



Empowering Women Entrepreneurs in Saudi Arabia: Institutional Determinants and Pathways to Sustainable Development

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ABSTRACT

Saudi Vision 2030 aims to diversify the economy and promote societal inclusion, aligning with the UN's Sustainable Development Goals. It emphasizes women entrepreneurship, enhancing social fairness, economic diversification, and innovation. This study explores the determinants affecting Saudi women's entrepreneurial aspirations and challenges they face. This research utilizes an institutional economic framework to analyse the influence of institutional determinants on women's entrepreneurial inclinations, drawing on data from the global entrepreneurship monitor (GEM). The logistic regression study indicates a substantial impact of these parameters on decisions about venture development. The finding shows that secondary education, income level, female network and role model have a significant influence on women entrepreneurship in Saudi Arabia. The insights produced offer essential direction for policymakers seeking to advance sustainable development by boosting women's entrepreneurship in Saudi Arabia, therefore supporting the country's overarching economic and social goals and sustainability.

Keywords: Women entrepreneurship, Sustainable Development, Institutional Determinants, GEM

JEL Classifications: M0, M1, M13

1. INTRODUCTION

Advancing women's entrepreneurship is essential for attaining sustainable development via the promotion of gender parity, economic diversity, and innovation (Al-Qahtani et al., 2022; Ramya et al., 2024). Although research recognizes the considerable potential of women entrepreneurs (Shepherd et al., 2021; Gimenez-Jimenez et al., 2022; Mari et al., 2024), it primarily concentrates on Western contexts, overlooking the distinct socio-cultural and economic dynamics of non-Western nations like Saudi Arabia. This study addresses a significant gap by analyzing the entrepreneurial potential of Saudi women within the transformational framework of Vision 2030, utilizing an integrative approach to identify essential enablers and obstacles.

Numerous studies have recognized the significance of women's entrepreneurship (Wang et al., 2021; Welsh et al., 2023; Brush

et al., 2017; Cetindamar et al., 2012; Welsh and Kaciak, 2018). Kelly's research also revealed that over 300 million businesses worldwide are owned by women across 83 economies (Kelly et al., 2013). Despite a rapid rise in the total number of women starting their enterprises, the rate of venture formation among women continues to be significantly lower than that of men (Gimenez-Jimenez et al., 2022). Recognizing the established importance of venture creation in national growth and the vital role women play in a nation's development (Acs et al., 2005), it is crucial to understand the factors that either encourage or discourage women from initiating their ventures. Gaining insight into and nurturing these factors can inform the design of more effective policies and programs to foster women's entrepreneurship. Neglecting to formulate policies that promote women's entrepreneurship risks squandering their potential.

Comprehensive studies have been undertaken regarding women's entrepreneurship in the literature (Ali et al., 2022; Welsh and Kaciak, 2020; Simmons et al., 2018; Farani et al., 2017; Lindvert et al., 2017; Brush et al., 2017; Bhatta et al., 2024; Noguera et al., 2013; Cetindamar et al., 2012; Langowitz and Minniti, 2007). This research primarily examines the financial success and growth of women-led entrepreneurial businesses (Dimitriadis, 2021; Arafat et al., 2020; Welsh et al., 2023). Nevertheless, little focus has been directed into significant matters such as the capacity and propensity of women to establish enterprises (Hughes et al., 2012), with an even more limited examination of the opportunities for women entrepreneurs to expand internationally (Jafari-Sadeghi et al., 2021).

It is significant that, despite its considerable importance for less developed and developing nations, entrepreneurship research has primarily focused on the developed world (Arafat et al., 2020), likely due to more accessible research funds, data, and information. This tendency is especially pronounced in study concerning women's entrepreneurship, as academics have predominantly focused their studies on industrialized nations (Welter et al., 2006). Consequently, it is important to contextualize entrepreneurship research inside underdeveloped nations (Arafat et al., 2020; Welter et al., 2011). Worldwide, gender discrepancies in venture formation persist, with males exhibiting a greater propensity for entrepreneurial endeavors than women (Arafat and Saleem, 2017; Hughes et al., 2012; Minniti et al., 2005). Cetindamar et al. (2012) noted that women's involvement in entrepreneurship is more significant in poor countries than in industrialized nations, hence creating opportunities to examine entrepreneurship among Saudi Arabian women. This offers a fascinating backdrop that is unique in its societal, cultural, religious, and economic aspects compared to its Western equivalents.

