 and other independent variable.

2.4.2.1. Description of Explanatory Variables

i) Dependent Variable

The dependent variable, women participation in MSE was regressed on these variables to look at their importance in influencing it. Besides, considerable covariates from the given list of the defined explanatory variables were used as confounding variable in the regression. In this investigation, the main stage Heckman determination model was utilized to whether or not women participated in MSE which is the participation decision equation, while the second phase of the Heckman model was utilized to analyze the intensity of participation regarding the number of annual sales of products and services which represents the total amount of money that a women receives from the sale of products or services in a year and it is a continuous variable which was estimated as far as Ethiopian Birr.

ii) Independent Variables

The explanatory variables were chosen and hypothesized based on theories, empirical studies, and observation of the researcher in the study area. The factors impacting women participation choice and intensity of participation were

assumed to be influenced by a combined effect of various factors. These explanatory variables were selected based on the existing literature, empirical studies and personal observation. These variables are deliberated below.

Age of the women (AGE): refers to the actual age of women which is estimated in year and it is considered as a continuous variable. The conceivable explanation is that women, whose age is generally younger, may be more active and dynamic. They leaving other factors constant may be able to handle more stressful situations while older are less disposed to adopt innovative behavior in the business (Desta, 2010). Also, younger women may have high decision for participation compared to the older and are pushed to pursue micro and small enterprise chances. This notion is similar with the study (Abraham *et al.*, 2015). It was hypothesized that age has negative impact on women participation in micro and small enterprises.

Educational level (EDUCA): this variable refers to the formal education level of the women estimated in long periods of schooling. It assumed that formal schooling is expected to enhance women ability to recognize, understand and tend to hold their work more scientifically and handling possessions, searching for appropriate market access for their products or services. Women with the high educational level are in a good situation to recognize the importance of participation in MSE. Similarly, a study by Ogundele *et al.*, (2012) found that the probability of participation in MSE with high educational level is higher because of the better education significantly increase participation decision. This variable was, therefore, hypothesized to affect participation positively and it is expected as a continuous variable.

Household size (FAMSIZ): It is a continuous variable that alludes to the absolute number of persons in adult equivalent living within a household. It is an important factor for women participation in MSE. Family members are important in the implementation of business activities. Mulu (2014) found that large family some members could remain engaged in the household activities which reduces burden of women while others could opt for business activities. This implies the bigger the family size in adult equivalent comparable the higher the opportunity to participate in MSE. It was, therefore, hypothesized that there is a positive effect on the participation in MSE.

Dependency ratio (DPRATIO): It is a continuous variable and alludes to the proportion of dependent age groups (under 15 or more 65) to the working-age groups (age group from 15 to 65) in the family. The existence of large number of inactive labor force could affect women participation in the MSE. According to Patricia (2017) dependency ratio is found to have a critical negative effect with choice of micro and small enterprise. He justified that with increase in dependency ratio the participation decision declines because of it makes women to have high burden of household activities. Children may necessitate greater care from the women and an elder also needs more labor than contributing directly to household activities. Therefore, this variable was hypothesized to have negative effect with participation in MSE in the study area.

Marital status (MARSTA): It is a categorical variable which refers to the women whether married, single, divorced or widowed. It is an important factor for enterprises participation. It has been showed that most of the businesses are running by married women than single. This impacts the character they have and the style of work they receive (Kyalo and Kiganane, 2014). Unmarried women may have more opportunity while married women may have more assets need though divorced and separated women might be genuinely more vulnerable. Despite the fact that married women start an undertaking, it takes more effort to prevail in the venture for them. Subsequently, this variable was relied upon to influence the support of the women in MSE adversely.

Business experience (EXPER): This is a continuous variable and refers to the quantity of years that a woman has encountered business exercises. In many cases, women who have prior business experience can achieve and accomplish well, create good relation with customer and manage the challenges rather than women that did not have prior experience (Halkias *et al.*, 2011 and Selig, 2014). The assumption is that they tend to concentrate on business activities due to their long experience on the business. In this investigation, hence, it was theorized that experience is emphatically identified with participation.

Business training (TRAIN): It is a dummy variable and characterized as 1 if a women has gotten any conventional training about business abilities improvement and 0 otherwise. Most of the business activities being skill based, training increases the possibility of participation in the MSEs. Desta (2010) found that women who had training in business are more likely to participate in MSEs through creating in better implement of their business. Similarly, (Netsaalem, 2011) also stated that skilled and more trained women are believed to be more decision to engage in

enterprises because of their business knowledge and information. In this investigation, accordingly, it was theorized that admittance to training positively affects the participation.

Access to market (MARKET): It is a dummy variable and it was estimated by taking an estimation of one if women approach the market and zero in any case. It is expected that the more a woman needs access to the market for their products and services, the lower the opportunity of cooperation in MSEs. Getu (2015) found that inadequate access to market determines on women participation in MSEs negatively and significantly. This might be because of the absence of better market access data identified with products or services. Then again, Audretsch *et al.*, (2015) expressed that high market access results the larger level of enterprise intensity. The capability to involve in to new markets requires knowledge and relations but women lack these. Therefore, positive relationship was expected between participation and access to market, denotation that women who have access to market will contribute to the participation decision.

