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The impact of Gender on Entrepreneurial Aspiration: A Study in Africa

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Abstract:
This paper aims to identify the impacts of Gender on Entrepreneurial Aspiration (growth expectation, innovation, internationalization and industry preference) in Africa. We use data from the Global Entrepreneurship Monitor survey (GEM) which cover at least 2,000 individuals per year which comprises about 55 countries. After eliminating observations that are inconsistent or have critical missing values, we use a sample of 769 individuals. Generalized structural equation modeling was used to analyze the data. The finding of this study indicates that gender has a negative impact on entrepreneurial aspiration. Accordingly, women are less likely than men to have growth expectation for their firms. Similarly, women are less fortunate enough than men to internationalize their product or service. With regard to entrepreneur's innovativeness it is measured in three different ways. As a result, the variance in measurement necessitated to have different results. Consequently, from competitors' as well as technological perspectives women are less likely than men to have Innovation for their firm**.** While from potential customer's consideration regarding their products' or services' newness or unfamiliar, the finding shows the opposite result. On the other hand, in terms of entrepreneurial industry preference, the study founds the opposite result that indicates entrepreneur's industry preference will not differ by gender. Future studies should focuses on comparative analysis to compare with other emerging countries to examine the impact of gender on entrepreneurial aspiration and how they overcome the challenges that might faces. The finding of this study has implications for researcher and policymakers. This research will be contributed to the entrepreneurship literature by incorporating the impact of gender on entrepreneurial aspiration in Africa.

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1. Introduction

Entrepreneurship has a critical role in national economies' of different countries since it resonate their economies by redesigning the existing business on the one hand and creating the new ones on the other hand (Bridget, 2016). In fact, entrepreneurship has been taken as a vital and critical drive, which enhances productivity, innovation and job creation. To this end, it helps for sustained economic and social development (Audretsch, 2012; Parker, 2009; Wennekers et al., 2005; and Shane and Venkataraman, 2000). Entrepreneurship is deeply rooted in the culture of the society whereby the society exercises it, which is considered as gendered that manifests itself in a symbolic way (Bruni et al., 2004). As an idea, gender issue is a socially constructed phenomenon which helps to analyze how women and male counterparts ascribed to different roles that deemed to be reflected in as power imbalance (Bruni et al., 2004 and Swidler, 2001).

Moreover, 'gender' is a central issue that characterizes entrepreneurship (Sarfaraz et al., 2014). To this background, however, there exist meager studies concerning gender issue in relation to entrepreneurship, innovation and internationalization though recent attempts shows an increase in magnitude as to the said research (Alsos et al., 2013; Orser et al., 2010). Accordingly, the absence of sufficient amounts of research in respective area has culminated in the lack of accumulated knowledge and understanding that could have helped to comprehend the difficulties and the relationships that prevail among these issues (entrepreneurship, growth, innovation, industry preference and internationalization). Due to clear pattern among female and male entrepreneurs, the difference in concentration of venture type, for example, males are more focused on STEM fields, while females are inclined towards services and highly routine tasks (Kelley et al., 2017; McCracken et al., 2015), and different level of growth expectation in their venture (Klapper and Parker, 2011); as well as different goal action and perception about business (Dilli and Westerhuis, 2018; Minniti, 2009). These anomalies are not peculiar to developing countries. Similarly, the potential economic growth of most industrialized countries remains to be gendered (Arenius and Kovalainen, 2006). According to the existing knowledge, the study about high growth expectation entrepreneurship from gender point of view is rare (e.g., Davis and Shaver, 2012; Estrin and Mickievicz, 2011). Nevertheless, few researches have emphasized the roles that gender plays in entrepreneurial aspiration, the involvement and dissimilarities in creation of new businesses. Yet, most of the studies on the other hand have paid attention on a particular region or single country that includes small number of variables (Tan, 2008; Morris et al., 2006; Welter et al., 2003; Gundry and Welsch, 2001; Alsos and Ljunggren, 1998; Zapalska, 1997). During the past decades, entrepreneurship research has not received much academic attention in Africa, even though African countries are coming into scene as an emerging economic driving force (Dvoulety and Orel, 2019; Mahmood, Atiase, Wang, and Botchie, 2018; Ratten and Jones, 2018; George, Kotha, Parikh, Alnuaimi, and Bahaj, 2016; Kuada, 2015; Munemo, 2012). In fact, entrepreneurial attitude and entrepreneurship are well known all over African region, as one of the factor that positively influences economic growth. This is particularly essential for Africa, whereby youth unemployment rate has remained to be alarmingly high in all sectors, as it is noted by Chigunta (2017). Entrepreneurship therefore, helps to make a pathway out of poverty for unemployed youth and the like although they face many institutional challenges. Although several studies have been conducted to identify the impact of gender on entrepreneurial aspiration, most of them have been concentrated in the Western countries, namely, North America and Europe (Vidhula Venugopal, 2015). Thus, very little research has been conducted in African context. Cognizant to the above background therefore, the objective of this research is to identify the impacts of gender on entrepreneurial aspiration (growth expectation, innovation, internationalization and industry

preference) in Africa. To this end, it attempts to answer the research question about what are the impacts of Gender on entrepreneurial aspiration (growth expectation, innovation, internationalization and industry preference), by using Generalized Structural Equation Model.

2. Theoretical Framework and Hypotheses

2.1 Social Role Theory: Gender and Entrepreneurial Aspiration

As to social role theory sex similarities and differences relating social behavior emanates mainly from the social role assigned to both men and women by their respective societies. As a result, due to socialization and the formation of gender roles, the behavior of men and women induce and hold out the division of labor. Society perceives and understands social groups in accordance with their designated social roles which have been perpetuated through experience (Wood and Eagly, 2012). Thus, social role theory gives emphasis to typicality of group's role that is defined by group member being observed to inhibit them disproportionately in number in contrast with the representation of groups' within the society (Koenig and Eagly, 2014; Fiske et al., 2002). This social role expectation differentiates among social groups and their particular roles. This difference follows from the extent in which settings of roles and groups are important. Accordingly, roles are a set of expectation that related with a specific social position with in particular kind of setting (Staines, 1986). According to Powell (2011), due to different role entrusted to women and men in the society, what considered acceptable behavior for women and men are different which indicates gender stereotype. Moreover, gender role theory indicates expectation associated with women's and men's role shapes perception about the kinds of occupation which are recognized suitable for each sex (Eagly and Karau, 2002). For instance, construction and engineering are categorized as masculine occupation, whereas childcare and nursing are identified as feminine occupation (Heilman, 2012). Besides, profession related with behavior of leadership, power and authority have a tendency to be categorized as masculine (Powell and Butterfield, 2015). Similarly, as it is stated by Marlow (2002) and Ahl (2006), entrepreneurship has been categorized as masculine profession. Even though, classification could be shifted over time, being entrepreneur remains to be observed as masculine business (Gupta et al., 2009). Likewise, achieving success being entrepreneur could be related with masculinity (Gupta and Turban, 2012; Eddleston and Powell, 2008; Bird and Brush, 2002). Since successful entrepreneur has been described as aggressive, bold, risk taker behavior it has typically been related with masculinity (Gupta and Turban, 2012). Because of masculine context in entrepreneurship, "the stereotype of 'think successful entrepreneur –think male'" continues to endure (Eddleston et al., 2016; Balachandra, et al., 2017).

