Using high-potential firms as the key to achieving territorial development

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Abstract

This study examines which entrepreneurial characteristics, like education, gender, motivation, and age; and environmental variables, like citizen insecurity enable high-potential firms to establish themselves and act as the key to territorial development. The inclusion of the variable citizen insecurity is unusual, but several authors note how a violent context can affect entrepreneurial activity in Latin America. Insecurity generates massive expenses for entrepreneurs, who must invest to protect themselves against violence and cover the extraordinary expenses arising from this violence. The data analysis technique is fuzzy-set qualitative comparative analysis (fsQCA), a powerful technique for analyzing complex causal relationships. The results highlight that policies should focus on reducing levels of citizen insecurity, among others, to leads to the creation of high-potential firms in countries similar to El Salvador.

1. Introduction

Interest in entrepreneurship in Latin America is greater than ever before. This interest owes to the extent to which entrepreneurship contributes to economic growth, productivity, and the rejuvenation of productive and social networks (Audretsch & Thurik, 2001; Kantis et al., 2002). Entrepreneurship helps to refresh regional identity, driving innovation and creating job opportunities (Audretsch & Thurik, 2001). Likewise, innovation and growth contribute significantly to citizens' prosperity and well-being (Acs & Armington, 2006; Audretsch, 2007; Levie & Autio, 2008; Schramm, 2006).

Latin America has one of the highest levels of entrepreneurial activity in the world (Acs et al., 2008; Allen et al., 2008; Weeks & Seiler, 2001), yet their economies are much less dynamic than many other emerging economies are. This lack of dynamism in Latin American economies owes mainly to high levels of necessity entrepreneurship and the low value added of entrepreneurial ventures in the region (Amorós & Cristi, 2008; Autio, 2005; Kantis et al., 2004; Minniti et al., 2006). In fact, Latin American countries have poor technology and innovation development (López-Claros et al., 2006). Large firms absorb all technology-and innovation-based opportunities, and only a few small enterprises have the necessary capabilities to become high-potential firms (Acs & Amorós, 2008). This paucity of technology-and innovation-based small firms creates problems when trying to identifying them. Nevertheless, the study of such companies is of interest because innovation not only expressly aids performance, but also contributes to economic well-being and wealth creation in the country of origin (Braunerhjelm, 2011; Holcombe, 1998; Mas-Tur & Ribeiro, 2014; Wennekers & Thurik, 1999).

Unlike the abundant literature on entrepreneurship in Europe and North America, research on entrepreneurship in Latin America is scarce (de Arruda, 2009). To fill this research gap, the current study examines which entrepreneurial characteristics (education, gender, motivation, and age) and environmental variables (like citizen insecurity) enable high-potential firms to establish themselves and act as the key to territorial development. The aim of this research is to produce a series of recommendations for policymakers in Latin America.

The inclusion of the variable citizen insecurity is unusual in this type of study (Brück et al., 2013), but several authors note how a violent context can affect entrepreneurial activity in Latin America (IDB, 2014; Schwab et al., 2009; Vidal, 2008; World Bank, 2011). Accordingly, this study focuses on El Salvador, which has one of the lowest levels of citizen insecurity in Latin America (World Bank, 2011).

To achieve these research objectives, the study uses 2014 Global Entrepreneurship Monitor (GEM) data for El Salvador. The GEM project is the leading global study of entrepreneurial activity, analyzing the issue of entrepreneurship from the perspective of the entrepreneur. By applying a uniform method across all participating countries, the GEM's national teams assess entrepreneurial activity with three aims: (1) to compare entrepreneurial activity among countries, (2) to identify the factors that enable entrepreneurial activity in each country, and (3) to propose measures so that policymakers can enhance entrepreneurial activity in certain countries or regions (Bosma & Levie, 2010).

These characteristics are consistent with the goals of the present study and provide evidence of why such research is necessary. The data analysis technique in this study is fuzzy-set qualitative comparative analysis (fsQCA), which is a powerful

technique for analyzing complex causal relationships in studies with medium-sized samples (Eng & Woodside, 2012).

Section 2 presents a review of the literature on high-potential firms and a discussion of entrepreneurial and environmental characteristics that may affect the creation of this type of firm. Section 3 explains the fsQCA method and sets forth the results of the analysis. Section 4 presents findings. Finally, section 5 offers the main conclusions of the study and discusses some policy implications.

