

**Social Impact Startups, Business Model innovation and Female Management:
Lessons for the Next Normal in Mexico using fsQCA**
***Start-up* de Impacto Social, Innovación en el Modelo de Negocios y
Administración Femenina: Lecciones para la próxima normalidad en México
usando fsQCA**

Juan Mejía-Trejo ¹  [0000-0003-0558-1943](https://orcid.org/0000-0003-0558-1943)

¹ Universidad de Guadalajara, Centro Universitario de Ciencias Económico Administrativas
 juanmejiatrejo@hotmail.com

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Resumen

Introducción: El principal propósito de esta investigación es la identificación de los factores claves de éxito (KSF) de las *start-up* de impacto social (SST) y cómo enfrentan un contexto de emergencia (como la pandemia de la COVID-19) bajo la administración femenina como diseño de innovación en el modelo de negocios para la próxima normalidad.

Metodología: Esta investigación aplica una propuesta de modelo de KSF para la SST previamente publicada en 2021 por el autor, compuesta por 6 factores y 30 variables. Por lo tanto, este trabajo es una extensión de la investigación original, pero ahora, desde el punto de vista de la administración femenina. Los datos se levantaron de 400 CEO de *start-up* sociales mexicanas sobrevivientes de la segunda mitad del 2020. Se utiliza el Análisis Cualitativo Comparativo Difuso (fsQCA) para extraer diferentes respuestas que conducen a la misma solución, como KSF para SST bajo la administración femenina como diseño de innovación en el modelo de negocios (BMI), para la próxima normalidad.

Resultados: El factor del perfil emprendedor es considerado una condición central para la administración, tanto femenina como masculina. Sin embargo, como características basadas en el género, los indicadores de desempeño (KPI) están ausentes en la administración masculina y el análisis estratégico (STA) se encuentra ausente para la administración femenina como KSF, para

las SST. El principal valor de esta investigación es la caracterización de la administración femenina como diseño de innovación en el modelo de negocios para la próxima normalidad.

Conclusión: Existen sutiles diferencias entre la administración por género como KSF para las SST que implican oportunidades para tomar ventajas de las características basadas en el género como innovación del modelo de negocio (BMI). Los factores a desarrollar por la administración femenina en orden de importancia son: el análisis estratégico (STA), el plan de negocios (BPL), el conocimiento de mercado (MKK) y los indicadores de desempeño (KPI).

La relación KSF-SST para BMI que se requiere desarrollar en el caso de la administración femenina se da entre los factores análisis estratégico (STA); plan de negocios (BPL); conocimiento del mercado (MKK); indicadores de desempeño (KPI), y la propuesta de valor (VPN). Por otro lado, en el caso de la administración masculina son: los indicadores de desempeño (KPI); el análisis estratégico (STA); plan de negocios (BPL), y el conocimiento del mercado (MKK). En ambos casos, el perfil emprendedor (EPR) se encuentra fuertemente presente («condición central»), pero adicionalmente, el VPN se encuentra del lado del administrador masculino.

Abstract

Introduction: The main research purpose is the identification of the Key Success Factors (KSF) for Social Impact Startups (SST) and how they face an emergency context (like COVID-19 pandemic) under female management as Business Model Innovation (BMI) design to the next normal

Methodology: This research applies a known KSF for the author's SST proposal framework published in 2021, composed of 6 factors and 30 variables. Hence, this work is extension research, but now, from the female management point of view. The survey data was on 400 Mexican social startup CEO as survivors in the 2020 second half. Fuzzy set Qualitative Comparative Analysis (fsQCA) extracts different outcomes to get the same solution as KSF for SST under female management.

Results: The entrepreneurship profile factor is considered a core condition for male and female management. However, as gender-based features, Key Performance Indicators (KPF) are absent for male management, and Strategic Analysis is absent (STA) for female management as KSF for SST. The research's main value is the female management's characterization as business model innovation design to the next normal.

Conclusion: There are subtle differences among gender management as KSF for SST that implying opportunities to take advantage of gender-based features as Business Model Innovation (BMI). The relationship KSF-SST for BMI in the case of female management needs to develop the factors Strategic Analysis (STA); Business Plan (BPL); Market Knowledge (MKK), Key Performance Indicators (KPI), and Value Proposition (VPN). Male management, for another side, the Key Performance Indicators (KPI); Strategic Analysis (STA); Business Plan (BPL), and Market Knowledge (MKK). For both cases, the Entrepreneur Profile (EPR) is strongly present («core condition»), and additionally (VPN) for male management.

Introduction

COVID-19 has provoked several calls among government, education, business, commerce, industries, and others, to face the crisis, one of them, the startups launching (CEPAL, 2020). Despite all the above, 75 % of startups in Mexico closed their business after the second year of existence (El Financiero, 2016). The impacts of the crisis are never gender-neutral. Some findings in other research reveal that there has been a slight increase in female representation in different hierarchical positions. Other findings are that the proportion of women of directors does not depend on the number of women in lower positions; or between female representation in leadership positions and the number of women in the total workforce, there is a positive relationship. Thereby, essential implications exist for business sustainability in the medium and long term (Campos-Garcia, 2021). During the COVID-19 pandemic, data suggest that while female and male managers closed their SST permanently at the same rates, female managers in SST were more likely to have temporarily closed during the crisis and to have closed for a longer duration. When able to stay in business, female managers in SST were more likely to experience a decrease in demand for their products or services and supply of intermediate inputs than male-owned firms (Hyland *et al.*, 2021). They also reduced the size of their workforce more than their male counterparts and were more likely to reduce hours worked. Finally, female managers in SST suffered more profound financial distress than male-owned firms.

Nevertheless, in SST, female and male managers show similar optimism of returning to normal levels of sales or workforce for the next normal (Hyland *et al.*, 2021). These recent studies under worldwide emergency conditions can be compared with other studies elder, pointing out no

gender difference in firms' performance (Johnsen & McMahon, 2005) or with others that show gendered organizational performance. For instance, according to Shaw *et al.* (2009), the owned by women are less successful than those owned by men, but the companies owned by women are making relevant contributions to innovation. They are the fastest-growing groups, with wealth creation and employment among entrepreneurs' populations of all economies worldwide (Demartini, 2018). The women's companies have provided self-employed response measures to overcome the crisis hit, such as the COVID-19 pandemic and the next normal phenomena, individual economies, and negative impacts (CEPAL, 2021; Reuschke *et al.*, 2021).