Access to transportation (TRANPO): refers to the access to transportation for the products or services. This variable is critical factor to speed up MSEs activity. It is an important for women particularly for service and production (Halkias *et al.*, 2011). It is estimated as a dummy variable taking an estimation of one if the women approach transportation and zero in any case. It can have an important effect on the participation in MSEs. A study conducted by Belay (2014) found that inadequate access to transportation negatively influences participation in the enterprises. In this study, therefore, positive association was expected between this variable and participation.

Access to credit (CREDIT): refers to the women opportunity to get credit service from formal and/or informal financial sources. It is a dummy variable and takes 1 if there is credit use by women and 0 in any case. Women with limited money are limited from the participation of MSEs than those women having access to money. Access to credit can help them to obtain assets which could positively influence their MSE participation. Ismail, *et al.*, (2013) found that lack of access to credit had a negative effect on the participation. Because, it would enable women to able to undertake MSE activities which require initial capital. With regard, in the study area providing credit to women is expected to improve their participation in the enterprises. Then again, Finnvera (2013) has demonstrated that women constrained from absence of access to credit because of absence of collateral and they couldn't begin or grow their organizations. Therefore, positive relationship was expected between access to credit and participation in the study area.

Mass media devices ownership (MAMED): refers to women access to watching television and/or listening to radio to get business information. It is a dummy variable and takes an estimation of 1 if women have radio, television and other mass media transmissions and 0 otherwise. Mass media owning is one of the factors that enable women to get business information and it is believed, therefore, that the mass media makes the women to be more accessible to MSEs information that those who do not own (Gomez, 2008). Hence, in this study, positive relationship was expected between access to mass media and women participation in the MSEs.

Initial capital (INICAP): This is a continuous variable and estimated in Ethiopian Birr that a woman has invested on the starting business. Women who have started with too little capital may have a greater chance to be non-participant in the MSEs than those with adequate initial capital. From this, one can understand that initial capital can contribute to the participation in MSEs. The presence of available initial capital increases the probability women participation in the MSEs (Habtamu *et al.*, 2013). Thus, the positive impact was expected between the initial capital and participation in the study area.

Household asset (HHSSET): The household asset is a continuous variable that alludes to the estimated value of the assets claimed by women' household in terms of Ethiopian birr. Household asset is a continuous variable which refers to the estimated value of assets owned by women household in terms of Ethiopian birr. It is assumed that women who are lack of assets, the lower the chance of participation in MSEs. This because of women with lack of asset tend to be unable to obtain income from selling of assets and using of existing assets for business purposes, or through the ability to sell the asset when they experience business failure. Desalegn (2014) revealed that the asset possessed by women is huge at less than 1% level of criticalness and related contrarily with the likelihood of participation in the MSEs. Therefore, negative relationship was expected between household asset and women participation.

Receiving remittance (REMMTA): It enunciates to get moves in kind or money from relatives, family members, and government organizations. It is a dummy variable and characterized as 1 if a woman has gotten any remittance in the current year and 0 in any case. This variable offers monetary help as cash or kind to the women from abroad and inside the nation. Women generally use remittance for startup new companies (Zewede and Associate, 2002). The current investigation was included in all the remittances, cash gifts or moves got during the overview year. The study recognized that women who have got various financial option will sustain the financial support due to the fact that they are able to participate in the business. Thus, it was hypothesized that receiving remittance positively related with participation in MSE.

Achievement motivation (ACHMOT): It is a dummy variable that refers to the women trait and motive to business activity. In this study, this variable measured by taking a value of one if the women have motive and zero otherwise. It is the desire of women to reach standard of excellence and expand effort to outshine. Smith (2013) stated that those women who have not motive to business activities cannot decide to participate in MSEs. As a result, women who have no motive are not engage in the business. Dagmawit *et al.*, (2016) in their study showed that motivation of MSE operators had positive and significant effects on the development of MSEs. Hence, in this examination the achievement motivation of women was expected to have negative relation to the participation of MSE.

Information seeking behavior (INFOSEK): It is therefore dummy variable can be measured by taking a value of one if the women have information seeking behavior and zero otherwise. This variable to the degree to which women willing to acquire information from various sources for their business for instance means of services to measure the variable range of information. Women who did not have a good information seeking behavior will not be decided to participate in MSEs. The investigation by Daymard (2015) found that information seeking behavior negatively affect the business success. Thus, it was hypothesized to have negative relation between information seeking behavior and women participation in the MSE.

Table 1. Hypothesized Explanatory Variables of Women Participation in MSE

Variables	Description of variable and Measurement	Ho
AGE	Age of the women in years	-ve
EDUCA	Education level in years of schooling	+ve
FAMSIZ	Family size of the women in Adult equivalent	-ve
DPRATIO	Dependency ratio in numbers	-ve
MARSTUS	Marital status in categorical value such as 1=single 2=married 3= divorced 4=widowed	-ve
EXPER	Business experience in years	+ve
TRAIN	Business training (1= if women received training and 0 otherwise)	+ve
MARK	Access to market (1= if women have access to market for the their products or services and 0 otherwise)	+ve
TRANPO	Access to transportation (1= if women have access to transportation for their products or services and 0 otherwise)	-ve
CREDIT	Access to credit (1= if women have access to credit and 0 otherwise)	+ve
MAMED	Mass media devices (1=if women have radio and or television and 0 otherwise)	+ve
INICAP	Amount of initial capital in Ethiopian Birr	+ve
HHSSET	Household assets of women in estimated value of Ethiopian Birr	-ve
RECM	Remittance (1= if women received remittance and 0 otherwise)	+ve
ACHMOT	Achievement motivation (1=if women have motive and 0 otherwise)	-ve
INFOSEK	Information seeking behavior(1=if women have information seeking behavior and 0 otherwise)	-ve