2. Theoretical framework

The existence of high-potential firms is crucial because of their contribution to a territory's economic growth and their role in improving public well-being. The following sub-sections summarize the literature on the key characteristics of high-potential firms.

2.1. High-potential firms

Gallagher and Miller (1991) present a classification of firms by growth, using the term *flyers* to refer to firms with strong financial growth. Landstrom (2005) offers a modification of Birch et al.'s (1997) classification, explaining that *gazelles* are firms that drive growth and job creation—such firms not only grow in financial terms, but also in terms of personnel (Birch et al., 1997; Kirchhoff, 1994; Storey, 1994; Soriano, et al. 2009; Westhead & Cowling, 1995). Henrekson and Johansson (2010) describe this type of firm in detail, noting that in addition to creating a disproportionate number of jobs, these firms are generally young, high-growth companies. Haltiwanger et al. (2013) also support this view. Wong et al. (2005) point out that although many firms are technologically innovative, high-potential firms actually belong to a select group of

enterprises. Within the GEM framework, Autio (2003) highlights four characteristics of high-potential firms: the potential to create jobs quickly, a capacity for innovation that enables expansion, a high proportion of overseas customers, and use of the latest technology.

This section presents a literature review of entrepreneurial characteristics that may affect the creation of high-potential firms in emerging countries, focusing on Latin America, particularly El Salvador. The literature review covers entrepreneurial profile variables (educational attainment, entrepreneurial motivation, age, and gender) and citizen insecurity, which policymakers attempt to make more conducive to entrepreneurship.

2.2. Educational attainment

In many cases, entrepreneurs prefer self-teaching as a learning method after they start a business (Martin & Halstead, 2003). Hughes (2001) refers to this self-learning as informal learning. Nevertheless, entrepreneurship training is becoming increasingly important for the society of the future (Lee et al., 2006), and entrepreneurship training in most cases comes from formal education. Several studies report that entrepreneurs who lack training are unable to perform certain key business functions, especially in management and modern technology use (Lee et al., 2007; Lerner & Almor, 2002). Conversely, a highly qualified workforce is conducive to high value added innovation-based entrepreneurship, which increases economic dynamism (Minniti et al., 2006).

As Alburquerque (2004) points out, a country's educational offer should meet the innovation needs of the local system of production by catering to its specific profile. A basic generalist education is insufficient; instead, the education system must satisfy

the specific needs of the local system of production and encourage creativity and new technology adoption.

A background in Porter's (1990) three stages of economic development helps to frame this issue within the existing theory. The first stage is the factor-driven stage, whereby economies rely on the primary sector and on activities that are natural resource or work intensive. The second stage is the efficiency-driven stage, whose foundations lie in the secondary sector and the use of economies of scale. The third and final stage is the innovation-driven stage, whose defining characteristics are the growth of the services sector, R&D activities, and knowledge management. Numerous studies highlight the benefits of knowledge-based economies with regard to the economic and social development of territories (Audretsch, 2007; Levie & Autio, 2008; Schramm, 2006). Most Latin American economies, however, are in the efficiency-driven stage (López-Claros, Altinger et al., 2006), and they must foster innovation to reach the technological frontier and become knowledge-based economies, a key characteristic of the innovation-driven stage (Porter, 1990). Amorós et al. (2012) note that economic transformation in terms of both economic growth and institutional development is lower in some Latin American regions than in other emerging countries such as Korea, Singapore, Israel, and Ireland. According to some authors, this lack of economic growth and institutional development owes to chronic weaknesses in Latin America's education and knowledge creation. Acs and Amorós argue that these weaknesses in education are the reason for greater difficulties in starting entrepreneurial ventures or creating businesses. Despite progress in terms of democracy, property rights, and macroeconomic stability in South America in the last 20 years, areas such as education, knowledge creation, and economic reform remain weak (Acs & Amorós, 2008).

According to the Multipurpose Household Survey (*Encuesta de Hogares de Propósitos Múltiples*) by the El Salvador national statistics institute (DIGESTYC, 2012), educational attainment in El Salvador is insufficient. The average schooling level of the population is low. Only 32% of young people are in secondary education, and UNESCO (2008) indicates that the quality of this education is poor. Likewise, only 20% of young people are in higher education, and the offer fails to meet the needs of the territory, as USAID (2012) explains in its report on Higher Education in El Salvador. The 2012 GEM report (Sánchez-Masferrer, 2013) stresses the low attendance levels in El Salvador's higher education system. The report also explains that necessity entrepreneurship is common among individuals with high educational attainment because these individuals are unable to enter the labor market.