The importance of this work is to recognize, determine and analyze the business model innovation (BMI) that reveals Key Success Factors (KSF) in Social Impact Startups (SST). The results are expected to represent business strategies under gender management to take advantage of how the investors, stakeholders, firms, and government drive and boost them towards the next normal. Hence, we attempt to describe the lack of literature about how to relate BMI concepts with the KSF-SST regarding gender management in the following sections.

The OECD Oslo Manual and the business model innovation concept

The last edition of Oslo Manual defines innovation as: «a new or improved product or process (or a combination thereof) that differs significantly from the unit's previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process)» (OECD, 2018, p. 20).

Business processes such as the logistical, production, marketing, co-operative arrangements in use, the main products that a firm sells, today or in the future, to achieve its strategic goals and objectives are the core of a business model. It depends on the firm using a single or several business models simultaneously (*i.e.*, in different product lines or markets). The successful business models combine a method for better meeting the needs of users relative to what competitors can deliver and a profit formula for earning income from delivering utility to customers, according to the innovation management literature (OECD, 2018, par. 3.52). There are three types of comprehensive Business Model Innovations (BMI) in existing firms:

1. A firm that extends its business including definitely new types of products and markets requiring new business processes to deliver.

2. A firm that ceased its previous activities and entering into new types of products and markets requiring new business processes.

3. A firm that changed the business model for its existing products (*i.e.*, the firm switched to a digital model with new business processes for production and delivery and the product changed from a tangible good to a knowledge-capturing service) (OECD, 2018, par. 3.54).

In this research has been considered the adoption of those 3 BMI concepts and is aimed at the SST that supports the goals emitted by United Nations (UN, 2015): «[...] it relates to changes in a firm's core business processes as well as in the main products that it sells, currently or in the future» (OECD, 2018, p. 242).

The social impact startup in Mexico

Several online platforms are generating information about SST. For instance, AngelList (ANL, 2020) the investors are using this database looking for information about startups for their decisions. Brazil occupies first place in several startups in Latin America, followed by Mexico. In Mexico, there are registered 416 startups, more than half are working with social interest (ASPEN, 2017). They have distributed as a startup ecosystem in all the Mexican territory in three of the largest cities of the country, according to OECD (2016, p. 2): Mexico City, 32 %, Guadalajara City, 10 %, and Monterrey, 8 %.

The startups are also known as technology based-firms and represent projects that are born from the detection of needs such as marketing knowledge, which is applied to provide market or industry solutions. A startup is usually defined as a new business initiated by an entrepreneur through a combination of business ideas and resources. A startup is a temporary organization that aims to search for scalable and repeatable business models (Blank & Dorf, 2012).

Startups are organizations established to create new services or products under highly uncertain conditions, including new government business units, large companies, non-profit organizations, and commercial enterprises (Ries, 2011). Their articulation and sophistication usually originate within a higher education institution because of their ability to carry out basic and applied research (Monge-Aguero & Briones-Peñalver, 2012).

However, exists one common problem among the SST: they usually fail. Hence, our research is aimed to determine how the different factors are involved as KSF under female

management as a business model innovation design that responds quickly, delivers value, and adapts to the rapid market changes (Hillenbrand, 2020).

Sadly, the COVID-19 pandemic was the main reason for the loss of 12.5 million jobs in Mexico (El Financiero, 2020). However, several new SST has reacted quickly, with innovative attitude and flexibility to the pandemic in digital education, health and medical services and goods (OECD, 2020). The shift from the automation and digitization revolution to the next normal has triggered and accelerated (39 % to 58 % of work worldwide) by the COVID-19 pandemic and the next normal (Ellingrud *et al.*, 2020).

The female role management at SST

Men mainly use the indicators of financial performance to measure success (Moore & Buttner 1997). Differences in performance perception could explain entrepreneurial motivation differences (Pardo-del-Val, 2010) based on gender differences (Dafna, 2008). The entrepreneurial idea itself could be one of the main stimuli for many female entrepreneurs, not the economic achievement (Dhaliwal, 2009). Regarding personal goals, female entrepreneurs have higher evaluations of personal achievement, self-challenge, and personal vision than men. On the opposite, men rated higher both financial security and building great wealth and confidence (Shaw *et al.*, 2009).

Despite all the above, some studies point out no gender difference in firms' performance (Johnsen & McMahon, 2005); other studies show that is gendered organizational performance. For instance, according to Shaw *et al.* (2009), the owned by women are less successful than owned by men.

The companies owned by women are making relevant contributions to innovation. They are the fastest-growing groups, with wealth creation and employment among entrepreneurs' populations of all economies worldwide (Demartini, 2018). The women's companies have provided self-employed response measures to overcome the crisis-hit, such as the COVID-19 pandemic and the next normal phenomena, individual economies, and negative impacts.

On another side, the financial performance indicators are mainly used by men to measure success (Moore & Buttner, 1997). Differences in performance perception could explain entrepreneurial motivation differences (Pardo-del-Val, 2010) based on gender differences (Dafna 2008). The entrepreneurial idea itself could be one of the main stimuli for many female entrepreneurs, not the economic achievement (Dhaliwal, 2009). Regarding personal goals, female

entrepreneurs have higher evaluations of personal achievement, self-challenge, and personal vision than men (Shaw *et al.*, 2009).

However, it is not unanimously accepted the relationship between differences in gender and performance (Aldás-Manzano *et al.*, 2012). Women-owned businesses are not more likely to fail than men; moreover, they are even as successful. Stubborn, aggressive, self-confident, independent, and other stereotyped male behaviors, coupled with the masculinity of entrepreneurship, have brought severe difficulties to women who wish to engage in entrepreneurial activities (Ahl, 2002). Constant comparison eventually becomes a trap. Researchers and society often ignore the diversity and complexity of female entrepreneurs, and women become «victims of male norms» (Billing, 2011, p. 1).

In the traditional view of women's inferiority complex in entrepreneurship, other studies have challenged pointing out that women's and men's companies will not show significant performance differences under the same initial resources (Johnsen & McMahon, 2005).