Research in the developing world, particularly concerning women entrepreneurs, predominantly emphasizes themes such as the impact of collective endeavors (Datta and Gailey, 2012), the significance of training (Field et al., 2010), knowledge and adaptability levels (Anwar and Saleem 2018; Goyal and Parkash, 2011), and the application of intellectual capital (Arafat et al., 2020) in influencing entrepreneurial ventures. Nonetheless, a significant portion of this study has encountered criticism on several grounds. Initially, researchers frequently collected data from established entrepreneurs, resulting in survival and hindsight biases (Arafat and Saleem, 2017), while little focus was directed on inhibited and unsuccessful entrepreneurs. Secondly, these research investigations have failed to achieve consensus regarding the factors influencing entrepreneurial endeavors (Yadav and Unni, 2016).

Scholars have recently emphasized the significance of the institutional framework (North, 2005) in elucidating the determinants of the increased propensity for women's entrepreneurship (Noguera et al., 2015; Grégoire et al., 2011;

Afandi et al., 2017; Lindvert et al., 2017). This research employs an institutional framework to clarify women's entrepreneurship within the distinct setting of Saudi Arabia. The institutional approach is favored for its capacity to elucidate entrepreneurial phenomena more thoroughly than other entrepreneurial theories (Baron, 1998; Mitchell et al., 2007; Linan and Chen, 2009; Arenius and Minniti, 2005; Arafat et al., 2020). This approach has achieved extensive recognition since North's foundational work in 1990. Furthermore, it is widely acknowledged as an effective instrument for elucidating the reasons individuals opt to pursue entrepreneurship, highlighting the impact of both informal and formal institutional elements on human decision-making and behavior (North, 1990; 2005). One such decision is to initiate a new entrepreneurial enterprise.

2. RESEARCH CONTEXT

Saudi Arabia is one of the swiftly growing economies in the developing world. Despite the oil sector that represents the important sector in Saudi economy, the transformation into a knowledge economy envisaged by Saudi Arabia's leadership through investment in areas ranging from infrastructure to innovation, creating opportunities for investors to participate in the process through the provision of hardware and expertise in fields as diverse as railway equipment, services sectors, health care and training. In many sectors this is already progressing way aligning with Saudi vision 2030. Furthermore, other initiatives align with Saudi Arabia's broader development path under Vision 2030, which emphasizes economic transformation through support for entrepreneurship, innovation and sustainable growth. (Oxford Business Group, 2025).

The World Bank's Doing Business report indicates that Saudi Arabia is ranked 31st for the ease of company establishment. Thus, it is reasonable to conclude that entrepreneurship is significantly promoted throughout the Kingdom. Efforts are being made to offer institutional support to empower teenagers to become entrepreneurs.

Despite the recognition and emphasis on entrepreneurship in the kingdom, there has been less study focused explicitly on entrepreneurship in Saudi Arabia. The GEM database is being exploited more often (Bergmann et al., 2014; Ramos-Rodríguez et al., 2015), particularly in Saudi Arabia. Recent studies indicate that female entrepreneurs are establishing businesses at a heightened rate relative to prior years, demonstrating increased confidence and familial support, yet they continue to face substantial challenges, including restricted access to financing, male-dominated social norms, and inadequate training and mentoring (Danish and Smith, 2012; Ahmad, 2011). Women entrepreneurs experience role conflict; nevertheless, the impression of familial support alleviates this sentiment, leading to enhanced performance (Welsh et al., 2021). A significant cohort of entrepreneurs include scientists engaged in entrepreneurial ventures. The research indicated that younger scientists possessing greater human capital initiate new ventures more often than their older peers with lesser human capital (Alshumaimri et al., 2012). Further study investigates the impact of Islam on entrepreneurial activities (Kayed and Hassan,

2010) and assesses the correlation between market orientation and success within the Saudi context (Bhuiyan and Habib, 2004).