Proposition 1: The creation of a high-potential firm depends on the entrepreneur's educational attainment.

2.3. Entrepreneurial motivation

The GEM study (Bosma et al., 2008; Guzmán-Cuevas, et al. 2009; Reynolds et al., 2001) identifies two types of entrepreneurial motivation. An opportunity entrepreneur is an individual who starts a venture to pursue a market opportunity. Opportunity entrepreneurs obtain their income by applying or creating knowledge and technology. Therefore, this type of entrepreneur has strong innovation capacity (Headd, 2003; Kelley et al., 2010) and makes a meaningful contribution to economic growth. In contrast, a necessity entrepreneur is an individual who starts a venture to avoid unemployment (El Harbi & Anderson, 2010; Reynolds et al., 2001). Necessity entrepreneurs often have a shortage of capabilities necessary to start successful entrepreneurial ventures and lack innovative potential (Sternberg & Wennekers, 2005).

Numerous studies demonstrate that opportunity entrepreneurs are more likely to succeed than necessity entrepreneurs are. Most authors conclude that opportunity entrepreneurship has a positive relationship with performance (Headd, 2003; Rey-Martí, Porcar, & Mas-Tur, 2015; Reynolds et al., 2001; Van Praag, 2003). In addition, this positive relationship has ties to innovation in the opportunity entrepreneurship process (Ho & Wong, 2007).

Amorós and Cristi (2008) report that less developed countries have high levels of entrepreneurship, but most of this entrepreneurship arises out of necessity. As medium-sized and large firms grow and create jobs, they absorb these necessity entrepreneurs. In Latin America, the goal is to encourage opportunity entrepreneurship by applying innovations and adding value to goods and services to follow dynamic entrepreneurship models. Wennekers et al. (2005) argue that policymakers should foster innovative entrepreneurship so that entrepreneurs can create new and better firms with novel business models. In El Salvador, 39% of entrepreneurship is necessity entrepreneurship (Sánchez-Masferrer, 2013).

Proposition 2: The creation of a high-potential firm depends on the entrepreneur's motivation when starting the business.

2.4. Age and gender

The influence of an entrepreneur's age on business creation and success is unclear. The literature suggests the absence of a direct relationship between age and profit growth, as Bates (2002), and Lerner and Almor (2002) point out. Bruce (1999) reports that the likelihood that women younger than 40 start an entrepreneurial venture is low. Furthermore, male entrepreneurs tend to be younger than women entrepreneurs are (Akehurst et al., 2012; Singh et al., 2001). Nevertheless, Minniti and Bygrave

(2001) report that patterns in entrepreneurial activity do not vary across countries and nor does gender with respect to the entrepreneur's age. Finally, the businesses that young women run tend to encounter greater difficulty in securing financing because investors and creditors question young women owners' creditworthiness (Coleman, 2000).

Numerous studies show that developed and developing regions are failing to harness the potential of women entrepreneurs—the capability of women to drive economic growth through entrepreneurship (Terjesen & Amorós, 2010). Women entrepreneurship, particularly in activities with high value added, is fundamental for the social and economic progress of developing countries (Terjesen & Amorós, 2010).

Women entrepreneurs are less common in Latin America than in more developed European and North American countries, although the amount of women entrepreneurs in Latin America is growing (Acs et al., 2008; Allen et al., 2008; Weeks & Seiler, 2001). Nevertheless, the level of women entrepreneurship in Latin America is higher than in other emerging countries (Bosma et al., 2008), although most women entrepreneurs are necessity entrepreneurs (Terjesen & Amorós, 2010). Women entrepreneurship in Latin America covers a broad range of sectors and is expanding to other areas of the economy. Gender differences, however, are important, particularly when assessing incentives for starting a business (Allen et al., 2008; Amorós & Pizarro, 2007).

Gender inequality means that women are at a disadvantage with respect to men, even when they have skills, knowledge, and a positive disposition toward entrepreneurship (Amorós & Pizarro, 2007; Mas-Tur, & Moya, 2015). Thus, one of the main problems facing women entrepreneurs in Latin America is access to financing for their businesses (De Vita et al., 2014). This shortage of capital forces them to use their

own savings to start their businesses (Smith-Hunter & Leone, 2010a, 2010b). Women entrepreneurs in Latin America start ventures mostly in sectors such as retail, although the role of women is becoming increasingly important for Latin American economies because of women's growing participation in the labor market and in entrepreneurial activity (Amorós & Pizarro, 2007). This tendency is also true in El Salvador, and the rate of women entrepreneurship continues to grow, albeit mostly because of necessity entrepreneurship (Sánchez-Masferrer, 2013).