2.4.2.3. Multicollinearity Test

Before applying a definitive model regression, all the guessed logical factors were tested for the presence of multicollinearity issues. This multicollinearity issue may emerge because of a linear relationship among independent factors and the issue is that it may make the assessed regression coefficients have wrong signs; more modest t-proportion for a significant number of the factors in regression and high R^2 value. In addition, the existence of multicollinearity problem will cause enormous variance and standard error with a wide confidence interval. Thus, it is very difficult to assess precisely the impact of the variable (Gujarati, 2004). In this investigation, the variance inflating factor and contingency coefficient was utilized to recognize the presence of multicollinearity issues among continuous and discrete factors separately.

The Variance Influence factor strategy was utilized to recognize multicollinearity issues among continuous independent factors in the model. As R^2 increments towards one that is as the collinearity of regressor variable with other regressor increment, its variance inflation factor additionally increments, and in the cutoff, it is very well may be infinite. The bigger the estimation of VIF, the more issue or collinear is the variable. As per the general guideline, VIF estimation of a variable exceeds 10 (this will occur if R^2 exceeds 0.90) that variable is supposed to be profoundly collinear (Gujarati, 2009).

The contingency coefficient was done to check for the strength of the relationship among discrete factors. It is a symmetric measure that expresses the strength and centrality of the relation between the independent factors of a cross-tabulation. The worth reaches somewhere in the range of zero and one, with zero demonstrating no relationship between the explanatory factors and estimations of 0.75 or more shows a serious extent of the relationship between explanatory factors. In addition, with less than 0.75 shows less level of relationship between explanatory factors. Subsequently, the coefficient more like one was dodged from additional thought (Gujarati, 2009).

3. Results and Discussion

3.1. Descriptive Analysis.

This section is divided into two subsections. The first sub section provides descriptive analysis of household characteristics while the second section presents econometric estimation results followed to identify women participation in MSE in the study area.

3.1.1. Household characteristics

Women within the economically active age group are likely to make better participation in MSE. The discoveries of the investigation uncovered that the normal age of the member and non-member was 30.72 and 33.61 separately. This indicates that women participant have relatively younger age likely to participate in MSE compared with non-participants of the MSE. Subsequently; t-test confirmed that the variable had significant difference among participants and non-participants under 1% **likelihood level**. This implies that women with younger age more probable to have better energy and speed that could help to participate in MSE in the study area.

Educational level of women respondent enables them to get information and ability and this, thus, expands their participation decision in MSE. It also allows them to be innovative and imitate various strategies to compete within the market and to increase their success in MSE (Bereket, 2017). The descriptive results of this study indicated that the average year of schooling of the participants and non-participants was 8.13 and 6.77 respectively. This shows that the better educational levels of participants are likely to more participation and skill of business activities compared with those non-participants. The educational level of the participants and non-participants was statistically significant under 1% likelihood level (Table 2). Hence, women with more education are more probable to participate in micro and small enterprise. This finding does conclusively suggest that the educational level of women influences their participation in the study area.

Household size of the respondent has a positive impact on the participation in MSE. Women composed with a larger family member in adult equivalent are more likely to participate. The average family size of the women was 4.16 and 3.95 for the participants and non-participants respectively. This implies that averagely the participant had relatively with more active labour rather than non-participants in the study area. However, the t-test revealed that there was no critical distinction as to household size availability between participant and non-participants. This indicates that household size of the women could not affect their participation in MSE in the study area.

Dependency ratio refers to the ratio of the dependent age groups (below 15 and above 65) to the working age groups (age group from 15 to 65) living in each household. The existence of large number of inactive labor force in family could affect the participation decision of women. This is because of households with large dependants need large time, labor and patience to complete all households chores accomplished by women. The mean dependant of the women participant and non-participants was 0.73 and 0.67 with standard deviation of 0.568 and 0.617 respectively (Table 2). As the t-test value indicated that the dependency ratio of the women had no noteworthy contrast among members and non-members. This implies dependent ratio of both MSE participant and non-participant could not affect their participation in MSE in the study area.

With respect to business experience of women in Table 1 indicates that the mean business experience of members and non-members were 3.03 and 1.91 individually. This shows that moderately members had generally more business experience than non-members. The t-test uncovered that experience had a huge contrast among members and non-members under 1% likelihood level. From this analysis one could assume that the business experience could be one amongst the factors affecting participation in MSEs in the study area.