However, there is a significant lack of research on the factors influencing new business ventures among adults in Saudi Arabia, especially women. This research aims to examine and elucidate the elements that either promote or inhibit Saudi Arabian women from pursuing entrepreneurship. This article aims to examine the correlation between Saudi women's entrepreneurial aptitude and elements associated with cognitive and social capital perspectives (Khan et al., 2020; Passaro et al., 2018; Arafat and Saleem, 2017; Davidsson and Honig, 2003). Researchers have noted that women's capacity to establish enterprises may be more comprehensively analyzed using the cognitive and social capital frameworks (Arafat and Saleem, 2017; Langowitz and Minniti, 2007). A multitude of entrepreneurship researchers have commenced investigating the factors contributing to the prevalence of women's entrepreneurship (Brush et al., 2017a; Langowitz and Minniti, 2007). This study aims to enhance the comprehension of women's entrepreneurship and seeks to address concerns regarding women's tendencies and motivations for venture development, so contributing to the current literature on the subject. Moreover, studies undertaken in affluent nations are less likely to sufficiently elucidate this phenomena in underdeveloped countries. Cultural, educational, and national settings significantly influence women's entrepreneurship (Welsh and Kaciak, 2018; Cetindamar et al., 2012). Consequently, several writers have emphatically advocated for the replication of analogous research in diverse situations to augment comprehension and guarantee increased contextual relevance (Kuschel and Lepeley, 2016; Poggesi, 2014; Neupert and Baughn, 2013; Valliere and Peterson, 2009). This study examines data pertaining to women entrepreneurs in Saudi Arabia, a situation that is distinct from that of any other nation globally (Arafat and Saleem, 2017; Iakovleva et al., 2011).

3. THEORETICAL FRAMEWORK

This study underscores the necessity of investigating female entrepreneurship for social and economic advancement. Initially, research in this field was considered less significant until women's engagement in the workforce expanded (Wang et al., 2021; Welsh et al., 2023; Mari et al., 2024). Initial studies on female entrepreneurship were contextualized within feminist beliefs, prioritizing political and social advancement for women above academic achievements (Audretsch, 2023; Dubard Barbosa and Smith, 2024). A plethora of researchers have examined gender disparities and their correlation with business formation, focusing on aspects such as the characteristics of female entrepreneurs, entrepreneurial intentions, motivations, and self-efficacy (Brush, 1992; Brush et al., 2006; Gatewood et al., 2003; Welter et al., 2006). A multitude of studies has underscored several issues, including financing (Alsos et al., 2006), management practices, effective growth strategies (Brush and Hisrich, 1988; Carter and Cannon, 1991), entrepreneurship support policies (Carter, 2000; Nilsson, 1997), and socio-cultural factors affecting female entrepreneurial endeavors (Gatewood et al., 2009; Sorenson et al., 2008).

This study uses the institutional economics framework to examine entrepreneurship, using many theoretical models (Audretsch,

2023; Guerrero and Urbano, 2012; Linan et al., 2011; Ribeiro-Soriano and Urbano, 2009; Smallbone et al., 2010; Thornton et al., 2011; Urbano et al., 2011). Amine and Staub (2009), Baughn et al. (2006), Estrin and Mickiewicz (2011), and Noguera et al. (2013) have utilized this methodology to examine the environmental factors influencing female entrepreneurship.

The institutional framework offered by North (1990; 2005) provides a thorough philosophy of institutions. These institutions embody the limitations imposed by humans, primarily functioning to produce a secure and flexible framework for social interactions. North distinguishes between formal institutions, which encompass laws, regulations, and governmental procedures, and informal institutions, which consist of beliefs, ideas, and attitudes that constitute the cultural fabric of a society. This study classifies formal institutions as education, familial context, and income disparity, whereas informal institutions encompass entrepreneurial career inclination, female networks, and role models.