2.2 Gender and Entrepreneur's Growth Expectation

In developed countries innovative and high growth expectations of entrepreneurship was a factor of national economic growth (Wong and Autio, 2005). Firm's growth is important since it contributes in socio-economic development, especially in creation of jobs and tax revenue (Douglas, 2013; Lichtenstein, 2000). Besides, Africa has "on average the lowest proportion of non-employer entrepreneurs with 35%, of the economies with less than 15% of entrepreneurs that expecting to create no jobs in the next five years in the region, like South Africa and Burkina Faso" (GEM 2016/20017). Generally, "less than 30% of all entrepreneurs' expect to add with more than six employees in the following five years, still there is a considerable gender gaps with 18.7% of women entrepreneurs expects growth highly when compared to men with 29% of entrepreneur" (GEM, 2018/2019). Business growth is mainly essential for the societal benefits like technical advancement, job creation and improved average of living (Armington and Acs, 2002; Acs and Mueller, 2008; Carree and Thurik, 2003).

Research indicates that a positive association between following growth and growth aspirations (Stenholm, 2011; Delmar and Wiklund, 2008). Thus, it is significant to examine the growth aspirations of entrepreneurs which make strategic decisions causing in growth (Covin and Slevin, 1991; Sexton and Bowman-Upton, 1991; Achtenhagen et al., 2010). Moreover, countries vary in policies for firm's growth in which entrepreneur growth their venture and expectation for growth (Autio, 2005; Morris et al., 2006). As it is noted by Davidsson et al., (2010), entrepreneur's future choices influences by a number of factors, since entrepreneurial growth is a difficult phenomenon. Thus, certain research indicates that a relationship between personal entrepreneurial characteristics, particularly gender and ventures future expectation (Schøtt and Bager, 2004; Delmar and Davidsson, 2005; Edelman et al., 2010; Wiklund and Shepherd, 2003; Gundry and Welsh, 2001; Stuart and Abetti, 1990; Gupta et al., 2009; Kolvereid, 1992).

In most industrialized countries economic growth potential is gendered (Arenius & Kovalainen, 2006); therefore, study growth expectation from gender perspective is relevant and essential. However, to our knowledge research gender perspective from growth expectation of entrepreneurship is scarce (e.g., Davis & Shaver, 2012; Estrin & Mickievicz, 2011). Besides, at individual level researches have explore the impacts of gender, however most of them have failed to recognize direct influence of gender on growth aspirations (Levie and Autio, 2011).Gender plays a pivotal role in entrepreneurial intents, motivations and performance (For instance, Davis and Shaver, 2012; Kolvereid, 1996; Gupta et al., 2009). Moreover, various studies indicate that gender influence in determining the growth and business performance of the venture (Esra Karadeniz & Ahmet özça, 2010). Additionally, Manolova, Brush, Edelman and Shaver (2012), show gender significant differences in the growth intents of new business creators, as well as difference in desired outcomes and motives. However, other studies argue that no gender differences in preference and aspirations for growth (Kolvereid, 1992; Menzies, Diochon, & Gasse, 2004). Based on the above discussion, this study proposed:

H1: an entrepreneur's growth expectation will differ by gender, such that women are less likely than men to have growth expectation for their firms.

2.3 Gender and Entrepreneurial Innovation

The term 'innovation' originated from innovare, which translate into "to make something new" (Bessant et. al 2001). Likewise, 'innovation' considered as resource that has been "underused", combining this resource will creates more value (Adair, 2009). Invention is the concept often confused with innovation, while the idea is formed by invention, creation or discovery; 'innovation' means changing these ideas into a productive use (Thanti Sibonelo Mthanti, 2014). As it is noted by Palalic and Busatlic, (2015), Fellnhofer et al. (2016), innovativeness is the "milestone for any enterpreneurial activities". Generally, 'innovativeness' is considerd as the processess in which value is added to new service and product (Ramo Palalic, Veland Ramadani, Leo Paul Dana, 2017). Innovation is broadly acknowledged as essential tool for firm's growth (O'Regan et al., 2006), as a significant factor to improve performance and creation of competitive advantage (McEvily, Eisenhardt, & Prescott, 2004). As it is note by (Wiklund, Patzelt, & Shepherd, 2009), firm's innovative driven can have a positive influence on organizational growth, and also innovation is positively related with revenue growth (Freel & Robson, 2004; Thornhill, 2006). Since innovation creates opportunities for growth (Cho & Pucik, 2005). As research indicates that the significance of entrepreneurship and entrepreneurs for economic growth, by introducing innovation, creating change, enabling technological development, improving wealth, motivating venture development and job creation (Wong et al., 2005).

Globally, countries are at different levels of development in the creation of national innovation systems depending on population, industrialization and wealth (Huyer, 2015; Nelson, 1993). For example, African exports are based on dominance of the commodities and raw materials (Henson, Masakure, & Cranfield, 2011; Marco & Patterson, 2010) where the growth oriented, innovative entrepreneurial activities less prevails. As a result the regional level of innovation intensity is low in Africa with 20% (GEM, 2016/2017). Gender and innovation literature is one of the most important contributions to challenge the existing definitions and concepts of innovation, which exposes the implicit masculinities that control the idea of innovation and to indicate future research direction in the literature (Ahl, 2004; Lindberg and Udén 2010; Andersson et al., 2012; Danilda and Granat 2011; Thorslund, Lindberg, 2007, 2010; Lindberg et al., 2012). Based on the above discussion, this study proposed:

H2. Entrepreneur's Innovation will differ by gender; women are less likely than men to have Innovation for their firm.

2.4 Gender and Entrepreneurial Internationalization

Most of African nations are inspiring enterprises to expand their export bases than traditional exports of natural resources to attract foreign exchange income (Asiedu, 2006; GPRS, 2003; Kuada and Sorensen, 2000; Hinson and Sorensen, 2006). However, the issue of internationalization in African venture seems much serious due to the fact that share of some African ventures has been increased in the global economy (Ibeh, Wilson & Chizema, 2012; Roberts and Thouborn, 2003; Ibeh, 2001), as well as due to high transaction costs, including for firms and investors, difficulty of operating environment, due to lack of political stability and necessary resources for growth (Fukunishi, 2004, Ibeh, Wilson & Chizema, 2012). The role of "gender in international trade environment remains virtually unexplored, amongst other", Zahra (2005) and Andersson and Wictor (2003), called for more empirical research to explore exporting. Indeed, little research has analyses this case with current work based on samples from developed nation (Denmark, Canada, the United Kingdom and Australia) (Orser et al., 2010).