Women with available of initial capital are expected to participate in MSE since it serves them as financial bases for participation. The aftereffects of the examination show that the mean initial capital of the participants and non-participants was 17930.37 and 6647.33 Birr respectively. This implies that participants started their business with high initial capital and it is assumed that in this study that woman with the availability of initial capital was likely to be participated in MSE. The after effect of the t-test confirmed that initial capital has a measurably noteworthy mean contrast among members and non-members under 1% likelihood level ($t=-10.4503$; $p= 0.0000$). This indicates that the availability of initial capital is more to be expected to participation in MSE. Dagmawit *et al.*, (2016) in their study argue that initial capital is likely to give women participation capabilities which can assist participants as important input for their participation.

Household asset is one of the main factors for the participation of women in MSEs because of women with valuable assets are expected to use those assets for the running business through selling the asset for the business purpose and when they experience failure of business. Results showed that the mean estimated value of assets of participant and non-participant was 37,706.89 and 29,418.86 Birr with standard deviation of 19,623.71 and 12,448.50 respectively. This indicates that the estimated value of assets of participants seemed to be better than non-participants. The t-test reveals that household asset of women had significant the factual distinction between the members and non-members of MSE at under 1% likelihood level which implies the argument that women with available assets may have impact on the participation in micro and small enterprise in the study area.

Table 2: Characteristics of respondents (Continuous variable)

Variables	Participants (n=215)		Non-participants (n=170)		t-test value	p-value
	Mean	SD	Mean	SD		
Age of women (years)	30.72	4.70	33.61	4.44	6.126	0.0000***
Education(years)	8.13	3.40	6.77	3.95	-3.625	0.0003***
Household size (AE)	4.16	1.56	3.95	1.55	-1.296	0.1958
Dependency ratio	0.73	0.57	0.67	0.62	-0.909	0.3637
Household asset (Birr)	37706.89	19623.71	29418.86	12448.5	-4.796	0.0000***
Experience (years)	3.03	2.66	1.91	1.71	-4.774	0.0000***
Initial capital (Birr)	17930.37	13978.44	6647.33	1837.76	-10.450	0.0000***

***,** and * critical at 1%, 5%, and 10 % likelihood level individually.

Source: Survey results (2020)

The descriptive results of the study indicated that about 76.7% participants and 74.1% of non-participants were married while participants (9.3%) and non-participants (9.1%) consisted of single. The findings of this study reveal that married women are most probably to participate in micro and small enterprises than the others. This results also show that woman wants to engage in MSEs to generate income because of the married women are pushed than unmarried to earn income for consumption and improving their household living conditions. However, χ^2 -test indicated that marital status of women had no significant relationship with the participation of MSE. This implies that marital status of the women does not affect their participation in the study area.

Women who listen to radio and television were found to have a greater probability to engage in MSEs because of mass media devices play a great role in provision of business information and expose them to a wide range of information. Results of this study in Table 3 indicate that about 87% of the women participant and 75.3 % of the non-participants had owned mass media devices like radio and television while about 13% of the participants and 24.7% of non-participants had no mass media devices (Table 3). χ^2 -test value showed that the mass media devices ownership of the respondents had significant relationship with participation under 1% likelihood level which demonstrates that women who have radio or and television are more likely to participate in MSE in the study area.

Access to credit refers to provision of credit for the availing resources for meeting initial capital for the participation in business activities. Women with and without access to credit have significant difference in participation of MSEs. As result 65.1 % and 35.3 % of the participant and non-participant had got access to credit respectively while 34.9 % of the participant and 64.7 % of the non-participants have no access to credit for their intended purpose (Table 3). The χ^2 -test asserts that access to credit has significant relationship with participation in MSE under 1% likelihood level. Hence, use of credit influences the participation in MSE and to take advantage of the MSE opportunity.

Access to market for product or service enables women to participate in the MSEs. Results from the study revealed that 74.4% and 70.6 % of the participants and non-participants had no access to market while 25.6% and 29.4 % of the women participant and non-participant had access to market for their products or services respectively (Table 3). From this data analysis one could observe that women who have better access to market might have better participation decision than those of lack of access to market. The χ^2 -test reveals that the variable had no significant relationship with participation in the study area.

Access to transportation could help women to reduce the time wastage, extra payment and high price of products or serves and it also contributes to participation decision towards enterprises. The descriptive result study confirmed that about 79.1% and 74.7% of the participant and non-participant had access to transportation for their products or service. On the other hand 20.9 % of the participants reported that had access to transportation while 25.3% of the non-participants stated that they had no access to transportation for their products or services (Table 3) The result of

χ^2 -value shows that the variable has no a significant relationship with participation in MSE. This indicates that the access to transportation has no significant effect on the women participation in MSE in the study area.

Remittance provides financial support in the form of money or kind and it positively related to women participation in MSEs by helping them for financial need for the participation (Zewede and Associate, 2002). The results indicate that about 45.1% and 23.5% of participants and non-participants in the population have received remittance whereas about 54.9% and 76.5 % of the participants and non-participants did not receive remittance. However, the results of χ^2 value demonstrated that there is a critical connection between remittance and participation under 1% likelihood level. This shows that the reviving remittance has significant effect on the women participation in MSEs in the study area.

Women who had access to business training are expected to have positive influences on participation in MSEs. The results of this indicate that 67.4% of the participants did get training and the rest 32.6 of the participants did not get training while 75.9% of non-participants didn't have access to training and the remaining 24.1% of non-participants did get training. The χ^2 -value reveals can affirm that access to training was noteworthy at a less than 1% likelihood level. This infers that women may build their investment choice through more accessible training for miniature and little undertakings.