3.1. Education

Preliminary studies revealed an inverse relationship between educational attainment and entrepreneurship, suggesting that those with lower educational credentials were more likely to pursue entrepreneurial activities (Collins and Moore, 1964). Recent research, like Orser et al. (2012), have contested this concept, revealing a favorable association between elevated education levels and the inclination to initiate a business. Moreover, women are progressively depending on higher education to engage in self-employment. Certain scientists propose that educational attainment has a beneficial effect on entrepreneurship, grounded in human capital theory (Schultz, 1959; Becker, 1964) and resource-based theory (Urbano and Yordanova, 2008; Castrogiovanni et al., 2011). This study investigates educational attainment as a significant factor influencing entrepreneurial engagement and proposes the subsequent hypothesis:

H₁: Education exerts positive effects on female entrepreneurs in the Kingdom of Saudi Arabia.

3.2. Family Context

The study underscores a substantial correlation between familial dynamics and women's entrepreneurial pursuits. Nonetheless, the nature of familial relationships have evolved significantly in recent decades, transitioning from conventional gender roles in which women's primary function was homemaking, with a professional career being contingent upon familial circumstances. Contemporary trends encompass postponing marriage until steady work is attained, rising divorce rates, and diminishing birth rates. Researchers such as Mincer (1985) and Unger and Crawford (1992) contended that reduced family sizes and abbreviated marriages incentivize women to engage more vigorously in the labor market and contemplate entrepreneurship. Nonetheless, they recognize that women persist in bearing the primary caring duties inside households. The OECD (2002) revealed a negative link between the presence of children and female employment rates. Conversely, Verheul et al. (2006) contend that the familial environment first obstructs entrepreneurship due to time constraints, however subsequently facilitates it by enabling women to modify their work schedules to meet family obligations. Certain

studies suggest that women may initiate businesses to balance professional and home responsibilities. In light of this material, the study offers the subsequent hypothesis:

H₂: The familial setting profoundly impacts women's business in Saudi Arabia.

3.3. Income Level

Previous research indicates that discontent with working conditions, including insufficient remuneration, restricted career progression, and workplace bias, may prompt individuals to consider entrepreneurship (Douglas and Shepherd, 1999). Women frequently face supplementary challenges in the workplace, including the "glass ceiling" that hinders their access to high positions and constrains their earning potential inside firms (Bertrand and Hallock, 2001). This may motivate certain women to engage in business as a means to surmount these constraints and attain enhanced financial autonomy (Minniti & Bygrave, 2001; Marlow & Patton 2005). Moreover, Fairlie's (2005) research indicates that young women entrepreneurs frequently earn less than their peers in conventional pay or salary employment. This discovery underscores the capacity of economic inequalities to act as a substantial impetus for women to engage in entrepreneurial activities (Carter and Rosa, 1998). Based on this literature, the study offers the subsequent hypothesis:

H₃: The income level positively influences female entrepreneurship in Saudi Arabia.

3.4. Social Recognition of Entrepreneurs

Studies indicate that conventional gender roles have profoundly impacted occupational inclinations, guiding youngsters towards gender-congruent selections (Harriman, 1985; Hisrich, 1986; Eccles and Jacobs, 1986). Certain authors contend that conventional roles inhibit women from engaging in entrepreneurship, especially in advanced technological sectors where barriers to career advancement are often faced (Baron et al., 2001; Langowitz and Minniti, 2007; Marlow & Patton, 2005). Cultural influences significantly influence perceptions, with varying cultural views either promoting or hindering entrepreneurial behavior (Thomas and Mueller, 2000; Zahra et al., 1999; Hofstede, 2001). Informed by this literature, the study proposes:

H₄: The social acknowledgment of entrepreneurs positively impacts female entrepreneurship in Saudi Arabia.

3.5. Female Network

Research underscores the importance of networks in entrepreneurial decision-making, offering critical resources such knowledge, finance, and expertise (Qin et al., 2022; Capaldo, 2007). Although network availability is not intrinsically gender-dependent, studies indicate that women may possess distinct network features compared to males. Women sometimes possess a narrower range of interactions, which may restrict their capacity to see possibilities (Renzulli et al., 2000). They frequently emphasize peer networks for individual support instead of concentrating largely on operational assistance at the organizational level (Diaz and Carter, 2009; Sorenson et al., 2008). Personal relationships with persons who have recently launched enterprises, particularly when those individuals are relatives, can significantly impact the choice to initiate a company (Klyver and Grant, 2010). Informed

by this literature, the subsequent hypothesis is posited:

H₅: Females networks positively impact female business in Saudi Arabia.