Gender difference in performance is described by systemic variances in venture attributes and owner (Johnsen & McMahon, 2005; Collins-Dodd, Gordon, & Smart, 2004; Watson & Robinson, 2003; Fascri & Valdez, 1998). Hence, only a handful study has tried to shed light specifically on internationalization process in relation with gender (Lee et al., 2016; Rosenbaum, 2017; Orser et al., 2010). However, there are possibly high contributions in which the research of gender could bring to the theory of internationalization, by assuming that differential approaches and motivations women brings to such venturing (Welch et al., 2008). Moreover, gendered societal arrangements are limit the approaches and choices of industry around the globe affecting resources, access to capital and networks which are critical to internationalization (Lee et al., 2016). As it is noted by Gupta et al., (2009); Greene et al., (2013), "entrepreneurship is related with gender role stereotypes, which can negatively affect women's evaluation of new venture opportunities including international opportunities" (Gupta et al., 2014). According to GEM (2018/2019) global report, women in high-income countries found high percentage of international sale with 14.3%, whereas, those in middle-income with 11.8% and low-income countries with 8.2% are low percentage of international sales.

Additionally, research in sociology, psychology, management and economics show that women have a tendency to be risk-averse than men (Byrnes et al., 1999; Aculai et al., 2006), that influence investigation of new international opportunities. As it is noted by Orser et al.,

(2010), comparatively internationalization is common in male dominated sector like manufacturing, hence industry-specific factors could have significant influence on the accumulation of resource which is important for internationalization including international experience and networks (Albena Pergelova et al., 2018). Based on the above discussion, this study proposed:

H3. Gender has a negative impact on entrepreneurs Internationalization for their firm, that women are less likely than men to internationalize their product or service.

2.5 Gender and Entrepreneurial Industry Preference

Over the last three decades looking at the gender composition of industries, some of it has stayed largely male dominated, since others have developed female dominated or gender neutral (Cabrera et al. 2009). Therefore, if industries are dominated by a particular gender, this leads to industry gender typing and gender could happen (Ia Ko, Lindsey Kotrba & Adam Roebuck, 2015). Generally, technology is supposed as a "male" concept, while "understanding the gendered relationship between entrepreneurial venturing and technological innovation [remains a] largely neglected area of research and policy" (Wynarczyk, 2006). Prior research indicates that gender is embedded and enacted in organizational practice (Martin, 2003, 2006). The situation may be leads to unconscious process, which depends on implicit knowledge and challenging to explain, that is learned over time as a continuing process (Gherardi and Poggio, 2001; Martin, 2006, 2003). Thus, this might affect women in 'SET' cultures (Lynn Martin, Lucy Wright, Zuleika Beaven, 2015). Study examining company ownership acknowledged that male owned business predominate, since minority of female owned business focus on "non-SET sectors" (Carter et al., 2001; Marlow and McAdam, 2011). For example, in UK the service businesses and current Labour Force Survey indicates that female-owned (SET) business "is staggeringly small […] with ten times as many male-owned companies" (Kent, 2007). Furthermore, high-tech entrepreneurship is a sector in which women's involvement is exceptionally lower than their male counterparts (Baron, Hannan, Hsu, and Kocak 2002). As it is noted by Reynolds et al. (2004), in 2004, women constitutes less than 5 percent of high-tech entrepreneurs and women-owned venture fund represents less than 5 percent. The high-tech industry represents an important factor for contemporary economic activity, thus participation of women in entrepreneurship has an effect for overall competitiveness and national economic development (Mitchell 2011).

Gender gaps in high-tech entrepreneurship emphasis on social and human capital, since women have a lesser amount of achievement in entrepreneurship due to the fact that they are less probable than men to have experience and education in technology (Greene et al. 2003; Simard et al. 2008), (Simard et al. 2008; Greene et al. 2003), or/and in relation to strategic entrepreneurial technology (Brush et al. 2006). For example, according to GEM Global report (2016/2017) and (2018/2019) indicate that globally, women constitute 53.4% in "wholesale/retail trade" in contrast with men's activities with 43.5%. Thus, Women entrepreneur's involvement is remain in education, health, government and social services. Moreover, the biggest gender gap is exists in mining, agriculture and information, communication and technology, while men entrepreneurs are more than double as women to operate, 16 countries described as no women in information, communication and technology (ICT) sector. Moreover, the highest level of "retail/wholesale" activities in Africa as well as Oceania and Asia operate in this sector, where as in the field of finance, technology and professional services only 13% in Africa. Moreover, women participation in technical occupations in labour force constitutes about 16% cent (Lauxen-Ulbrich and Leicht, 2004). Among the "self-employed" in this sector only each tenth individual is a woman (Metzger et al., 2008). In an entrepreneurship context, it might be considered as to mimic the socially

assigned role of "women as nurturers", a role is incompatible with more self-actualizing illustration of the "ideal entrepreneur" (Rowse, 2014; Foss and Henry, 2014). According to Maria Lohan (2001), technology is not an impartial machine; rather than it is part of "social fabric" of the world. Technology gains a gender characteristic which reflects in our daily structural relation and our cultural meaning system. Likewise, technologies are not invented by a single person while it shaped and influenced by the social and gender relations (Ruth Oldenziel and Karin Zachmann, 2009). Technology is also considered as inherently masculine that viewed as another mechanism to discriminate women. As a result women are rejected from technology, since it is the product of masculine culture (Wajcman, 2000). Men and women are considered as different in relation with technology due to their different role that they are accorded by society (Gitta Victoria Brüschke, 2012). Based on the above discussion, this study proposed:

H4. An entrepreneur's Industry Preference will differ by gender, such that women are less likely than men to have high-tech industry for their firm.

3. Research method

3.1 Data and Sample

The sample is weighted to each country's census adult labor force, which will be derived from the Adult Population Survey (APS) and conducted by Global Entrepreneurship Monitor (GEM). GEM is a cross-national research project conducted particularly for entrepreneurship. So, using GEM dataset will uniquely be advantageous for this research due to various reasons. Moreover, APS also has specific information about individuals' aspiration to involve in entrepreneurial activity (Bergmann et al., 2014). The GEM data set will be "anchor" due to the fact that it is important for dependent variable as a main source; it is also source for independent variable. After eliminating observations that are inconsistent or have critical missing values, we use a sample of 769 individuals.