Achievement motivation in this examination refers to the women entrepreneur trait and motive to business activity. It is the aspiration of women to reach standard of excellence and expand effort to outshine. In view of the consequences of Table 2 showed that 72.1 % of members and 65.3% of non-members wanted to take an interest to participate in MSEs. About 27.9 % of participants and 34.7% of non-participants testified that they had no motive to participate in MSEs respectively. The χ^2 -test confirmed that the variable had significant relationship with participation under 5% likelihood levels which suggest that achievement motivation could affect women participation decision in MSEs in the study area.

Information seeking behavior is the needs to which women are willing to get information from different sources about MSEs. The aftereffects of the Table 2 out of total respondents, 44.2% of participants and 32.4% of the non-participants had information seeking about the enterprises while 55.8 % of participants and 67.6 % of non-participants had no need for seeking information. The χ^2 -value analysis revealed that variable had significant relationship between information seeking behavior and participation at less than 1% level. This implies that women who have intention of information seeking habit about business information more participate in MSEs in the study area.

Table 3: Characteristics of respondents (Discrete variables)

Dummy Variables	Categories	Participant (n=215)	Non-participant (n=170)	χ^2 -value
		Percent	Percent	
Marital status	1=Married	76.7	74.1	0.4875
	2=Single	9.3	9.1	
	3=Widowed	7.4	8.8	
	4=Divorced	6.5	7.6	
Mass media ownership	0=No	13	24.7	8.7100 ***
	1=Yes	87	75.3	
Use of credit service	0=No	34.9	64.7	33.8240 ***
	1=Yes	65.1	35.3	
Access to market	0=No	74.4	70.6	0.7022
	1=Yes	25.6	29.4	
Access to transportation	0=No	20.9	25.3	1.0253
	1=Yes	79.1	74.7	
Receiving remittance	0=No	54.9	76.5	19.2999 ***
	1=Yes	45.1	23.5	
Access to training	0=No	20.9	25.3	1.0253
	1=Yes	79.1	74.7	
Achievement motivation	0=no	27.9	34.7	2.0549
	1=yes	72.1	65.3	
Information seeking behavior	0=no	55.8	67.6	5.5897 **
	1=yes	44.2	32.4	

***, **significant at 1% and 5% significance levels respectively. Source: Survey result (2020)

3.2. Econometrics Analysis

This section presents the determinant factors for the women participation choice and intensity of the participation. The Heckman two-stage choice model attempted to distinguish the factors that are influencing the women participation choice and intensity of participation. In this investigation, participation is utilized as a target estimation of the participation decision while the amount of annual sales of products and services as a dependent variable of intensity of participation in MSE.

3.2.1. Diagnostics Test

Preceding doing the last model regression, all the hypothesized explanatory factors were checked for the presence of multicollinearity issues. All the more explicitly, multicollinearity alludes to the circumstance where it gets hard to figure out the impacts of independent factors on the dependent variable due to the solid connections among them (Maddalla,1992). This multicollinearity issue may emerge because of a straight relationship among independent factors and it may make the assessed regression coefficients have wrong signs; more modest t-ratios for a large number of the factors in the regression and high R^2 value. The existence of multicollinearity in this examination was tried utilizing the variance inflation factor and contingency coefficient.

The variance inflation factor was utilized to detect the multicollinearity issue among continuous independent factors in the model. The bigger the estimation of VIF, the more issue or collinear is the variable. As a dependable guideline for multicollinearity, the trial of the model expresses a variable whose values are greater than 10 or $1/VIF$ esteem is under 0.1 shows the conceivable issue of multi-collinearity (Gujarati,2009). Subsequently, in this examination there was no value greater than 10, all estimation of the variance inflation factors are under 1.40, or all estimations of $1/VIF$ are greater than 0.71. As a result the study found that VIF for all continuous independent variables in participation decision and intensity of participation were no show the multicollinearity problem indicating that the data does not suffer from problem of multicollinearity therefore justifying their inclusion in model.

The contingency coefficient was done to check for the strength of the relationship among discrete factors. It is an uneven measure that expresses the strength and significance of the connection between the independent factors. The

worth reaches somewhere in the range of zero and one, with zero demonstrating no relationship between the independent factors and estimations of 0.75 or more indicates a serious extent of the relationship between explanatory factors. As well as with less than 0.75 indicates less degree of association (Gujarati, 2009). Multicollinearity is an issue when the correlation value is above 0.75. However, in the current investigation, the correlation coefficients of factors are below 0.4441. Therefore, the correlation matrix tests disclosed that there is no multicollinearity issue.

3.2.2. Determinants of women participation in MSE: Heckman two stage estimation

The purpose behind the goal of this investigation was to examine the determinants of women participation decision in Micro and Small Enterprises and its intensity in Hadiya zone town. The Heckman two-stage model was utilized to identify the major determinant factors for participation decision.