Proposition 3: The creation of a high-potential firm depends on the entrepreneur's age and gender.

2.5. Citizen insecurity

Citizen insecurity has two components (UNDP, 2009): *objective insecurity*, or the number of acts of violence that occur within a territory (CAF, 2009; FUNDAUNGO, 2012), and *subjective insecurity*, or the perception of the degree of risk to citizens. The two components share a strong link to one another, and they both have a variety of effects on activities that help territorial development.

Numerous reports by international bodies indicate that citizen insecurity generates massive expenses for entrepreneurs, who must invest to protect themselves against violence and cover the extraordinary expenses arising from this violence. These costs can have a strong, direct, negative effect on firms' profits (IDB, 2014; Schwab et al., 2009; Vidal, 2008; World Bank, 2011). Costs from investment in violence prevention measures such as alarm systems, bodyguards, and even barbed wire fencing are common. Stolen merchandise and monthly or weekly payments to protection rackets constitute a source of extraordinary losses that can involve large amounts of money and become a severe burden for entrepreneurs. These payments to protection rackets act as

an illegal tax to guarantee the protection of the area's residents, including entrepreneurs (UNDP, 2013; World Bank, 2011). Thus, an area's dominant criminal organization pledges not to attack residents if they make these protection payments.

Insecurity also reduces worker productivity because of increases in work absenteeism and the restriction of working days to daylight hours (World Bank, 2011). When violence escalates, workers remain in their homes to ensure personal safety. In violent areas, gangs regularly impose curfews, banning people from being out on the street after a certain time, normally nightfall. The aim of these curfews is to draw attention to rival gangs entering the area and to remove possible witnesses from a potential crime scene (UNDP, 2013). The delimitation of each gang's turf creates a system of invisible borders that are difficult for residents of the area to cross. These invisible borders prevent worker mobility and the mobility of goods, increasing the risk of robbery and extortion for any worker trying to cross these borders. Changes in transit routes by workers are necessary to protect the merchandise and the workers themselves. These changes in route reduce productivity and create logistical inefficiencies (UNDP, 2013).

The management may deliberately have to reduce its productivity to safeguard the interests of the business. Many managers strategically abandon their firms by reducing or even halting investment so that the business seems less attractive to criminals. Hence, some firms fail to reach optimum efficiency and may even turn down market opportunities to ensure their survival and the safety of their workers (UNDP, 2013).

Brockhaus (1982) identifies three attributes from the literature that have strong ties to entrepreneurial behavior: need for achievement, internal locus of control, and propensity to take risks. Thomasand Mueller (2000) strengthen this hypothesis by

adding a fourth attribute: innovative attitude. Exposure to violence has psychological consequences that affect individuals in the short and long term (Anckermann et al., 2005; McCloskey et al., 1995; Rosario et al., 2008; Snider et al., 2004; Staub, 2003) and that can affect attributes relating to entrepreneurial behavior and innovative attitude. Failing to fully develop these capabilities not only affects people's ability to detect market opportunities and take risks to achieve profits, but also affects the capability to create, develop, and generate innovations to start ventures efficiently and effectively.

Despite the scope of the discussion on citizen insecurity, studies describing the micro-level effects of violent conflict and its impact on entrepreneurship are scarce (Brück et al., 2013). El Salvador has one of the highest murder rates in the world (World Bank, 2011), which can affect the creation of high-potential entrepreneurial ventures.

Proposition 4: The creation of a high-potential firm depends on the degree of citizen insecurity in the entrepreneur's territory.

3. Data and method

This study analyses 2014 GEM data for El Salvador. From the original sample, a data cleansing process yielded a final sample comprising data on 279 entrepreneurs. Fuzzy-set qualitative comparative analysis (fsQCA) tests the propositions in this study. FsQCA enables systematic analysis of cases to find patterns that lead to an outcome (Ragin, 2008). Originally, scholars used fsQCA primarily for analyzing small or medium-sized data sets, but results from fsQCA using large data sets are equally valid (Fiss, 2011; Woodside, 2012). FsQCA identifies necessary and sufficient conditions to cause an outcome (Ragin, 2008).