3.2 Construct Measurement

Table 1: Construct measurement

Variable	Definition	Level	Source
Independent Variable			
Gender	0 for Female & 1 for Male	Individual	GEM APS 2016
Dependent Variables			
Growth Expectation	-"How many people will be working for this business, not counting the owners but including all exclusive subcontractors, when it is five years old? By exclusive subcontractors, we mean only people or firms working ONLY for this business, and not working for others as well".	Individual	GEM APS 2016
Innovation	- "Will all, some, or none of your potential customers consider this product or service new and unfamiliar"? - "Right now, are there many, few, or no other businesses offering the same products or services to your potential customers"? - "Have the technologies or procedures required for this product or service been available for less than a year, or between one to five years, or longer than five years"?	Individual	GEM APS 2016
Internationalization	- "What proportion of your customers will normally live outside your country? Is it more than 90%, more than 75%, more than 50%, more than 25%, more than 10%, or 10% or less"?	Individual	GEM APS 2016
Industry Preference	- "Sector: sector's technological level (0= Low/not technology, 1= High/Medium technology")	Individual	GEM APS 2016

Source: own construct

The variables include: (a) one independent variable – gender; (b) dependent variables - the entrepreneurial aspiration consist of growth expectation, innovation,

internationalization, and industry preference. Additional justification and details for each variable are discussed below.

3.3. Data Analysis

Prior to test the proposed conceptual model in this study, first it will examine the characteristics of the data, and then appropriate statistical technique could be employed. Therefore, generalized structural equation modeling (GSEM) is appropriate for this research which allows estimating binary responses (Rabe-Hesketh, Skrondal, & Pickles, 2004). This research is consists of one latent variable (entrepreneurial aspiration), four observed indicators (growth expectation, innovation, internationalization, and industry preference) and one observed predictor (Gender). Thus, the model is appropriate for the family of multiple indicator and multiple causes (MIMIC), which is special case of SEM. This method is important for this research, since it allow us to represent the result or output as a latent variable which may not be measured directly however, it has a cause and effect relationship that are observable. The MIMIC model is structural equation, it comprises of two models: the measurement model which shows the link between latent variables (unobserved) to indicators (observed), and the structural model, which indicates the relationship between unobserved variables and casual ones. First the measurement models were tested then the structural model was estimated. The formal structure of the model has discussed as follows:

$$\eta = \gamma x + \varsigma \text{ (Structural Equation) (1)}$$

$$y = \lambda\eta + \varepsilon \text{ (Measurement Equation) (2)}$$

Where q-vector x= (x1, x2….xq) is a vector of casual variable potential of the latent variable η entrepreneurial aspiration. $\gamma = (\gamma 1, \gamma 2 \ldots \gamma q)$ the coefficient of vector indicates the relationship between latent variable and its causes. The error term ς describes the unexplained component. Indeed, the measurement model links the latent variable to indicators. Which Y= (y1,y2,….yp) is a vector of numerous indicator variables like growth expectation, innovation, internationalization, and industry preference, λ implies corresponding coefficient vector and ε a p-vector of white noise disturbance. Thus, the MIMIC model is concurrent specification of factor model and structural model.

4. Descriptive statistics

Table 2: Demographic profile of respondent

Country	Burkina Faso	Cameroon	Egypt	Morocco	South Africa	Total
Gender						
0. Male	197 (52.7%)	100 (56.8%)	55 (80.9%)	20 (55.6%)	69 (60%)	441 (57.4%)
1. Female	177 (47.3%)	76 (43.2%)	13 (19.1%)	16 (44.4%)	46 (40%)	328 (42.7%)
Education						
0. No Education	300 (80.2%)	27 (15.3%)	6 (8.8%)	8 (22.2%)	4 (3.5%)	345 (44.7%)
1. Up to secondary	44 (11.8%)	52 (29.6%)	3 (4.4%)	8 (22.2%)	29 (25.2%)	136 (17.7%)
2. Secondary and above	30 (8%)	97 (55.1%)	59 (86.8%)	20 (55.6%)	82 (71.3%)	288 (37.5%)
Work status						
0. others	123 (32.9%)	19 (10.8%)	6 (8.8%)	4 (11.1%)	28 (24.4%)	180 (23.4%)
1. Full & part timer work	251 (67.1%)	157 (89.2%)	62 (91.2%)	32 (88.9%)	87 (75.6%)	589 (76.6%)
Income level						
0. Lower 33%	59 (15.8%)	46 (26.1%)	12 (17.7%)	6 (16.7%)	18 (15.7%)	141 (18.3%)
1. Middle 33%	167 (44.7%)	49 (27.8%)	23 (33.8%)	10 (27.8%)	44 (38.3%)	293 (38.1%)
2. Upper 33%	148 (39.6%)	81 (46%)	33 (48.5%)	20 (55.6%)	53 (46.1%)	335 (43.6%)

Source: Software output

In this study, male constituted 57.4 per cent while 42.7% are female. In addition, when we look at work status, most them were are full and part time work which is 76.6% and others are constituted 23.4%, with regard to income level 43.6% are in upper, 38.1 % in middle and 18.3% are in lower level. In terms of educational qualification, the majority of respondents'

does not attained education, while 37.5% them are at least attained secondary and above and 17.7% of them attained up to secondary school. Generally, this figure is varying among each sample country.

Table 3: Entrepreneurial aspirations across each sample countries

Constructs	Burkina Faso	Cameroon	Egypt	Morocco	South Africa	Total
suy5job	374	176	68	36	115	769
Sunewcst						
0. All	13 (3.5%)	14 (8%)	9 (13.2%)	12 (33.3%)	26 (22.6%)	74 (9.6%)
1. Some	138 (36.9%)	73 (41.5%)	14 (20.6%)	12 (33.3%)	33 (28.7%)	270 (35.1%)
2. None	223 (59.6%)	89 (50.6%)	45 (66.2%)	12 (33.3%)	56 (48.7%)	425 (55.3%)
Sucompet						
0. Many competitors	197 (52.7%)	113 (64.2%)	37 (54.4%)	29 (80.6%)	61 (53%)	437 (56.8%)
1. Few competitors	156 (41.7%)	55 (31.3%)	16 (23.5%)	6 (16.7%)	45 (39.1%)	278 (36.2%)
2. No competitors	21 (5.6%)	8 (4.6%)	15 (22.1%)	1 (2.8%)	9 (7.8%)	54 (7.0%)
Sunewtec						
0. <1year	3 (0.8%)	29 (16.5%)	16 (23.5%)	22 (61.1%)	34 (29.6%)	104 (13.5%)
1. 1-5 years	13 (3.5%)	34 (19.3%)	20 (29.4%)	13 (36.1%)	35 (30.4%)	115 (15%)
2. >5 years	358 (95.7%)	113 (64.2%)	32(47.1%))	1 (2.8%)	46 (40%)	550 (71.5%)
Suexport						
0. others	73 (19.5%)	73 (41.5%)	20 (29.4%)	12 (33.3%)	67 (58.3%)	245 (31.9%)
1. None	301 (80.5%)	103 (58.5%)	48 (70.6%)	24 (67.7%)	48 (41.7%)	524 (68.1%)
TeayyTec						
0. No/low technology	369 (98.7%)	171 (97.2%)	67 (98.5%)	33 (91.7%)	112(97.4%)	752 (97.8%)
1. Medium/high tech.	5 (1.3%)	5 (2.8%)	1 (1.5%)	3 (8.3%)	3 (2.6%)	17 (2.2%)

Source: Software output

Table 3 compares entrepreneurial aspirations across each sample countries, based on the result, for Burkina Faso 374, Cameroon 176, Egypt 68, Morocco 36 and South Africa 115 people are working for their business.