Estimation result of first stage Heckman selection model

The probit model has been assessed by the greatest probability technique. The general model is critical at less than 1% probability level as demonstrated by the log-likelihood of - 141.346. The goodness of fit of the model is assessed from the Adjusted R^2 (Hu *et al.*, 2006). Besides, in light of the pseudo R^2 the model seems to have a solid match for the data. Pseudo R^2 is characterized as the extent of the variance of the latent variable that is clarified by the covariates. It is to be noted here that the Pseudo R^2 that displays goodness-of-fit when the value of pseudo R^2 small for a case of excellent fit (Gujarati, 2004). The pseudo R^2 in this study indicated that a goodness-of-fit of 0.4651, this revealed that the predictors were good for the model. The worth shows the measure of the variance in the dependent variable by every one of the predictor factors, with the average of 0.4651 degrees of variance. That means the most extreme degree to which the measure of variance in the dependent variable is clarified by the predictor factors represent 46.51% of the variance. The probit treatment effect result indicates that out of the 16 explanatory variables, 9 variables explained probability of participation decision in MSE. These variables are age, educational status, business experience, access to credit, access to training, achievement motivation, receiving remittance, information seeking behaviour and initial capital (Table 4).

Estimation result of first stage Heckman selection model

Age of the household: -Women participation in MSE was negatively and significantly affected under 1% likelihood level in both participants and non-participants. The negative and critical connection between the two factors demonstrates that old women are not more likely to participate in MSEs. The minor impact showed that the likelihood of participation in MSE would lead to decrease by 1.81 %, all different components held steady as the age of the household increments by a year. To put it another way, women are most likely to participate in MSE when they have an age of younger. This is because when women get older and older, they shift to the products or services of smaller labour rigorous business options; additionally the more youthful are more responsive to ground breaking thoughts and are less danger unwilling than the more established. Further, an age increases of women was associated with lack of abilities to holder more worrying situations and older may increase less susceptible to adopt innovative behavior (Desta, 2010). The consequence of this examination is disagree with the works of Abraham *et al.*, (2015) found that age of MSE participants was significant and had positive effects on enterprises performance.

Educational level of the household: The result of first stage heckman selection model in this study show that, educational level of the households was emphatically and fundamentally influenced by the participation in MSE at under 1% likelihood level. Actually, the peripheral impact showed that if the education of women increments by one year would expand the likelihood of participation in MSE by 1.41% while assuming all other factors remain constant. This implies that women had acquired one more additional year of schooling enables them to be more aware of participation in MSE and more possible to participate than uneducated women. The explanation for this result is somewhat clear. This further implies that education increases knowledge and skill and hence, increases the

chances of the participation in MSE. Findings of the Mbugua *et al.*, (2013) disclosed that education had positive impacts on the women participation decision in micro and small enterprise. Along these lines, an improvement in the education of women can build their participation interest in MSE in the investigation region.

Business experience: The model outcome shows that business experience was decidedly and altogether influences the likelihood of the women participation interest at under 1% likelihood level. This positive relationship between business experience and participation could be attributed with the more experienced a woman with business is, the more they tend to decide to participate in MSE. The marginal effect demonstrated that business experience increments by one year would expand the likelihood of the women to participate in MSE by 2.85%, all different components stay steady. This implies that women who had prior experience lead to towards narrowing business management gap and to a higher initiate of the participation. Worth noting was that study like (Halkias *et al.*, 2011) found significant and positive association between business experience and participation. The results of this study can also agree with studies conducted by Selig (2014) showed that business experience had positive impact on the participation in MSE.

Access to Training: Access to training was decidedly and essentially influenced the women in MSE participation at under 1% likelihood level. The negligible impact demonstrated that a likelihood of participation in MSE would lead to increase by 22.35% as access to training increases while supposing all different elements stay consistent. This implies that in the investigation territory women had one or more access of business training lead to towards narrowing knowledge and skill gap in the operation of the business. This further suggests that training enhances women capabilities and likely increases the ability of them to accept more attitudes towards risk taking of business. Besides, women that had pleased of skilled are probable to become more efficient over time and would be able to narrow the information gap. Empirical study also showed that a availability of training contributes to the positive effect of participation in MSE (Netsaalem, 2011). Then again, the aftereffects of Ruth *et al.*, (2013) pointed out that lack of training has significant and negative effects on the participation in MSE.

Access to credit: Credit access was positively influenced participation at less than 5% probability level in MSE. Women with credit access are more likely to participate in MSE than those women who have not used credit. The marginal effect indicated that a use of credit increases that would increase the probability of participation by 9.24% while keeping all others variables remain constant. This implies that use of credit would have enabled women to overcome the financial constraint. This finding confirms the assumption that women with use of credit are more probable to have participation in micro and small enterprise. Indeed, use of credit improves the financial capacity, in this way expanding participation which is pondered the development of enterprises. This finding is in accordance with Netsaalem (2011) found that credit access had a positive and huge impact on participation. This outcome negates with the aftereffect of Haftom *et al.*, (2014) which specified that access to credit from budgetary institutions had significant and negative impact on the MSE participation.