According to Ragin (2008), and Schneider and Wagemann (2012), fsQCA has three phases. The first phase involves calibrating the conditions and the outcome. Calibration consists of determining whether a condition is fully in a set (1), fully outside a set (0), or at the point of maximum ambiguity (0.5) (Ragin, 2008). The second phase consists of performing an analysis of necessary conditions to determine whether a condition is necessary to cause the outcome. The third phase is to perform an analysis of sufficient conditions to determine which conditions or combinations of conditions are sufficient to cause the outcome.

Table 1 shows the codification and definition of the conditions and the outcome and presents the thresholds for calibration.

Table 1 here.

Calibration of the outcome (high-potential firms) used Autio's (2003) criteria, with modifications to adapt criteria specifically for El Salvador. Four criteria defined the outcome (high-potential firms): job creation potential, degree of competition, presence of foreign customers, and the use of new technologies. A high-potential firm (i.e., set-membership value of 1 following calibration) must create jobs in the next five years, use new technologies, have more than 25% of foreign customers, and face little competition from firms offering the same products or services. Conversely, a non-high-potential firm (i.e., set-membership value of 0 following calibration) has the opposite characteristics. Cases received a membership value between 0 and 1 depending on the extent to which they displayed these characteristics. As Table 1 shows, the method for calibrating the conditions was the direct calibration method (Ragin, 2008).

4. Findings

This section presents findings from the analysis of necessary conditions (Ragin, 2008). In addition, results in this section show whether any condition leads to the creation of non-high-potential firms.

Table 2 here.

No condition is necessary to cause the outcome because no condition has a consistency value greater than Schneider et al.'s (2010) threshold of 0.9. The creation of a high-potential firm or the creation of a non-high-potential firm owes to several causal configurations (recipes).

Table 3 presents results from the analysis of sufficient conditions.

Table 3 here.

Seven causal configurations lead to the creation of high-performance firms in El Salvador. No single condition appears consistently across all recipes.

Causal configurations with greater coverage have greater empirical relevance (Ragin, 2008). The following causal configuration (configuration 4) denotes the configuration with the highest coverage ("*" means the logical operator AND):

Age*Education* Entrepreneurship (coverage: 0.23, consistency: 0.88)

The component conditions in configuration 4 illustrate the importance of entrepreneurial profile in creating high-potential firms in El Salvador. In configuration 4, the entrepreneur is young, has high educational attainment, and is an opportunity-entrepreneur. This finding supports propositions 1 and 2.

Likewise, the condition of being a woman appears in four of the seven causal configurations. This finding supports proposition 3 and indicates that women entrepreneurs help to create high-potential firms.

Configurations 3 and 5, which have the highest coverage scores after configuration 4, are also of interest because both of these configurations contain the

condition denoting absence of citizen insecurity. These two configurations imply that entrepreneurs with little concern for the effect of insecurity on their businesses create high-potential firms. This finding supports proposition 4.

Finally, analysis of the negation of the outcome yields configurations with coverage scores lower than 0.25, suggesting that the configurations are irrelevant.

5. Conclusions

This study identifies the entrepreneurial and environmental characteristics that enable the creation of high-potential firms as a key element of territorial development. The study uses fsQCA to analyze 2014 GEM data for El Salvador.

Within the GEM framework, Autio (2003) identifies four characteristics of high-potential firms: (1) the potential to create jobs quickly, (2) a capacity for innovation that enables expansion, (3) a high proportion of overseas customers, and (4) use of the latest technology. Using these conditions to define high-potential firms in a country like El Salvador is difficult because few firms actually attain the minimum threshold levels to meet each criterion. El Salvador's economy is in the efficiency-driven stage (López et al., 2006), so the economy has yet to reach the technological frontier necessary for the creation of high-potential firms.

Findings are consistent with the literature in supporting the idea that opportunity entrepreneurs with high educational attainment are more likely to create high-potential firms. Likewise, findings show women's potential in terms of creation of high-potential firms. Notably, citizen insecurity is an important issue. In response to a paucity of research discussing the effects of citizen insecurity on entrepreneurship, this study's findings show that citizen insecurity within a territory can affect entrepreneurial activity, thereby hindering the region's social and economic development.