In terms of entrepreneur's innovativeness, will all your potential customers consider the product or service new and unfamiliar? When we look at each sample countries among entrepreneurs, the result indicates that in Morocco 33.3%, While in South Africa 22.6%, in Egypt 13.2%, in Cameroon 14.8% and 3.5 % in Burkina Faso, their customers are consider the product or service they provide as new and unfamiliar. Will some of your potential customers consider this product or service new and unfamiliar? In this case in Cameroon entrepreneurs constitutes 41.5% which is high, while 36.9% in Burkina Faso, 33.3% in Morocco, 28.7% in South Africa and 20.6% in Egypt. Will none of your potential customers consider this product or service new and unfamiliar? The result shows high in Egypt's entrepreneurs 66.2%, in Burkina Faso 59.6%, in Cameroon 50.6%, in South Africa 48.7% and 33.3% in Morocco. Mostly we when see entrepreneur innovativeness, majority of them which constitute 55.3% their customers consider that none of their product or service new and unfamiliar, while some of them consider some of their product or service new and unfamiliar 35.1%, and only 9.6% of them considered their product or service is new and unfamiliar. Furthermore, in case of competitors the result found that Morocco's entrepreneurs feel have more competitors who offer the same product or service for their potential customers which constitute 80.6%, while in Cameroon 64.2%, in Egypt 54.4%, in South Africa 53% and 52.7% in Burkina Faso. However, 41.7% of Burkina Faso's entrepreneurs consider have few competitors, while 39.1% South Africa, Cameroon 31.3%, Egypt 23.5% and 16.7% Morocco. On the other hand Egypt's entrepreneur feel have no competitors which are 22.1%, while in South Africa 7.8%, Burkina Faso 5.6%, and Cameroon 4.6% and 2.8% in Morocco. Generally,

56.8% of entrepreneurs feel have many competitors for their potential customers, while 36.2% considered have few competitors and 7.0% feels have no competitors. Besides, the result found that, 61.1% of Morocco's entrepreneurs have the technologies or procedures required for their product or service has been available for less than a year, while 29.6% in South Africa, 23.5% in Egypt, 16.5% in Cameroon and 0.8% in Burkina Faso which is very low. However, 36.1% of Morocco's entrepreneur consider between one to five years, while 30.4% in case of South Africa, 29.4% in Egypt, 19.3% in Cameroon and 3.5% in Burkina Faso. Moreover, 95.7% of Burkina Faso's entrepreneur recognize longer than five years, while 64.2% in Cameroon, 47.1% in Egypt, 40% in South Africa and 2.8% in Morocco. Generally, 71.5% entrepreneurs indicates the technologies or procedures that required for their product or service has been available for longer than five years, while 15% of them between one to five years and 13.5% less than a year. In terms of entrepreneur's internationalization, in Burkina Faso only 19.5%, Cameroon 41.5%, in Egypt 29.4%, in Morocco 33.3% and South Africa 58.3% of their customer are live outside their country. While 80.5% of Burkina Faso entrepreneur doesn't have customer that live outside their country, similarly 58.5% in Cameroon, 70.6% of Egypt, 67.7% of Morocco and 41.7% of South Africa's entrepreneur have no customer outside of the country.

In the case of entrepreneur's industry preference, the result shows that 98.7% Burkina Faso's entrepreneur recognized no/low technological level for the sector, while 98.5% in Egypt, 97.4% in South Africa, 97.2% in Cameroon and 91.7% in Morocco. However, 8.3% of Morocco's entrepreneurs found medium/high technology, while in Cameroon 2.8%, in South Africa 2.6%, 1.5% Egypt and 1.3% in Burkina Faso. In general, 97.8% of entrepreneurs identify no/low technological level for the sector, while 2.2% of them show medium/high technological level.

4.1 Result and discussion

Table 4: Test of mean differences in gender across Entrepreneurship Aspirations

Constructs	Chi2 test	P-value
suy5job	578.196*	0.000
Sunewcst	3.586	0.166
Sucompet	9.944*	0.007
Sunewtec	7.052**	0.029
Suexport	11.319*	0.001
TeayyTec	1.859	0.173

Source: Software output

The main aim of this study was to identify the impact of gender on entrepreneurial aspiration. As indicated in (table 4) the findings were different in the mean scores of gender on entrepreneurial aspiration. Based on the results two hypotheses is supported one is partial supported and one hypothesis is not supported. Accordingly, It was hypothesized that gender has an impact on (entrepreneurs growth expectation, an entrepreneur's growth expectation will differ by gender, such that women are less likely than men to have growth expectation for their firms. statistically significant P-value= 0.000). Similarly, it was hypothesized that Gender has also a negative impact on (entrepreneur's internationalization for their firm, that women are less likely than men to internationalize their product or service. Statistically significant P-value=0.001). However, entrepreneur industry preference as it is stated in (table 3) the result founds opposite result which indicates that an entrepreneur's industry preference will not differ by gender, such that women and men have high-tech industry for their firm. Statistically insignificant P-value=0.173). The reason for such result is not clear. However, reasons might be due to the sample size; whenever the sample size is large the

result may be different. Likewise, entrepreneur's innovativeness was measured in three different ways; as a result we found different results. Accordingly, both in terms of competitors and technologies P-value is 9.944* and 7.052** respectively, statistically significant. Therefore, Entrepreneur's Innovation will differ by gender; women are less likely than men to have Innovation for their firm. While potential customers consideration for their product or service new and unfamiliar, the result shows the opposite result and statistically insignificant P-Value=3.586.

4.2 Generalized Structural Equation Modeling

4.2.1 Gender and Entrepreneur's Growth Expectation

Table 5: **GSEM results with Entrepreneur's Growth Expectation (Dependent variable: ln suy5job)**

Variables	Coef.	p-value	Coef.	p-value
Gender				
1. female	-0.266*	0.000	-0.201*	0.002
Age	-	-	0.003	0.363
Education				
1. Up to secondary	-	-	0.157***	0.051
2. Secondary and above			0.533*	0.000
Work status				
1.Full & part timer work	-	-	-0.053	0.453
Income level				
1.Middle 33%	-	-	0.102	0.221
2. Upper 33%			0.250*	0.002
Constant	1.737	0.000	1.279*	0.000
No of observations	769		769	

Source: Software output

Note: *, **, and *** indicate the level of significance of the coefficients at 1%, 5% and 10% levels.