There are still gender gaps and income disparities in most societies; for instance, the management experience related to the businesses tends to be less in women (Coughlin & Thomas, 2002). According to the empirical evidence, female managers spend more time on social goals and pay less for economic goals than men (Jennings & Brush, 2013).

Women have advantages in several management functions, which will lead to higher performance (Aldás-Manzano *et al.*, 2012). Other empirical studies show no significant difference in performance between female and male entrepreneurs, with management performance and attitudes corresponding in many features (Menzies *et al.*, 2004).

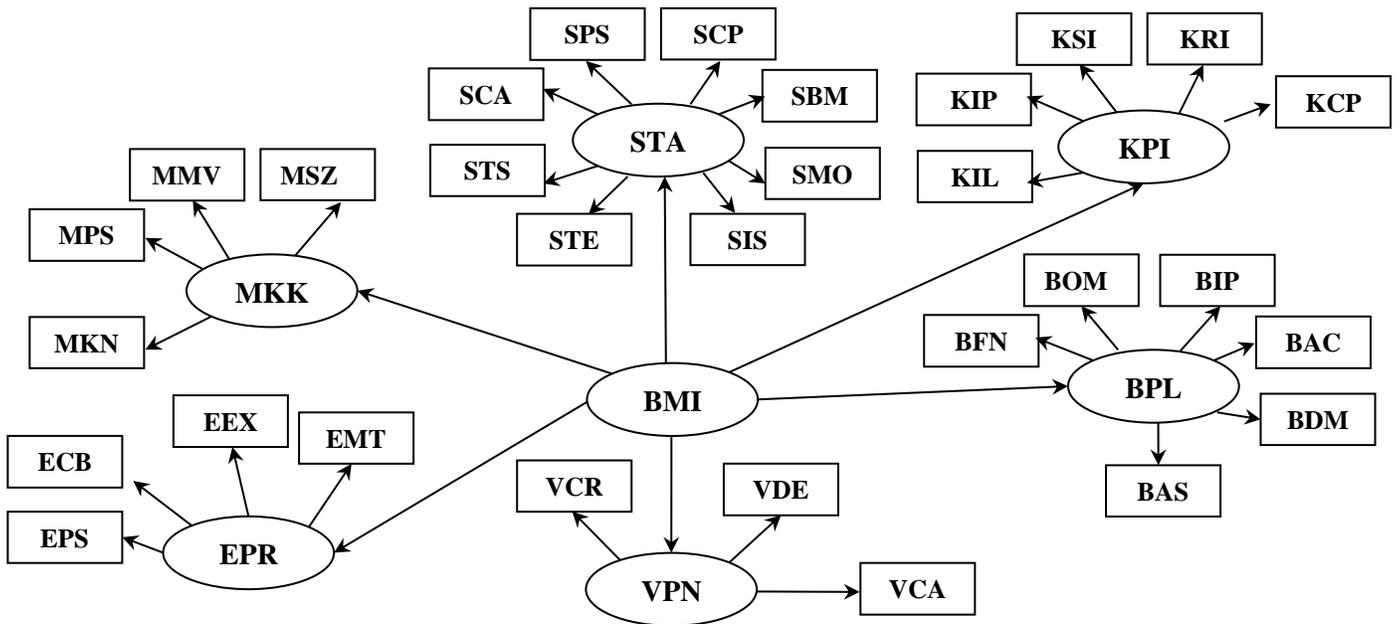
By giving greater diversity, not only in terms of gender but also in terms of «products, processes, organizational forms, and target markets» increasing female entrepreneurs' level can improve the quality of entrepreneurs (Verheul *et al.*, 2006). The existence of female entrepreneurs and their firms achieve social goals benefits in regional communities (Hanson, 2009). However, if the SST ecosystem fails to activate the male and female workforce successfully, they may not be able to reach their full potential. More and more governments adopt direct public policies to stimulate entrepreneurial activities in regional or metropolitan areas (Vogel, 2013). The main reason is that these areas can promote entrepreneurial societies' creation (Hechavarria & Ingram, 2014).

The COVID-outcomes are systematically better in countries led by female management, and, to some extent, this may be explained by the proactive and coordinated policy responses adopted by them (Garikipati & Kambhampati, 2020). There is considerable evidence that COVID-19 has an uneven effect on women and diverse groups; however, female management in SST is more likely to be found in services industries than in manufacturing or technology. These sectors are bearing the brunt of disruption even they tend to be smaller, with fewer employees and less likely to be incorporated, because they tend to become self-employed (WEKH, 2020). Several actions are suggested to policymakers to stimulate the growth of female management in SST, based more on solving their financial issues (ITC, 2020). Counseling women on the implications of sector choice during the initial SST phase may improve women's business outcomes in the medium term (GIL, 2021).

The final conceptual framework proposal of KSF for SST

This work extends the Mejía-Trejo (2021a) framework focused on analyzing female management as KSF for SST. The framework comprises 6 factors and 30 variables around BMI described in the form of a questionnaire (see Appendix). A path diagram shows six sets of constructs with intersections around the KSF depicting our proposed model. See figure 1.

Figure 1. BMI framework as KSF-SST under gender management underlying factors.



Note: BMI: Business model innovation for KSF-SST under gender management. EPR: Entrepreneur Profile. MKK: Market Knowledge. STA: Strategic Analysis. KPI: Key Performance Indicators. BPL: Business Plan. VPN: Value Proposition. EPS: Entrepreneur personality. ECB: Entrepreneur category of business. EEX: Entrepreneur experience. EMT: Entrepreneur Motivation. MKN: Market Needs. MPS: Product/Service Attributes. MMV: Market Management by Values. MSZ: Market Size. SCA: Competitor Analysis. SPS: Product / Service Design. SCP: Cost/Price. SBM: Business Model. SMO: Managerial Orientation. SIS: Innovation Strategy. STE: Technology Strategy. STS: Type of society. KIL: Product/Service Innovativeness with Value Added Level. KIP: Implementing Performance of Business Plan. KSI: Social Impact by Products / Services. KRI: Satisfaction of Product / Service Level. KCP: Customer Profitability. BFN: Financial Plan. BOM: Operation Maintenance & Emergency Plan. BIP: Intellectual property plan; BAC. Accountability plan; BDM. Digital marketing plan BAS. Aftersales plan. VDE. Value Delivery. VCR: Value Creation. VCA: Value Capture.