3.6. Female Role Model

Role models, persons that resemble oneself, are essential in the processes of learning and self-perception (Gibson, 2004). Exposure to role models can augment self-efficacy, especially among women, and may profoundly influence their impression of entrepreneurial capability (Minniti and Nardone, 2007). The absence of prominent female role models can be ascribed to companies prioritizing male-dominated traits, hence diminishing the likelihood of women being acknowledged as role models (Meyerson and Fletcher, 2000). Female role models provide essential professional assistance and tackle special obstacles encountered by women in business, such as work-life balance dilemmas.

H₆: Female role models positively impact women's business in Saudi Arabia.

4. RESEARCH METHODOLOGY

4.1. Data

This study assembles a dataset to assess the proposed hypotheses utilizing various sources. It gets individual-level data about entrepreneurial activity and its causes from the Global Entrepreneurship Monitor's (GEM) Adult Population Survey (Reynolds et al., 2005). This dataset is one of the few standardized collections on entrepreneurial activity that supports national and cross-national entrepreneurship research. This has been employed in recent research (Hechavarría & Brieger 2022; Schmutzler et al., 2020; Autio et al., 2013; De Clercq et al., 2013; Estrin et al., 2013; Stenholm et al., 2013; Thai and Turkina, 2014; Wennberg et al., 2013). The study employed the 2019 dataset with around 1,700 observations. The GEM examines over 70 countries, representing 90% of global GDP and 75% of the world's population. The website (www.gemconsortium.com) offers access to the comprehensive data collecting procedure. Table 1 indicates the institutional variables or determinants that may significantly affect women entrepreneurship. All variables are reflected in the research hypotheses and implemented the statistical analysis to determine their effect.

4.2. Statistical Analysis: Logistic Regression

This research article employs binary logistic regression, an econometric approach used to assess the impact of many explanatory factors on a singular binary (non-metric) dependent variable. This methodological selection corresponds with the study objective of forecasting and elucidating a dichotomous dependent variable including two groups. Hair et al. (2010) indicate that logistic regression and multiple regression have commonalities regarding their variables. The logit model may be expressed as follows:

$$Y1 = X1 + X2 + X3 + \dots + Xn$$

Logistic regression is essential for clarifying the relationship between independent and dependent variables by identifying the best model fit. Furthermore, it provides the benefit of not

necessitating assumptions on data distribution (Greene, 2002). There are several persuasive justifications for utilizing a logit regression model in this empirical study:

1. The dependent variable, “women entrepreneurs,” has a binary characteristic (Table 4)
2. The majority of the independent variables are classified as binary or categorical.

5. RESULTS

5.1. Correlation

The correlation analysis displayed in Table 2 provides preliminary support for the hypotheses established in this investigation. The correlation matrix indicates that all factors, with the exception of entrepreneurial career, exhibit positive and statistically significant connections with women’s entrepreneurship.

5.2. Logistic Regression

The main objective of this publication was to assess the impact of institutional determinants on the entrepreneurial inclination of women in Saudi Arabia. Logistic regression analysis was performed to accomplish this purpose and evaluate the hypotheses. The study conducted the Omnibus goodness-of-fit test (Table 6) to verify the model's adequacy.

Table 1: Variables description

Variable	Description
Dependent variable	
Women entrepreneurship	Involved in total early-stage entrepreneurial activity
Formal institutions	
Education	Level of education: None, some secondary, secondary degree, post-secondary, graduate or higher. No education was considered as reference category for logit model
Family capital	Number of family member
Income	Level of income: Lower level, middle level and higher level. Lower level was considered as reference category logit model (Table 5 for detail)
Informal institutions	
Entrepreneurial recognition	People consider starting a new business as desirable career choice
Female network	Invested informally in a business as business angel
Female role model	Know personally who has started a business in past 2 years

According to the results that mentioned in Table 3 that presents the Omnibus Tests of Model Coefficients for a regression analysis. Omnibus tests, in this context, are used to assess the overall fit of the model and to determine if the set of predictors collectively have a significant effect on the dependent variable. In addition, the value of Chi-Square: The value of 118.953 indicates the overall goodness-of-fit for the model. Since the value is quite high, it indicates that the model as a whole is likely significant and provides a good fit to the data. Hence, that the model is statistically significant.