The result under (table 5) indicates that the direct impact of gender on entrepreneur's growth expectation for their firms. Accordingly, women's are less likely than men to have growth expectation which confirms Hypothesis 1. This finding is in line with previous research (e.g., Davis and Shaver, 2012; Ruiz-Arroyo, M., Fuentes-Fuentes, M.M., Bojica, A.M. and Ruiz-Jiménez, J.M., 2017).

Table 6: GSEM results with Entrepreneur's Growth Expectation (across each sample countries) (Dependent variable: ln suy5job)

Sample countries	Gender (1.female)	Age	Constant	No of observations
Burkina Faso	-0.146***	0.000	1.514*	
	(0.057)	(0.888)	(0.000)	374
Cameroon	-0.454*	0.004	1.62*	
	(0.002)	(0.479)	(0.000)	176
Egypt	-0.798**	-0.019	2.895*	68
	(0.026)	(0.161)	(0.000)	
Morocco	0.190	-0.004	1.794*	36
	(0.571)	(0.811)	(0.000)	
South Africa	-0.025	0.009	1.572*	115
	(0.911)	(0.303)	(0.000)	

Source: Software output

Note: *, **, and *** indicate the level of significance of the coefficients at 1%, 5% and 10% levels.

Figures in brackets are P-values.

When we differentiate among each sample counties, however we identify different impact of gender in each subsample. Based on the above (table 6), the result indicates that there is significant and negative relationship between gender and entrepreneur's growth expectation in (Burkina Faso, Cameroon, Egypt and South Africa), while in Morocco the opposite and insignificant impact of gender on entrepreneur's growth expectation. These results also enable us to confirm Hypothesis 1 partially. This finding is also in line with previous research (Parker 2004; Terjesen & Szerb 2008; Minniti & Naude´ 2010; Puente et al., 2017).

4.2.2 Gender and Entrepreneurial Innovation

Table 7: GSEM results with Entrepreneurial Innovation

Variables	sunewcst		Sucompet		Sunewtec	
	Some	None	Few competitors	No competitors	1-5 years	>5years
Gender						
1. female	0.400	0.326	0.169	-0.878*	-0.065	0.233
Age	0.001	0.025***	0.005	-0.008	0.023***	0.003
Education						
1. Up to secondary	-0.465	-0.77***	0.144	-0.598	-0.440	-2.065*
2. Secondary and above	-1.166*	-1.243*	-0.127	0.364	-0.072	-2.639*
Work status						
1.Full & part timer work	0.018	-0.092	-0.410**	-0.598***	-0.767**	-0.57***
Income level						
1.Middle 33%	0.443	0.040	0.252	-0.178	-0.848**	-0.269
2. Upper 33%	0.131	-0.235	0.379***	0.088	-0.414	0.068
Constant	1.543**	1.68*	-0.641***	-1.130***	0.59	3.709*
No of observations	769		769		769	

Source: Software output

Note: *, **, and *** indicate the level of significance of the coefficients at 1%, 5% and 10% levels.

Our results of (Table 7), shows gender does not have an impact on entrepreneur's innovation, we observe that it has the opposite effect and statistically insignificant. These results also enable us to conclude that Hypothesis 2 is not supported. This finding is also in line with previous research by Maryam Cheraghi, (2013), which indicates that innovativeness is appear to has increased among women than men.

Table 8: GSEM results with Entrepreneurial Innovation (across each sample countries)

Sample countries	Variable	sunewcst		Sucompet		Sunewtec	
		Some	None	Few competitors	No competitors	1-5 years	>5years
Burkina Faso	Gender (1. Female)	-0.096	-0.379	0.199	-0.312	15.41*	15.16*
	Constant	2.413*	3.029*	-0.329**	-2.108*	0.692	4.137*
Cameroon	Gender (1. Female)	0.707	1.411**	0.013	-14.93*	0.036	0.553
	Constant	1.452*	1.34*	-0.726*	-2.047*	0.147	1.133*
Egypt	Gender (1. Female)	0.336	-0.439	-0.178	-0.584	-0.946	-0.898
	Constant	0.357	1.692*	-0.802**	-0.802**	0.435	0.898*
Morocco	Gender (1. Female)	0.693	0.693	0.208	-14.88*	0.522	-14.98*
	Constant	-0.288	-0.288	-1.674*	-2.772*	-0.774	-2.56**
South Africa	Gender (1. Female)	0.38	0.596	0.439	-0.121	-0.044	0.519
	Constant	0.105	0.543***	-0.486***	-1.872*	0.044	0.087

Source: Software output

Note: *, **, and *** indicate the level of significance of the coefficients at 1%, 5% and 10% levels.

When we look at each sample countries, According to the result (table 8), found that gender has significant impact on entrepreneurial innovativeness in Burkina Faso. This finding is also

in line with previous research (Mueller and Thomas, 2000). While in (Cameroon, Egypt, Morocco and South Africa) the result indicates the opposite and insignificant impact of gender on entrepreneurial innovativeness. These results also confirm Hypothesis 2 partially. This finding is also in line with (Maryam Cheraghi, 2013). This shows innovativeness appears more likely among women than men.

4.2.3 Gender and Entrepreneurial Internationalization

Table 9: GSEM results with Entrepreneurial Internationalization

Variables	1.None
Gender 1. female	 0.402** (0.016)
Age	-0.005 (0.447)
Education 1. Up to secondary 2. Secondary and above	 -0.558** (0.017) -1.007* (0.000)
Work status 1.Full & part timer work	 -0.477* (0.023)
Income level 1.Middle 33% 2. Upper 33%	 -0.003 (0.989) 0.04 (0.864)
Constant	1.662* (0.000)
No of observations	769

Source: Software output

Note: *, **, and *** indicate the level of significance of the coefficients at 1%, 5% and 10% levels.

Figures in brackets are P-values.

The result of (table 9) indicates that gender does not have direct impact on entrepreneur's internationalization of their product of service. Accordingly, our result shows there is no relationship between gender and entrepreneurial internationalization, we observe that it has the opposite effect and statistically insignificant. These results also enable us to confirm Hypothesis 3 is not supported. This finding is also in line with previous research (GEM women report, 2019). This shows that women entrepreneurs are more likely than men entrepreneurs to report internationalization in 18 countries.