Receiving remittance: Receiving remittance was positively and significantly affected to women participation at under 1% likelihood level. The positive relationship between receiving remittance and participation could be attributed with the getting remittance in terms of in kind and money a woman with business is, the more they tend to decide to participate in MSE. The marginal effect explained that if receiving remittance increases, would increase the participation decision of women in MSE by 10.36%; all other factors held constant. This implies that women receiving remittance are bound to participate in MSE than not used remittance. Actually, receiving remittance utilizes for financial support in the form of money or in kind (Zewede and Associate, 2002). Therefore, receiving remittance in the form of money or kind increases women participation in MSE. This agreements with the finding of Carolin *et al.*, (2017) who expressed that women who have got various financial option from various sources like remittance would help as the initial capital and for the expansion of existing business due to the fact that women able to participate in MSE.

Achievement motivation: -The achievement motivation was positively and significantly affects the participation in MSE at under 5% levels of significance. The negligible impact showed that when motivation of women increases,

the participation decision would increase by a total change of 11.27 %, all other factors held constant. This might be due to provisions observed by women can able with larger motive to run the units effectively to active the business growth. This is in accordance with the discoveries of Dagmawit, *et al.*, (2016) found that motivation had a positive and huge impact on the participation of MSE.

Information seeking behaviour: The consequence of first stage Heckman model revealed that the variable was positively and significantly influenced women participation decision at under 5% probability levels. The positive and noteworthy relation between the variable and participation indicate that women with having more information seeking behaviour about MSE bound to participate in MSE. The marginal effect of this variable confirmed that information seeking behaviour increases by the respondents, would increase the probability of participation decision in by 8.89 % while keeping all others variables remains constant. This implication in that women with high information are seeking behaviour is likely to decide to participate in MSE.

Initial capital: Initial capital had positive and huge impacts on the participation decision at not exactly a 5% likelihood level. The negligible impact revealed that the initial capital increments by one birr, it would build the likelihood of women to partake in MSE by 19.37%, all different elements held steady. The purpose is observable initial capital is bases for the involvement of women in business; hence those women who have available initial capital are more likely to participate in MSE. This might be due to precautions observed by women able with initial capital to run the business effectively to increase the participation. In other words, they were forced to use the available inputs wisely to increase their participation. This result of this examination is in accordance with the consequences of Habtamu *et al.*, (2013) found that initial capital influences participation in MSE positively and significantly. Controversial, this findings are not concurring with study conducted by Solomon *et al.*, (2016) found that an initial capital was negatively correlated and encounter to participation in MSE.

Table 4. Estimation result of first stage Heckman selection model

Variables	Marginal effect	Coefficient	Std.err	Z	P> z
Constant		2.092011	1.676273	-5.82	0.000***
Age	-.0181242	-.0870289	.0037056	-4.89	0.000***
Educational level	.014094	.0676766	.0049657	2.84	0.005***
Marital status	-.0221739	-.1064749	.0190958	-1.16	0.246
Household size	.0098274	.0471892	.0116855	0.84	0.400
Dependency ratio	.0200661	.0963537	.0320382	0.63	0.531
Business experience	.0285022	.136862	.0084721	3.36	0.001***
Access to training	.2235285	1.073341	.0319956	6.99	0.000***
Access to credit	.0924112	.4437404	.0376767	2.45	0.014**
Access to market	-.048759	-.2341312	.0453059	-1.08	0.282
Access to transportation	.045392	.2179637	.0482962	0.94	0.347
Receiving remittance	.10361	.4975148	.0390409	2.65	0.008***
Mass media ownership	.060604	.2910085	.0463859	1.31	0.191
Achievement motivation	.1127064	.5411944	.0454913	2.48	0.013**
Information seeking behaviour	.0889034	.4268967	.043565	2.04	0.041**
Initial capital	.191377	.9189551	.028794	6.65	0.000***
Household asset	.0495424	.2378931	.0309968	1.60	0.110

Number of observation =385	LR chi2(16) = 245.76
Log pseudo likelihood = -141.34597	Pseudo R ² = 0.4651

***, **, * are significant at 1, 5 and 10 percent probability level, respectively
Source: Own computation (2020)

3.3.2. Factors affecting the intensity of women participation in MSE

The results of the second stage Heckman selection estimation for the amount of sale of the products or services in Ethiopian Birr. The overall joint goodness of fit for the Heckman selection model parameter estimates is assessed based on the Wald-chi-square test. The null hypothesis test is that all coefficients are jointly zero. The model chi-square test applying an appropriate degree of freedom indicated that the overall goodness of fit for the Heckman selection model is statistically significant at less than a 1% probability level. This shows that jointly the independent variables included in the selection model such as educational level, access to market, access to transportation, and achievement motivation are significantly affected the number of sales of the products or services.

The coefficient of mills ratio in the Heckman two-stage estimation is significant at the probability of less than 10%. This explains that sample selection bias, the existence of some unobservable characteristics determining the likelihood to participate in MSE and thereby affecting the number of sales of the products or services in Birr. Out of 12 explanatory variables, four variables such as the educational status of the household, access to market, access to transportation, and achievement motivation significantly affect the amount of the sales of products or services. Hence, the results of the second stage Heckman selection model estimation of the determinants of intensity participation in MSE is given in Table 5.

Estimation result of second stage Heckman selection model

Educational level of the Household: Educational level was positively and essentially influenced the quantity of yearly deals of the products and services at under 10% likelihood levels. The positive result indicates that more educated women are more participated in MSE, more increase the volume of sale rather than uneducated. The result reveals the educational level of women increases by one year that would increase the likelihood of the amount of sale volume of the products or services by 263.91 birr, all other factors held constant. Therefore, education increases the women knowledge and the skill of them to increase the amount sales of products or services. This is likewise reliable with an investigation completed by Mbugua *et al.*, (2013) found that the educational level of the businesspeople positively affected the firm achievement.