The initial set of hypotheses investigated the impact of institutions on female entrepreneurs. The hypothesis posited that education would positively influence women’s entrepreneurship. Given that this element is positive and substantial, the study cannot refute the hypothesis. Nevertheless, a comprehensive examination indicates that basic and tertiary education exert minimal influence on women’s entrepreneurship, although secondary education has a substantial effect. The odds ratio for this predictor is 2.3, signifying that women with secondary-level education and an interest in entrepreneurship are roughly twice as likely to initiate their own firm compared to their uneducated counterparts.

H₂ posits that a supportive family environment considerably enhances Saudi women’s aspirations to pursue entrepreneurship. The study could not dismiss this hypothesis as the impact on this variable is both substantial and positive. The odds value of 1.115 for this predictor indicates that individuals who see entrepreneurship as a high-status profession are about 0.2 times more likely to make a business decision.

Hypothesis 3 proposed that income would have a favorable impact on women’s entrepreneurship. Due to the variable’s positive and substantial value, the study cannot refute the hypothesis. A comprehensive investigation indicates that a higher income level has a greater influence on the entrepreneurial participation of Saudi women than does the middle-income level. The odds ratio for the predictor is 1.86, indicating that women in the middle-income group with an interest in entrepreneurship are almost twice as likely to pursue this endeavor compared to their low-income counterparts. Moreover, the odds ratio suggests that women from higher income brackets with aspirations to start their own enterprises are around 4 times more likely to do this than their counterparts in the low-income category.

Notably, Arab women’s views on the appeal of entrepreneurial occupations do not substantially affect their desires to pursue

Table 2: Correlations

The Variables	n	1	2	3	4	5	6	7
Women entrepreneurship	1703	1						
Education	1702	0.126**	1					
Family capital	1694	0.069**	-0.130**	1				
Income	1667	0.171**	-0.045	0.144**	1			
Entrepreneurship recognition	1673	0.044	0.139**	-0.094**	-0.046	1		
Female network	1692	0.135**	0.038	0.066**	0.105**	-0.042	1	
Female role model	1683	-0.103**	-0.041	-0.051*	0.000	-0.011	-0.060*	1

** .“Correlation is significant at the 0.01 level (2-tailed)”

* .“Correlation is significant at the 0.05 level (2-tailed)”

entrepreneurship. Consequently, hypothesis 4, which posited that the acknowledgment of entrepreneurship as a favorable job influences women entrepreneurs, was dismissed owing to the absence of a substantial marginal impact for this variable.

Networks provide a favorable and considerable influence on the entrepreneurial aspirations of Saudi women, as shown by H_5 . The study could not exclude this hypothesis since the marginal effect of this variable is both significant and positive. The odds value of 2.238 for this predictor indicates that those who can establish networks with current entrepreneurs are twice as likely to make a business decision.

6. DISCUSSION

This research sought to examine the relationship between formal and informal institutions in institutional economics and women’s participation in entrepreneurship in Saudi Arabia, a developing country within the Arab cultural sphere (Gupta et al., 2004). This research revealed numerous major conclusions by using extensive data collected from Saudi Arabian women via GEM. Initially, it is noted a significant link between formal institutions, particularly secondary education (excluding basic or higher education), and women’s participation in entrepreneurship. Furthermore, the study discerned a favorable correlation between

familial capital and entrepreneurial engagement. Additionally, it is observed a favorable association between financial capital and entrepreneurship, especially among persons with middle- and higher-income levels. Concerning informal institutions, it found that the acknowledgment of entrepreneurship as a legitimate career option did not substantially influence the entrepreneurial participation of Saudi women. The study identified a favorable correlation between women’s networks and their engagement in entrepreneurship. Ultimately, the study identified a favorable correlation between women’s entrepreneurship and the existence of role models. These results provide compelling insights for both entrepreneurial research and practical applications.