Source: Mejía-Trejo (2021a)

The BMI here follows the OECD definitions as:

They can have substantial effects on supply chains and economical production, transforming markets and potentially creating new ones. They can influence how a firm creates utility for users (product innovation) and how products are produced, brought to market, or priced (business process innovations) (2018, par. 3.53).

The BMI is described with 6 factors / 30 variables, as follows (Mejía-Trejo, 2021a):

- 1. EPR. Entrepreneur Profile.** Involves all the requirements based on the entrepreneur profile according to Personality (EPS) (Bruni *et al.*, 2004; Poropat, 2009); Category of Business (ECB) (UN, 2015); Experience (EEX) (Fernández-Guerrero *et al.*, 2018), and Motivation (EMT) (Aldás-Manzano, 2012; Olugbola, 2017; Fernández-Guerrero *et al.*, 2018).
- 2. MKK. Market Knowledge.** Implies skills of how to recognize Market Needs (MKN) and Product / Service Attributes (MPS) (Balanko-Dickson, 2007; Osterwalder & Pigneur, 2010; Ibarra *et al.*, 2020); how to drive the Market Management by Values (MMV) (Mejía-Trejo & Rodríguez-Bravo, 2019), and the Market Size (MSZ) (Balanko-Dickson, 2007; BRW, 2016; Okrah & Agbozo, 2018).
- 3. STA. Strategic Analysis.** As a process that requires Skills of Competitor Analysis (SCA) (Balanko-Dickson, 2007; Mejía-Trejo, 2019a; Ibarra *et al.*, 2020); Product / Service Design (SPS) (Balanko-Dickson, 2007; Kotler & Armstrong, 2017; Mejía-Trejo, 2019a); Compute of Cost / Price (SCP) (Kotler & Armstrong, 2017); the design of Business Model (SBM) (Balanko-Dickson, 2007; Dessyana & Riyanti, 2017; Osterwalder & Pigneur, 2010; Ibarra *et al.*, 2020); a Managerial Orientation (SMO) with the design and implementation of Innovation Strategy (SIS) implying the resources of how to implement Technology Strategy (STE) (Ibarra *et al.*, 2020); and how the investors, stakeholders, and others are constituted as a Type of Society (STS) (Fernández-Guerrero *et al.*, 2018).
- 4. KPI. Key Performance Indicators.** Must be measuring product / service innovativeness permanently with Value-added Level (KIL); implementing Performance of Business Plan (KIP); the Social Impact by Products / Services (KSI); Satisfaction of Product / Service Level (KRI), and the Customer Profitability (KCP) (Balanko-Dickson, 2007; Mocker *et al.*, 2015; Parmenter, 2010).
- 5. BPL. Business Plan.** Describes how is the Financial Plan (BFN) (Balanko-Dickson, 2007; Mejía-Trejo, 2019b); the Operation Maintenance & Emergency Plan (BOM) (Balanko-Dickson, 2007; Hyvonen, 2014; García-Paucar *et al.*, 2015); Intellectual Property Plan (BIP) (Baran & Zhumabaeva, 2018); the Accountability Plan (BAC) (Blaguescu *et al.*, 2005; O'Connor & Mock, 2020); the digital marketing plan (BDM) (Mejía-Trejo, 2017a, 2017b; Piñeiro-Otero & Martínez-Roldán, 2017), and the Aftersales Plan (BAS) (Barkawi *et al.*, 2020).
- 6. VPN. Value Proposition.** It is the core of how the firm Delivers Value (VDE); Creates Value (VCR), and Capture Value (VCA) to its consumers (Ibarra *et al.*, 2020).

The six constructs' set produces the main outcome reason for our interest, the KSF for SST. Five constructs are the causal conditions (underlying factors) aligned to predict the outcome. These five

sets of causal conditions factors are Entrepreneur Profile (EPR); Market Knowledge (MKK); Strategic Analysis (STA); Business Performance Indicators (KPI), and the Business Plan (BPL).

The study seeks to link the two research streams: the Key Success Factors (KSF) and the female management at the SST, theoretically supporting each stream. Hence, based on the literature, we have a business model innovation design:

H: «There is not one and only configuration of EPR, MKK, STA, KPI, and BPL sufficient for explaining high KSF. Instead, several equally effective configurations of underlying causal factors exist under SST female or male management that elicits business model innovation design for the next normal».

Methodology

First. It is used the Mejía-Trejo (2021a) framework of KSF-SST with 6 factors and 30 variables aimed to analyse the female and male management as business model innovation (BMI) design to the next normal.

Second. The fuzzy set Qualitative Comparative Analysis with fsQCA 3.0 software was used to determine and analyse different combination solutions, and it is described briefly as follows:

A) Necessary and sufficiency condition analyses. The fsQCA combines qualitative comparative analysis (QCA) with fuzzy sets and logic principles (Ragin, 2008). We applied the fsQCA 3.0 program, which recognizes the pattern of elements that led to the selected result (Mejía-Trejo, 2020). Since this technique produces multiple configurations (solutions), it contains «sufficient» and «necessary» conditions (may exist or not in the solution) that can be marked by their existence, nonexistence, or «irrelevant» conditions. A threshold of 0.9 is required for a condition to be «necessary» (Schneider & Wagemann, 2010). The «sufficiency» in a condition is based on the «principle of causal asymmetry» which establish that «the presence of a factor may lead to a certain unique outcome, but the absence or negation of the same factor may not lead to the absence or negation of that outcome» (Ragin, 2008, p. 41).

B) Calibrating the raw data. This means all raw data transformation of factors into fuzzy sets (values ranging from 0 to 1) (Ragin, 2008). Data calibration can be «direct» (to calibrate all data values researchers select, as anchor values, three qualitative thresholds) or «indirect» (researchers decide to determine the factors to be calibrated after qualitative evaluation). The qualitative

thresholds in the direct method correspond to «full, non-full, and intermediate membership» (Ragin, 2008, p. 75).