Table 10: GSEM results with Entrepreneurial Internationalization (Across each sample countries)

Sample countries	Gender (1.female)	Age	Constant	No of observations
Burkina Faso	0.642** (0.019)	-0.021*** (0.064)	1.873* (0.000)	374
Cameroon	0.437 (0.161)	0.006 (0.640)	-0.042 (0.93)	176
Egypt	0.577 (0.46)	0.021 (0.489)	0.114 (0.912)	68
Morocco	-0.477 (0.512)	0.046 (0.184)	-0.667 (0.60)	36
South Africa	0.696*** (0.075)	0.007 (0.640)	-0.88 (0.143)	115

Source: Software output

Note: *, **, and *** indicate the level of significance of the coefficients at 1%, 5% and 10% levels.

Figures in brackets are P-values.

While we differentiate among each sample counties, however we identify different impact of gender in each subsample. Based on the above (table 10), the result indicates that there is significant and negative relationship between gender and entrepreneurial

internationalization in Morocco. However, in (Burkina Faso, Cameroon, Egypt and South Africa), the opposite and insignificant impact of gender on entrepreneurial internationalization is observed. These results also enable us to confirm Hypothesis 3 is partially supported. This finding is also in line with previous research (Albena Pergelova, Fernando Angulo-Ruiz & Desislava I. Yordanova, 2018).

4.2.4 Gender and Entrepreneurial Industry Preference

Table 11: GSEM results with Entrepreneurial Industry Preference

Variables	1.Medium or High-tech Industry
Gender	
1. female	0.865*** (0.074)
Age	0.005 (0.764)
Education	
1. Up to secondary	0.368 (0.683)
2. Secondary and above	1.257** (0.037)
Work status	
1.Full & part timer work	0.27 (0.671)
Income level	
1.Middle 33%	1.175 (0.267)
2. Upper 33%	1.143 (0.281)
Constant	-6.35* (0.000)
No of observations	769

Source: Software output

Note: *, **, and *** indicate the level of significance of the coefficients at 1%, 5% and 10% levels.

Figures in brackets are P-values.

The results, shown in (table 11) demonstrate that the study does not find the impact of gender on entrepreneur industry preference. Thus, our result indicates the opposite effect and statistically insignificant. Accordingly Hypothesis 4 is not supported. This finding is also in line with previous research (Du Rietz and Henrekson, 2000; Brush et al., 2006).

Table 12: GSEM results with Entrepreneurial Industry Preference (Across each sample countries) Medium or High-tech Industry)

Sample countries	Gender (1.female)	Age	Constant	No of observations
Burkina Faso	1.501 (0.196)	-0.006 (0.883)	-5.077** (0.013)	374
Cameroon	1.708 (0.138)	0.053** (0.023)	-6.693* (0.000)	176
Egypt	-13.43* (0.000)	-0.075* (0.000)	-1.708 (0.159)	68
Morocco	-0.425 (0.74)	-0.06 (0.116)	-0.296 (0.801)	36
South Africa	-0.234 (0.84)	-0.021 (0.563)	-2.82*** (0.084)	115

Source: Software output

Note: *, **, and *** indicate the level of significance of the coefficients at 1%, 5% and 10% levels.

Figures in brackets are P-values.

When we look at each sample countries, the result shown in (table 12), found that gender has significant impact on entrepreneurs industry preference in Burkina Faso and Cameroon. This finding is also in line with previous research (Du Rietz and Henrekson, 2000; Brush et al., 2006). While in (Egypt, Morocco and South Africa) the result indicates the opposite and insignificant impact of gender on entrepreneurs' industry preference. These results also confirm Hypothesis 4 is partially supported. This finding is also in line with (Lynn Martin, Lucy Wright, Zuleika Beaven and Harry Matlay, 2015; Kirsti Dautzenberg, 2011; Leith L.

Dunn Ayanna T. Samuels, 2016; Lynn Martin, 2010). This shows that women entrepreneurs are more likely to be present in wholesale/retail trade compared with men entrepreneurs.

4.3 MIMIC model estimation results

This method measures the entrepreneurial aspiration by using structural equation connecting the unobserved cause, the observed indicators and variable. Thus MIMIC model is the most common method which estimate cause on one hand and measures the consequences that exist in somewhere else on the other hand. The observed indicators are including growth expectation, innovation, internationalization and industry preference. The latent variable is entrepreneurial aspiration. The two components of the model includes, the measurement equation and structural equation the structural equation indicates entrepreneurial aspiration on the bases of indicators like growth expectation, innovation, internationalization and industry preference. The result discussed below.

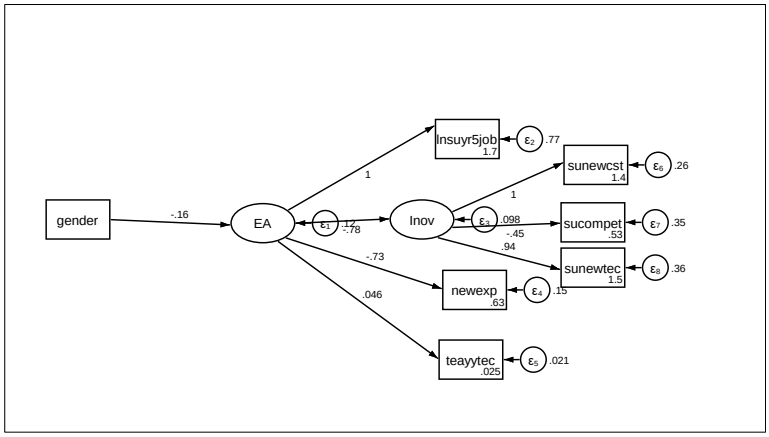

Figure 1 MIMIC model result

The latent variable measures entrepreneurial aspiration, by considering that gender has a negative impact on entrepreneurial aspiration the regression coefficient for gender is (-.155) and statistically significantly differ from zero (p= 0.001). If we look at each indicators separately, all of them (growth expectation, innovation, internationalization, and industry preference), are statistically significant. It was also calculated the path coefficient between growth expectation and entrepreneurial aspiration was 1.7, the path coefficient between innovation and entrepreneurial aspiration was 1.4, .53, 1.5, the path coefficient between internationalization and entrepreneurial aspiration was .63, and the path coefficient between industry preference and entrepreneurial aspiration was 0.25. Gender has a significant effect on all four entrepreneurial aspiration construct, Growth expectation (0.00, $p < .001$), Innovation (0.00, $p < .001$), Internationalization (0.00, $p < .001$) and industry difference (0.035, $p < .001$) thus confirming hypothesizes 1, 2, 3 and 4 (see Appendix).