This research enhances the scholarly comprehension of the diverse importance of various institutional forms, as observed by Kim (2006). In Saudi Arabia, secondary education, family background, and income level shown favorable correlations with entrepreneurial activity. Davidsson and Honig (2003) posited that human capital is crucial in enabling entrepreneurial entrance, which is consistent with this viewpoint. Human capital, which includes knowledge gain and self-assurance in seizing business chances, may serve as a catalyst.

The data shows that in Saudi Arabia, secondary education promotes entrepreneurship, but higher education seems to lack a similar impact. An interpretation is that individuals with higher educational degrees may see superior chances in the conventional Saudi work market. This view aligns with the findings of Kim (2006), who observed that an overabundance of learning and formal schooling may inhibit entrepreneurial endeavors. Davidsson and Honig (2003) posited that individuals with substantial human capital may perceive reduced risks in entrepreneurship, since they may more readily re-enter the employment market in the event of entrepreneurial failure. If this is generally applicable, advanced education is likely positively connected with entrepreneurial entry in Saudi Arabia. We advocate for more study to examine the correlation between human capital and entrepreneurial activity. Furthermore, the study endorses research that investigates the unique contributions of human capital for each gender, especially in developing nations such as Saudi Arabia, where education may have increased importance for women, as shown by this research results.

Table 3: Omnibus tests of model coefficients

Steps	Description	Chi-square	Deference	Significant
Step 1	Step	118.953	9	0.000
	Block	118.953	9	0.000
	Model	118.953	9	0.000

Table 4: Model summary

Step	-2 Log likelihood	Cox and Snell R square	Nagelkerke R square
1	1185.994a	0.071	0.128

Table 5: Hosmer and Lemeshow test

Step	Chi-square	Deference	Significant
1	9.674	8	0.289

Table 6: Variables in the equation

The Variables	B	Standard error	Wald	Deference	Significant	Exp (B)
Formal institutions						
Education			23.276	3	0.000	
Primary	0.119	0.245	0.236	1	0.627	1.126
Secondary	0.842	0.211	15.851	1	0.000	2.320
Higher	0.593	0.841	0.498	1	0.480	1.810
Family	0.109	0.040	7.328	1	0.007	1.115
Income differences			44.267	2	0.000	
Middle	0.622	0.208	8.912	1	0.003	1.863
Higher	1.369	0.213	41.243	1	0.000	3.929
Informal institutions						
Entrepreneurship recognition	0.093	0.064	2.106	1	0.147	1.098
Female network	0.760	0.181	17.564	1	0.000	2.138
Female role model	-0.283	0.086	10.846	1	0.001	0.754
Constant	-3.702	0.439	71.184	1	0.000	0.025

This research also emphasizes a significant result about the favorable correlation between family capital, quantified by family size, and the propensity to engage in entrepreneurship in Saudi Arabia. As current knowledge, no prior research has examined the relationship between family money and entrepreneurial participation. A multitude of different variables may influence this association. A bigger family in underdeveloped nations such as Saudi Arabia may positively correlate with entrepreneurship, since it offers an accessible labor pool to manage the firm at a comparatively cheap cost. The need to support a bigger family may drive people to establish their own enterprises. It is crucial to acknowledge that current dataset lacks the requisite information to thoroughly understand or examine the exact processes that regulate the relationship between family capital and entrepreneurial engagement. Moreover, the study data indicate that women from larger families have a higher inclination towards entrepreneurship than males. Nevertheless, the study data lack the specificity required to elucidate the underlying processes driving this gender-related connection.

It is recognized that study is just the first phase of a more profound investigation of the importance of parental wealth in facilitating individual engagement in business. This study highly endorses future research initiatives to explore the intricacies of how and why family money serves as a stimulant for entrepreneurial activity, especially in developing nations.

This study reveals that, particularly in the context of a growing country such as Saudi Arabia, wealth positively influences women's ability to become entrepreneurs. Individuals with higher salaries had a stronger propensity for participating in entrepreneurship than those with very low incomes. This study contradicts the findings of Kim (2006), who found no significant correlation between financial capital and entrepreneurial entrance. The probability of engaging in business in Saudi Arabia seems to rise with more financial wealth. The restricted availability of external venture capital in emerging nations, where increased affluence might provide the necessary means to launch a new enterprise, may account for this disparity.