C) Generating solutions through the truth table. Once the calibration is successful, the fsQCA activates the fuzzy algorithm to generate a solution that is a conditions combination supported on a high quantity of cases. The directive to be consistent is «the combination leads to the outcome» Hence, a «truth-table» of rows is generated, where k represents the number of outcome predictors. Each row represents the observations quantity in each combination. The fsQCA uses the threshold of 0.5 to identify the combinations that are acceptably supported by the cases. The «consistency» is an exhibit for each combination in truth-table. It refers to the correspondence level among the sample cases sharing a configuration or a causal condition in displaying an outcome-focused (Ragin, 2008; Fiss, 2011).

Conditions can be either present, negated, or absent without affecting the solution (Ragin, 2008). Each combination in the solution can explain the same result in a specific amount. Each solution has its «consistency» with values higher than the recommended threshold (> 0.75), as well as the «overall solution consistency». The «consistency» shows the degree to which a subset relationship has been approximated; the «coverage» evaluates the empirical relevance of a consistent subset (Ragin, 2006; Rihoux, & Ragin, 2009). The «overall solution coverage» relates the degree to which the outcome can be determined from the existing configurations and is very similar to the R-square value reported in traditional regression analyses (Woodside, 2013). Therefore, the «overall solution coverage» indicates that the four solutions explain a considerable proportion of the outcome. Besides, for each solution, fsQCA 3.0 calculates every solution's empirical importance by computing «raw» and «unique coverage». The «raw coverage» describes the amount of the outcome that is explained by a specific alternative solution; the «unique coverage» describes the amount of the outcome that is exclusively explained by a specific alternative solution (Ragin, 2008, Mejía-Trejo, 2020; Mejía-Trejo, 2021b).

The fsQCA provides three sets of «complex, parsimonious, and intermediate solutions» (Ragin, 2008, p. 144). The «complex solutions» exhibit all possible combinations of conditions, but it is hard to interpret and impractical in most cases (Mendel & Korjani, 2012). The «parsimonious solutions» exhibit the most important and simplified conditions which cannot be left out from any solution; they are called «core condition» (Fiss, 2011, p. 28). The «intermediate

solutions» exhibit the result of «counterfactual analysis» on «complex» and «parsimonious» solutions. They are based on assumptions by the researcher being consistent theoretically and empirically with knowledge. The conditions that are part of the «intermediate solutions» and not part of the «parsimonious solutions» are called «peripheral conditions» (Fiss, 2011, p. 28). The next step is the counterfactual analysis explanation treated broadly on Mendel & Korjani (2012).

Third. This research is based on 400 SST CEO respondents as subjects of study to the questionnaire created to remind their perceptions (see Appendix). The subjects of study are from the searching and analysis of 620 originally detected from several databases such as: ASPEN (2017), Angel List (ANL, 2020), INEGI (2021), and Statista (2021). All the subjects were provided with a brief explanation of the concepts treated before they answer the questionnaire. The participation was voluntary using google forms from Jan-Jun 2021. The relevant demographic data results were 40 % > 40 years old, female/male (50 % / 50 %) 75 % single, 75 % undergraduate; 95 % less than 50 employees; they are aimed to software and data (30 %), fintech (20 %), e-commerce (12 %), entertainment (10 %), health services (8 %); education (5 %), transport (4 %), marketing (5 %), food technology (3 %), hardware and IoT (2 %), and energy (1 %). The distribution of the SST was in the following cities: 170 from Mexico City; 60 from Guadalajara; 110 from Monterrey; 10 from Puebla; 30 from Querétaro; 10 Tijuana, and 10 from Ciudad Juárez. The sample is considered representative of Mexican SST CEO.

Results

The fsQCA results with fsQCA3.0 software regarding sufficiency and necessary conditions analyses (Mejía-Trejo, 2020) show findings according to the CEO gender is a configuration for high KSF (key success factors) for SST. See table 1.

Table 1. Sufficiency condition analysis.

Female management									
Solutions / Conditions	EPR	MKK	STA	KPI	BPL	VPN	Raw Coverage (0.25 to 0.65 = informative)	Unique Coverage (> 0.01)	Consistency (> 0.75)
1	O	o	x	o	o		0.651754	0.098765	0.828977
2	O		x	o	x	o	0.598765	0.090789	0.783458
3	o		x		x		0.759456	0.009654	0.708754
4	x	x	x			x	0.657631	0.007265	0.674321
5	x	x			x	x	0.617652	0.006222	0.602368
Overall Solution Coverage			0.821651						
Overall Solution Consistency (> 0.75)			0.782654						
Male management									
Solutions / Conditions	EPR	MKK	STA	KPI	BPL	VPN	Raw Coverage	Unique Coverage	Consistency (> 0.75)
1	O	o	O	x	o	O	0.826547	0.099871	0.898998
2	O	o		x	o	O	0.705659	0.079875	0.827856
3	o	o		x	x	o	0.659987	0.007986	0.782764
4	o	x	x		x		0.639991	0.006987	0.709879
5	o	x			x		0.602345	0.005786	0.601457
Overall Solution Coverage			0.852787						
Overall Solution Consistency (> 0.75)			0.771965						

Notes: o means *Presence of a condition*; x means *Negation of a condition*.

Core elements of a configuration are marked with large circles (**O**), peripheral elements with small ones (**o**), and blank spaces indicate a «do not care» situation in which the causal condition may be either present or absent.

Source: Own data using fsQCA 3.0.

Discussion

The unusual appearance of COVID-19 as an emergency context and the next normal have brought essential changes in the SST behaviour for emerging countries like Mexico to be determined as business innovations activities and create business strategies for the firms affected by the lost economic growth levels. As a result of this study, we argue that the Key Success Factors (KSF) for SST to face emergency context (like COVID-19 pandemic and the next normal) ravages in emergent economies as business model innovation design is composed of the combination of several variables. These factors are EPR, MKK, STA, KPI, BPL, and VPN to be considered KSF for SST and elicit business strategies. The achievement of combinations of such variables could be considered business model innovation activities to determine business strategy proposals and be explained as KSF for SST.

Theoretical implications

This paper contributes to the knowledge through the Business Model Innovation (BMI) framework that reveals Key Success Factors (KSF) in Social Impact Startups (SST), and business strategies under gender management towards the next normal. Thereby, we have three important contributions:

First. How are interacting such variables according to the female management that elicits strategies business for SST in the next normal. The findings show that these five factors are present in all five solutions (2 male / 3 female management), suggesting that they are a sort of core factors as KSF (see table 1).