This study shows that no single combination of conditions leads to the creation of high-potential firms in countries similar to El Salvador. Policymakers should therefore foster all the conditions that appear in the fsQCA causal configurations. Policies should focus on improving access to higher education, encouraging women entrepreneurship, reducing levels of citizen insecurity, and fostering the entrepreneurial spirit to seek and exploit market opportunities.

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Table 1. Outcome and conditions: description and calibration

OUTCOME/CONDITIONS	DESCRIPTION	CALIBRATION
Outcome High-potential firms (**HPF**)	Outcome has 4 items, as per Autio (2003)	Distribution from fully in (1) high-potential firms to fully out (0) non-high-potential firms (Autio, 2003)
Insecurity (**INS)**	Entrepreneur's subjective insecurity measuring the entrepreneur's concern for the effects of insecurity on the business	(1) concerned (0.5) neither concerned nor unconcerned (0) unconcerned
Gender (**GEN)**	Dichotomous condition	(1) man (0) women
Age (**AGE)**	Continuous condition	Direct calibration method (Ragin, 2008) with three points (95%, 50%, and 5%) → (25, 40, and 55)
Entrepreneurship (**ENT)**	Necessity or opportunity entrepreneur	(1) opportunity (0.5) other (0) necessity
Education (**EDU)**	Categorical condition showing educational attainment (11-point scale)	Direct calibration method (Ragin, 2008) with three points (95%, 50%, and 5%) → (6,3, and 1)

Table 2. Analysis of necessary conditions

Outcome:	HPF		~ HPF	
Conditions tested:	Consistency	Coverage	Consistency	Coverage
GEN	0.456380	0.680509	0.365842	0.319492
~GEN	0.543621	0.594099	0.634158	0.405901
INS	0.776642	0.640047	0.760795	0.367213
~INS	0.232168	0.623664	0.254245	0.400000
ENT	0.567037	0.662264	0.523338	0.357982
~ENT	0.450299	0.617296	0.506259	0.406467
EDU	0.634215	0.786454	0.742358	0.539150
~EDU	0.628361	0.806360	0.705968	0.530596
AGE	0.592612	0.733986	0.652304	0.473180
~AGE	0.574652	0.738353	0.633285	0.476559

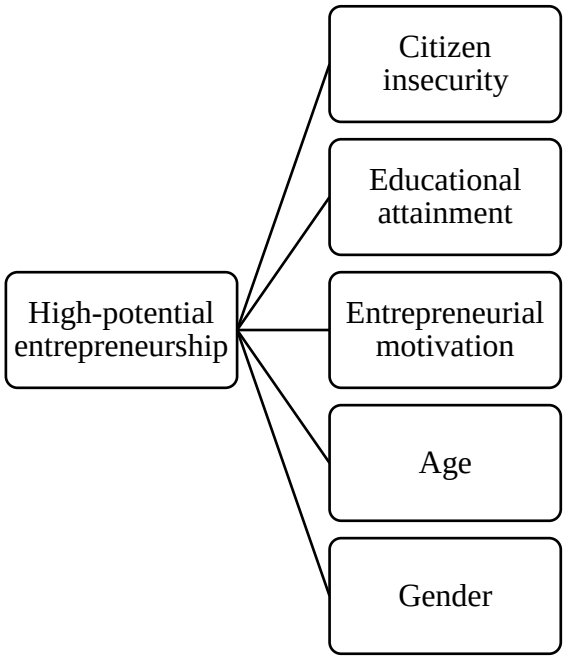
Note: (~) means absence.

Table 3. Analysis of sufficient conditions

Config. no.	Antecedent Conditions					Coverage		Consistency
	EDU	ENT	AGE	INS	GEN	Raw	Unique	
1			○	●	○	0.091674	0.064280	0.763731
2	○	○			●	0.161410	0.007843	0.876002
3	○			○	●	0.219835	0.022109	0.871564
4	●	●	●			0.238079	0.091560	0.883569
5	○	●	○	○		0.172095	0.048196	0.868867
6		○	●	●	●	0.046661	0.010685	0.836049
7		○	○	○	●	0.079739	0.019096	0.818076
Solution coverage: 0.573857								
Solution consistency: 0.823573								

Note: black circles "●" indicate the presence of antecedent conditions. White circles "○" indicate the absence or negation of antecedent conditions. Frequency threshold = 2 and consistency threshold = .85.

Figure 1. Theoretical model



Source: Compiled by the authors