Consequently, although research in developed economies like the United States may suggest that financial wealth is not a crucial factor in entrepreneurship, the study findings emphasize that in a developing nation like Saudi Arabia, augmented financial capital substantially enhances entrepreneurial activity. Moreover, the study results, in conjunction with prior research, substantiate the idea that financial capital enables both men and females to possess the discretionary income necessary to start their firms and pursue entrepreneurial ventures.

The recent study indicates that role models and female networks inside informal institutions are significantly relevant to women's entrepreneurship. Cultural values and social conventions have influenced the societal view of entrepreneurship in Saudi Arabia, which has adapted to the evolving roles of women (Langowitz and Minniti, 2007). A greater presence of women entrepreneurs in society, who visibly assert their identity as female entrepreneurs, might inspire potential female entrepreneurs to initiate their own businesses (Brush et al., 2009).

Consequently, this study highlights the significance of informal institutions in Saudi Arabia in fostering female entrepreneurship, consistent with other studies in this field (Alvarez et al., 2011; Noguera et al., 2013). These informal institutions are crucial in influencing the entrepreneurial landscape for women and cultivating an atmosphere conducive to female entrepreneurship.

6.1. Policy Implications

This research carries significant implications for policymakers in Saudi Arabia and other emerging economies, particularly in fostering sustainable entrepreneurship among women.

6.1.1. Promoting education for sustainable development

Education is a cornerstone of women's participation in entrepreneurship, directly contributing to sustainable economic and social progress. While Saudi Arabia has made notable strides in improving access to education, challenges such as low participation rates in higher education and persistent gender gaps remain. Policymakers should strengthen initiatives that promote women's education, aligning with the principles of sustainability by empowering individuals to contribute to long-term economic resilience.

The research recommends increasing scholarships, financial aid options, and awareness campaigns to motivate women to pursue higher education. Expanded access to education equips women with the skills and knowledge necessary for entrepreneurial success, driving innovation and social equity. As more women access advanced education, their contributions to sustainable entrepreneurship and the broader economy are likely to grow.

6.1.2. Enhancing financial accessibility for women entrepreneurs

Income levels significantly influence the ability to enter entrepreneurship, highlighting the importance of accessible financial resources. Policies that provide easy loans, grants, and subsidies tailored to aspiring women entrepreneurs can reduce financial barriers, fostering equitable economic participation. By prioritizing sustainable funding mechanisms, governments can ensure that resources are allocated efficiently and equitably, supporting ventures that contribute to long-term economic and environmental goals.

Additionally, policies that enhance employee earnings in the public and private sectors can encourage individuals to channel surplus income into entrepreneurial activities. Aligning these efforts with sustainability objectives ensures that financial support facilitates not only economic growth but also societal and environmental well-being.

6.2. Limitations and Future Research

Like any research endeavor, the study has specific constraints that require acknowledgment. Firstly, this research centered on examining how institutions relate to involvement in entrepreneurial activity. Although the study's choice to investigate family and financial capital was influenced by prior research, it's worth noting that this study could have also considered alternative forms of capital alongside the two that research chose to study.

Due to the reliance on data from the global entrepreneurship monitor (GEM) dataset in this study, it faced limitations in gathering data on these multiple dimensions of capital. This constraint limited this study ability to explore the various facets of each capital type comprehensively. The study encourages future research to take a more nuanced approach by conceptualizing and measuring multiple dimensions for each type of capital. This might involve the collection of primary data directly from respondents, rather than relying solely on existing datasets like GEM. While collecting primary data comes with its own set of challenges and limitations, the study believes that adopting diverse data collection methods can significantly enhance this research scholarly understanding of the intricate relationships between different forms of capital and their impact on entry into entrepreneurship.

Given these distinct cultural and ideological factors, the study encourages future research to explore how the relationships hypothesized in this study may vary in countries with different ideological foundations. For instance, future research could expand to include countries in other regions, such as Asian nations like China, South Asian countries like India, or Central Asian countries like Kazakhstan, each of which may present diverse cultural, social, and economic contexts (Gupta et al., 2004). Examining these variations can provide a more comprehensive understanding of the dynamics of capital and entrepreneurship across different global contexts.

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