Second. The conditions obtained show that the SST requires more information and training about how the factors are implemented. For instance, the absence values of presence reported about key Strategic Analysis (STA) for female management and the Key Performance Indicators (KPI) for male management (see table 1). Besides, in fsQCA, different combinations are analysed to get the same outcome («equifinality»), generally understood as alternate causal paths or «recipes» Hence, as business model innovation design: **H.** «There is no one configuration of EPR, MKK, STA, KPI, BPL, VPN sufficient for explaining KSF. Instead, several equally effective configurations of underlying causal factors exist under SST female or male management that elicits business model innovation design for the next normal». It is affirmative (see table 1), being the best combination for female and male management as follows:

A) Solution 1 for female management is characterized for high-level presence of EPR or STA absence or medium-level presence of factors MKK, KPI, BPL or no matter the level of presence of VPN including the configuration of solution 2 with the high-level presence of EPR or medium values of KPI or VPN or no matter the level presence of MKK or the absence of STA or BPL. These solutions explain several cases of KSF-SST as BMI activities under female management ranging from 60 % to 65 % (see raw coverage in table 1). Hence, the expression in Boolean algebra is:

$$[EPR * MKK * \sim STA * KPI * BPL] + [EPR * \sim STA * KPI * \sim BPL * VPN] \rightarrow KSF \dots \text{ (Eq. 1)}$$

B) Solution 1 for male management is characterized by the high level presence of EPR or STA, or VPN or KPI absence, or medium-level presence of factors MKK or BPL; including the configuration of solution 2 with the high-level presence of EPR or VPN, or absence of KPI or medium-level presence values of MKK or BPL, or no matter the level presence of STA; including also the solution 3, with the medium level presence of EPR or MKK or VPN, the absence or value presence of KPI or BPL or no matter the level presence of STA. These solutions explain several cases of KSF-SST as BMI activities under male management ranging from 66 % to 83 % (see raw coverage in table 1). Hence, the expression in Boolean algebra is:

$$\begin{aligned} & [EPR * MKK * STA * BPL * VPN] + \\ & [EPR * MKK * KPI * BPL * VPN] + \\ & [EPR * MKK * \sim KPI * \sim BPL * VPN] \rightarrow KSF \dots \text{ (Eq. 2)} \end{aligned}$$

C) The patterns of complex antecedent conditions are consistent indicators of KSF-SST as BMI activities, with overall solution consistency and coverage of 0.78 and 0.82 (female management) and 0.77 and 0.85 (male management).

D) The theoretical significance of this research comes from the novel approach and methodology adopted and described above. Most SST studies are variance-based methods that assume that the relationship is «symmetric» among variables. Indeed, the relationships among variables are relatively more «asymmetric» (Fiss, 2011).

Third. Based on table 1, the relationship KSF-SST for BMI in the case of female management needs to develop the factors Strategic Analysis (STA); Business Plan (BPL); Market Knowledge (MKK); Key Performance Indicators (KPI), and Value Proposition (VPN). Male management, for another side, the Key Performance Indicators (KPI); Strategic Analysis (STA); Business Plan (BPL); Market Knowledge (MKK). For both cases, the Entrepreneur Profile (EPR) is strongly present («core condition»), and additionally (VPN) for male management.

Practical implications

The research findings provide valuable implications for academics, professional practitioners of gender studies, and innovation activities. Based on demographic data (50 % of female presence), there are relevant opportunities for female entrepreneurship, highlighting their education, optimism

for the future, and the access to be funded in a similar situation to male management. Besides, our study suggests several indicators be considered in future studies, as gender-based difference. The findings present intricate patterns among these factors and how the asymmetric relationships empirically determine the same outcome. This study contributes and extends the knowledge and applications of fsQCA in Mexico, aimed to explain several conditions or relationships of the startup according to the special conditions of a specific country.

Our research's novelty is the combination of the factors identified in the final empirical model. The BMI underlying factors EPR, MKK, STA, KPI, BPL, and VPN could be adopted as innovation design to generate business strategies and, by extension, useful to the firms economically affected by emergency context (like COVID-19 pandemic and the next normal) in emergent countries and highlighting the KSF in SST and the relevant role of the female / male management in the theoretical field towards the next normal.

Conclusions

Hence, we conclude about new knowledge through the business model innovation (BMI) framework that reveals Key Success Factors (KSF) in Social Impact Startups (SST) and business strategies under gender management towards the next normal, as follows:

First. A single best combination is considered Key Success Factors (KSF), eliciting business model innovation design for the next normal. It is composed of five factors: Entrepreneur Profile (EPR), Market Knowledge (MKK), Strategic Analysis (STA), Business Plan (BPL), Key Performance Indicators (KPI), and Value Proposition (VPN). Thirty indicators characterize these factors. The equation as female management is the following (Eq. 1):

$$[EPR * MKK * \sim STA * KPI * BPL] + [EPR * \sim STA * KPI * \sim BPL * VPN] \rightarrow KSF \dots \text{ (Eq. 1)}$$

And Eq. 2 for male management:

$$[EPR * MKK * STA * BPL * VPN] + [EPR * MKK * KPI * BPL * VPN] + [EPR * MKK * \sim KPI * \sim BPL * VPN] \rightarrow KSF \dots \text{ (Eq. 2)}$$

Second. The relationship KSF-SST for BMI in the case of female management needs to develop the factors Strategic Analysis (STA), Business Plan (BPL), Market Knowledge (MKK), Key Performance Indicators (KPI), and Value Proposition (VPN). Male management, on another side, the Key Performance Indicators (KPI), Strategic Analysis (STA), Business Plan (BPL), Market Knowledge (MKK). For both cases, the Entrepreneur Profile (EPR) is strongly present («core condition»), and additionally VPN for male management.

Third. The business Model Innovation Framework (BMI) reveals the Key Success Factors (KSF) in the Social Impact Startups (SST) with several gender-based variables, characterizing female and male management. The subtle gender-based differences point to efforts to improve female management, access to financing, digital marketing plan, patent registration, and more compromise to encourage their personnel more than the male management.