5. Conclusion

Despite African countries have been emerged as an emerging economic forces, entrepreneurship research has not received much academic attention in in Africa as this has been eminent during the last decades (Dvoulety and Orel, 2019; Mahmood, Atiase, Wang, and Botchie, 2018; Ratten and Jones, 2018; George, Kotha, Parikh, Alnuaimi, and Bahaj, 2016; Kuada, 2015; Munemo, 2012). In fact, entrepreneurial attitude and entrepreneurship are well known all over African region as one of the factor that positively influences economic growth. As it is noted by Chigunta (2017), this is particularly essential for Africa whereby youth unemployment rate has remained to be alarmingly high in all sectors. Entrepreneurship therefore, helps to make a pathway out of poverty for unemployed youth and the like despite

they might face many institutional challenges. Moreover, policy makers and researchers should focus to understand gender gaps and their underlying factors that hinder their active involvement in creating new firms and expand the existing one. Therefore, enhancing women involvement in entrepreneurship should be important for economic development of the country (Autio and Acs, 2007). It is also useful to consider the untapped forces for economic growth (Ramadani, 2015; Ramadani et al., 2013).

The finding of this study indicated that gender has a negative impact on entrepreneurial aspiration. Accordingly, gender has an impact on entrepreneurs' growth expectation (an entrepreneur's growth expectation will differ by gender, such that women are less likely than men to have growth expectation for their firms). Similarly, the finding reveals that gender has a negative impact on entrepreneurs' internationalization businesses, (that is, women are less likely than men to internationalize their product or service). However, in terms of entrepreneurs' industry preference the finding suggested the opposite result which indicates that an entrepreneurs' industry preference will not exhibit difference by gender, such that women and men have no difference in investing in a high-tech industry. The reason for such result is not clear. However, reasons might be due to the sample size; whenever the sample size is large the result may be different.

On the other hand, entrepreneur's innovativeness was measured in three different ways. As a result, the finding has revealed different results. Accordingly, both in terms of competitors and technologies, women are less likely than men to have innovation for their firms. While potential customers consideration for their product or service new and unfamiliar, the result revealed the opposite. However, this result may vary across each sample countries. Therefore, policy makers should focus to identify the root causes for such gender difference in order to bridge this gap and enhance women's growth expectation, innovativeness, internationalizing their product or services and increase their participation in high tech industries, so as to develop country's economic development.

5.1 Contribution

The findings of this research may contribute its part to the ongoing research as regards the topic under discussion that is more specifically, the impact of gender on entrepreneurial aspiration. It is also important to help policy makers to promote entrepreneur among underrepresented and disadvantage groups like women and to identify underlying causes which hinder women's to actively participate in entrepreneurship and to enhance economic development of the country (Kosters 2010; OECD, 2010; European Commission, 2008). Although several studies have been conducted to identify the impact of gender on entrepreneurial aspiration, most of them have been concentrated in the Western countries, namely, North America and Europe (Vidhula Venugopal, 2015). Thus, very little research has been conducted in African context. Therefore, conducting extensive research in this area should be important for the continent.

5.2 Theoretical implications

Entrepreneurship is deeply rooted in the culture of the society whereby the society exercises it. To this end, designating and differentiating social roles along social group which is considered to be as gendered has been manifested itself in a symbolic way (Bruni et al., 2004). As an idea, gender issue is a socially constructed phenomenon which helps to analyze how women and male counterparts ascribed to different roles which is deemed to be reflected in as a power imbalance (Bruni et al., 2004; Swidler, 2001). Moreover, gender role theory pointed out that expectation associated with women's and men's role shapes

perception about the kinds of occupation recognized suitable for each sex (Eagly & Karau, 2002). However, the existing theories like RBV (resource based view) fail to recognize the established socialization process which is built in or across the society that reflects the gendered arrangement. Thus, only considering the organization resources for the firm's growth and entrepreneurial aspiration will not reflect the dire reality. Therefore, this research tries to contribute to the existing body of knowledge so as to help sufficient understanding of gendered process of entrepreneurship mainly the impact of gender on entrepreneurial aspiration.

5.3 Limitations and Future Research Direction

As evident in any research, this study is not without limitation which in one way or the other helps to indicate future directions for further research. This research primarily focuses on African countries namely Burkina Faso, Cameroon, Egypt, Morocco and South Africa. According to the latest GEM Data Set only the above five counties were included in the survey. Therefore, this research encountered generalizability problem or could not be generalized for or across the continent. It also focused only on specific moment. Hence, future research might focus on more African countries and longitudinal analysis. Similarly, future research can also undertake comparative study to compare with other emerging countries to examine the impact of gender on entrepreneurial aspiration and how they overcome the challenges that might faces. From van der Zwan et al. (2010) assertion, it is possible to pinpoint three phases of entrepreneurship engagement levels which are based on the duration or longevity of entrepreneurs pass through or get involved in a business activity (i.e. nascent, young or established entrepreneurs). Actually, this classification has its own merit in the sense that the relationship which exist among individual and context characteristics plays a substantial role by sorting out various stages of the entrepreneurial process, often termed as the entrepreneurial ladder (van der Zwan et al., 2010). Thus, future research should consider in what stage does more gender has a negative impact on entrepreneurial aspiration. One of the limitations of GSEM model is the absence of testing goodness of fit in econometrical software. Therefore, future research could consider the availability of software that could be useful to use GSEM method.

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Appendix

MIMIC Result

	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
lnsuyr5job						
EA	1	(constrained)				
_cons	1.690161	.0397791	42.49	0.000	1.612195	1.768126
newexp						
EA	-.727946	.1624412	-4.48	0.000	-1.046325	-.4095671
_cons	.6331694	.0208007	30.44	0.000	.5924008	.6739379
teayytec						
EA	.0458002	.0217302	2.11	0.035	.0032098	.0883906
_cons	.0251414	.0055243	4.55	0.000	.0143141	.0359688
sunewcst						
Inov	1	(constrained)				
_cons	1.40483	.0273382	51.39	0.000	1.351248	1.458412
sucompet						
Inov	-.4493837	.076599	-5.87	0.000	-.5995151	-.2992524
_cons	.525142	.0235432	22.31	0.000	.4789983	.5712858
sunewtec						
Inov	.9354207	.1491554	6.27	0.000	.6430815	1.22776
_cons	1.5317	.0291552	52.54	0.000	1.474556	1.588843
Inov						
EA	-.7788369	.1817917	-4.28	0.000	-1.135142	-.4225317
EA						
gender	-.1553517	.0479568	-3.24	0.001	-.2493453	-.0613581
var(e.EA)	.1231393	.0415687			.0635409	.2386385
var(e.Inov)	.0981627	.028622			.0554314	.1738349
var(e.lnsuyr5job)	.7719582	.0508081			.6785317	.8782485
var(e.newexp)	.1487125	.0152073			.1217038	.181715
var(e.teayytec)	.0213472	.0011042			.0192892	.0236249
var(e.sunewcst)	.2641168	.0303756			.2108147	.3308956
var(e.sucompet)	.354807	.0196442			.3183205	.3954757
var(e.sunewtec)	.3597008	.030248			.3050437	.4241512

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