Access to Market: The second stage Heckman selection model reveals that admittance to the market was emphatically and significantly influences the amount of sale of the products or services at under 10% likelihood level, meaning that access to market reveals a positive relationship with amount of annual sales of the products or services. The coefficient of the model shows that when the access to market for the products or services increases, the amount of sale of the products or services increased by 2166.038 birr, all different elements held consistent. The suggestion is that the availability of market information, linkage and appropriate market place to the products or services increases the chance of women to have a good sale for their products or services. Study by Abraham *et al.*, (2015) found that access to market for the products or services was measurably critical and positively affected the performance of the enterprises. Also, an examination led by Chuthamas *et al.*, (2010) uncovered that admittance to the market has a critical constructive outcome on the development of MSE in terms of amount of annual deals.

Access to Transportation: Access to transportation was emphatically and fundamentally impacted the amount of sales at not exactly a 5% likelihood level. This shows that access to transportation for women product or services increases that would in the amount of sales by 2710.714 Birr, all different components held steady. This notification

that women with available admittance to transportation is critical to speed up their business activity particularly for service and or products (Halkias *et al.*, 2011).The findings concur with study by Belay (2014), on the relationship of motivational and success factors with entrepreneurial success.The study stated that access to transportation contributes to the finding new markets and importing raw materials from where it widely available and positively influences. Similarly, the presence of transportation services for products or services offers women with high chance to have good sales.

Achievement Motivation: Achievement motivation affects positively and significantly the annual sales of the products or services at less than 1% probability level. Other things holding constant, when motive of women increases, the amount of sales would increase by 4232.469 birr. This might be due to provisions observed by women able with higher motive to run the business effectively to active the business success. This is in accordance with the discoveries of Abdullahi *et al.*, (2016) indicated that great need of achievement could enable women to produce more outputs and expand their business and hence, it has a positive effect on MSE success.

Table 5. Estimation result of second stage Heckman selection model

Variables	Coefficient	Std.err	Z	P> z
Age of the household	-105.5025	112.168	-0.94	0.347
Educational level	263.91	140.962	1.87	0.061*
Household size	214.9474	330.5594	0.65	0.516
Dependency ratio	399.9674	834.8455	0.48	0.632
Business experience	21.45229	195.066	0.11	0.912
Access to training	1527.486	1224.919	1.25	0.212
Access to market	2166.038	1158.619	1.87	0.062 *
Access to transportation	2710.714	1211.379	2.24	0.025**
Mass media ownership	206.376	1371.552	0.15	0.880
Achievement motivation	4232.469	1241.092	3.41	0.001***
Information seeking behaviour	1568.837	1052.56	1.49	0.136
Initial capital	1482.267	927.9245	1.60	0.110
Constant	-7878.764	10517.13	-0.75	-0.75
Mills/lambda	3107.812	1879.974	1.65	0.098*

Number of observation = 385 Censored observation = 170
 Uncensored observation = 215 , Wald chi2(17) = 42.40 Prob > chi2 = 0.0006

***, **, * are significant at 1, 5 and 10 percent probability level, respectively

Source: Own computation (2020).

4. Conclusion and Implication

The principal point of this examination was to analyze the determinants of women's participation in MSE and intensity of participation in the Hadiya zone, Ethiopia. The outcomes from the Heckman two-stage choice model indicated that women participation in MSE was positively and significantly affected by educational status, business experience, access to credit, access to training, achievement motivation, receiving remittance, information seeking behavior and initial capital while variable age was negatively related and does significantly determine participation decision of the women in the investigation territory. The Heckman two-stage selection model demonstrated that the intensity of women participation in Micro and Small Enterprises was significantly influenced by educational status of the household, access to market, access to transportation, and achievement motivation. Hence, the government and concerned bodies should give due attention to those variables which significantly influencing women participation decision in MSE and its intensity in the study area. Therefore, it is important that the concerned bodies

should launching particular micro-finance services that help women must be stimulated, provide skill and knowledge development training before and after their participation in MSE, awareness and skills acquisition training for women should be established at the grass roots level by the local government authority to ensure participation and success of their participation, and there should be adjusted well-known relations among the MSEs which are established with experience like business planning, organization and overall operating systems of MSE activities and the remittance receiving channels like banks and post-offices. It is also suggested that women should formulate their own goal to achieve their activity by their own attention and they participate in business by their own choice nevertheless of other alternatives accomplish well and actions need to be accepted to offer incentives for women who have faced lack of available initial capital. It is also important to better understand the enabling women participated business interconnecting with other business would lead them cooperatively rather than competitively, business systems administration and sub-contracting with different business is a crucial to boost annual sales of products or services. In addition, the government and concerned bodies should facilitate the access of transportation through rehabilitation of road in the investigation zone. Overall, the findings of this study recommended that there is need to encourage women to join MSEs sector as well as they should shift from informal economic activities to the formal sector because of this study has found women participation in micro and small enterprises raise income as a result poverty alleviation.

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