Fourth. Finally, the BMI as KSF in the SST model allows academics, professional practitioners in gender studies, and innovation activities to design business model innovation as strategies for the next normal.

Limitations and future studies

First. The SST is a source of information depending on the type of industry and sector. Not all SST (services or products) provide information under identical conditions and times due to their nature to fail.

Second. The results consisted of an SST as COVID-19 pandemic survivors in the 2021 second half. Further studies could combine other economic, social, and optimistic health conditions to probe other kinds of results, for instance, the Olympiads, the soccer World Cup, the UEFA Euro, etc., and what is happening in emergent countries.

Third. Future female / male management studies about KSF may also lead to different issues such as the grouping of CEO by age generation (X, Y, Z), regions, countries, education, incomes, public policies of gender, status family (divorce, couple, etc.), SST type, etc. aboard. Furthermore, different female roles may be included, such as decisions about becoming a mother, getting in a couple, the pregnancy, etc.

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APPENDIX

Questionnaire designed on literature review with operational definition of constructs*

BMI for KSF-SST under Gender Management Framework				
Factor	Variables	Item	Indicators. [Respond according to Likert Scale 1-5: 1 – Not at all aware; 2 – Slightly aware; 3 – Somewhat aware; 4 – Moderately aware; 5 – Extremely aware. Questions are in third person.]	Authors
1. Entrepreneur Profile (EPR)	1. Entrepreneur personality (EPS)	1	We perceive our personality trait as an entrepreneur like: <ul style="list-style-type: none"> • Openness to experience • Conscientiousness • Extraversion • Agreeableness • Neuroticism 	Bruni (et al. 2004); Poropat (2009)
	2. Entrepreneur category of business (ECB)	2	Our entrepreneurship has more willingness to: <ul style="list-style-type: none"> • Income and commercial reasons • Social proposes with sustainable development 	UN (2015)
	3. Entrepreneur experience (EEX)	3	For us, it is essential: <ul style="list-style-type: none"> • The previous experience to start any entrepreneurship faster than others • The innovative behaviour • Increasing the size of the startup along the lifetime 	Fernández-Guerrero, (et al., 2018)
	4. Entrepreneur motivation (EMT)	4	Our entrepreneur motivation is more willingness to: <ul style="list-style-type: none"> • Opportunity (achievement sentiment) • Necessity (survival sentiment) • The results are more important than processes • Self-confidence to overcome the fear of failure 	Aldás-Manzano (2012); Olugbola (2017); Fernández-Guerrero, (et al., 2018)
2. Market knowledge (MKK)	5. Markets needs (MKN)	5	We permanently surveillance the market needs where we are serving through the identification of: <ul style="list-style-type: none"> • Mass market • Segmented market • Diversified market • Multi-sided markets 	Balanko-Dickson, (2007); Osterwalder & Pigneur (2010); Ibarra et al. (2020)
	6. Product/Service attributes (MPS)	6	We permanently surveillance of the correct attributes where we are serving through to incorporate, into the product/service to satisfy consumers' needs exceeding their expectations, earing the "voice of the customer": <ul style="list-style-type: none"> • Right attributes • We systematically observe and evaluate the needs of our customers. • We analyze the actual use of our products/services. 	
	7. Market management by values (MMV)	7	We permanently surveillance of our value-based innovation through the identification of: <ul style="list-style-type: none"> • CEOs/Stakeholders • Business model innovation • Process/product-service 	Mejía-Trejo & Rodríguez-Bravo (2019)
	8. Market size (MSZ)	8	To ensure that we meet all the needs of our customers, we permanently calculate the market size by: <ul style="list-style-type: none"> • Volume • Value 	Balanko-Dickson, (2007); BRW(2016); Okrah & Agbozo (2018)

			<ul style="list-style-type: none"> • Share 	
3. Strategic Analysis (STA)	9. Competitors analysis (SCA)	9	<p>We permanently analyze the competitors through the development of :</p> <ul style="list-style-type: none"> • Abilities to determine our market positioning faster than the competitors • Abilities to identify faster the customer needs • Abilities to innovate faster new products/services • Attract better employees than the competition • Abilities to identify faster the SWOT of competitors products/services • Abilities to observe and evaluate the needs of our customers 	Balanko-Dickson, (2007); Mejía-Trejo (2019a); Ibarra et al . (2020)
	10. Product/ Service design (SPS)	10	<p>We permanently analyze to evolve our products/services design through the questioning of:</p> <ul style="list-style-type: none"> • Does it have enough correspondence with the attributes required to the market needs? • Is it easy to learn how to use? • Is it enough attractive in features and price to the customer? • Is it designed and developed cooperatively with suppliers and distributors? • If it is based on B2B (or any electronic business modality), is it enough designed to the customer`s requirements? • Is the design for products/services aimed to get emotional benefits to the customer? • Is the design for products/services aimed to get rational benefits to the customer? • Is the design for products/services aimed to get rational benefits to as eco-innovation needs of customer? 	Balanko-Dickson, (2007); Kotler& Armstrong (2017); Mejía-Trejo (2019a)
	11. Cost/Price (SCP)	11	<p>We care about customer perceived value as a relationship of costs/prices of our products/services supported by other value-added as the result of:</p> <ul style="list-style-type: none"> • Studies to fix prices for: <ul style="list-style-type: none"> -Survival -Maximum current profit -Maximum market share -Maximum market skimming -Product-quality leadership • Studies to determine costs computing total: <ul style="list-style-type: none"> -Customer cost/benefit -Product-Monetary cost/benefit -Service-Time cost/benefit -Personnel-Energy cost/benefit -Image-Psychological cost/benefit -Customer retention rate -Cost of operation -Cost of branding -Variable & Fixed costs in design, engineering, manufacturing, sales, delivery, etc. • A permanent analysis of competitors` costs/prices to keep them balanced and competitive • A permanent review to keep enough earnings by incomes 	Kotler& Armstrong (2017)
	12. Business model (SBM)	12	<p>We believe that the main proposal of the business model is aimed to make more and better products and services based on:</p> <ul style="list-style-type: none"> • More incomes and earnings to the stakeholders • Produce more benefits increasing the live quality to the individuals and the society based on sustainable tenets. • Development of the team-works around the empowerment, achievement and perseverance of the personnel • Ideas and concepts into detailed products, services, value propositions or business models • The combination of technology, market and business model knowledge in the idea generation and/or experimentation processes 	Balanko-Dickson, (2007); Dessyana & Riyanti, (2017); Osterwalder & Pigneur, (2010); Ibarra et al. (2020)

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	13. Managerial orientation (SMO)	13	Our strategic priorities in management have been oriented towards: <ul style="list-style-type: none"> • Cost reduction rather than investment (in R&D, capital, etc.) • The short term rather than the long term. • On low-risk projects rather than projects with greater potential but that entailed higher risks. 	Ibarra et al. (2020)
	14. Innovation strategy (SIN)	14	We promote: <ul style="list-style-type: none"> • Creativity and innovation • People`s knowledge and initiatives • Open communication and interdepartmental exchange of information. • New concepts to test through prototypes and pilot tests before their final development • New ways of both creating value for our customers and capturing value from our innovations. • The involvement of customers in the innovation processes • The involvement of external partners • The collaboration with external partners 	
	15. Technology strategy (STE)	15	We: <ul style="list-style-type: none"> • Keep up to date with promising new products/services and technologies. • Use different sources of information to identify opportunities related to new products/services and technologies. • Follow which technologies our competitors use. 	
	16. Type of society (STS)	16	We prefer to undertake an entrepreneurship more willingness to: <ul style="list-style-type: none"> • NGO. More than 95% of its income depends on donors • Non-profit social company. More than 67% of its income depends on donors. • Hybrid social enterprise: More than 5% of your income comes from the market • For-profit social enterprise: From 50% to 67% of its financing derives from its resources 	
4. Business key performance indicators (KPI)	17. Product/Service innovativeness with value added level (KIL)	17	We design, implement and frequently measure as key performance indicator the relationship of our products/services innovativeness with value-added level.	Balanko-Dickson (2007); Mocker (et al., 2015); Parmenter (2010)
	18. Implementing performance of business plan (KIP)	18	We design, implement and frequently measure, as key performance indicator our business plan advance according to the norms and schedule.	
	19. Social impact by products/services (KSI)	19	We design, implement, and frequently measure as key performance indicator the social impact of our products and services according to our business plan	
	20. Satisfaction of product/service level (KRI)	20	We design, implement, and frequently measure as key performance indicator the customer`s satisfaction of our products and services according to our business plan	
	21. Customer profitability (KCP)	21	We design, implement, and frequently measure as key performance indicator : <ul style="list-style-type: none"> • Customers live-cycle value • Customer retention • Customer profitability 	
5. Business plan (BPL)	22. Financial plan (BFN)	22	For us, for every new or innovated product/service, it is necessary to calculate: <ul style="list-style-type: none"> • Initial Cost • Balance sheet and income statement 	Balanko-Dickson (2007); Mejía-Trejo (2019b)

			<ul style="list-style-type: none"> • Break-even point • Return of investment • Net present value <p>For us, our main source to finance new entrepreneurship is based on:</p> <ul style="list-style-type: none"> • Bank loans • Crowdfunding • Family and friends 	
	23. Operation Maintenance & Emergency plan (BOM)	23	<p>For us, it is important the operation, maintenance & emergency plan to:</p> <ul style="list-style-type: none"> • Identify resources and capabilities to do it by Own • Identify resources and capabilities to do it by Outsourcing • Have all the resources, capabilities, and processes entirely documented • The key tenet is to know how to proceed both in regular and in contingency times, being more competitive • Be certificated in every vital issue of work getting trust in customers and being more competitive 	Balanko-Dickson, (2007); Hyvonen, (2014); García-Paucar (et al., 2015)
	24. Intellectual property plan (BIP)	24	<p>For us, the intellectual property plan is centered to:</p> <ul style="list-style-type: none"> • Engage them with the resultant innovations • Protect them legally as resulting innovations • Procure enough financial resources to register them 	Baran, A. & Zhumabaeva, A. (2018).
	25. Accountability plan (BAC)	25	<p>For us, it is essential to operate an accountability plan, in favor of the social impact startup, to boost innovations keeping permanent surveillance in:</p> <ul style="list-style-type: none"> • Transparency • Participation • Evaluation of accountability results • Complaint • Response mechanisms • Responsiveness 	Blaguescu, (et al., 2005); O'Connor & Mock (2020)
	26. Digital marketing plan (BDM)	26	<p>For us, a digital marketing plan is essential to design a web campaign, driving product features and service mix, boosting for:</p> <ul style="list-style-type: none"> • Awareness • Desire • Experience • Engagement • Loyalty • Satisfaction • Effectiveness on call to action <p>For us, a digital marketing plan is essential to design a network to:</p> <ul style="list-style-type: none"> • Increase relationships for the entrepreneurship • Conducting market research and performing better in strategic planning, leading change 	Mejía-Trejo (2017a; 2017b); Piñeiro-Otero & Marínez-Roldán (2017)
	27. Aftersales plan (BAS)	27	<p>For us, an aftersales plan is essential to retain the customers in the entrepreneur business plan using:</p> <ul style="list-style-type: none"> • Telephone calls • CRM (Customer Relationship Management) • emailing • Social Media 	Barkawi (et al., 2020)
6. Value proposition (VPN)	28. Value delivery (VDE)	28	<p>In the last 3 years in our company we have:</p> <ul style="list-style-type: none"> • Met new customer needs previously unmet by the market • Solved customer problems not solved by our competitors • Introduced new forms of value for customers • Introduced new forms of value for other partners (suppliers or distributors) • Diversified into new markets, targeting completely new customer types or new geographical environments • Expanded our activity to new customer segments 	Ibarra et al (2020)
	29. Value creation	29	<p>In the last 3 years in our company we have:</p>	

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	(VCR)		<ul style="list-style-type: none"> • Significantly modified the set of key activities of our business through the acquisition or elimination of certain activities or their internal and/or external reorganization, allowing us to be more efficient and improve our response • Established new collaborations with third parties that have allowed us to optimize and improve our value proposition and/or business model • Integrated clients, suppliers, distributors and other agents in innovative ways in relation to the delivery of products and services • Re-configured our value chain, allowing us to be more efficient and to respond better to all interested parties. 	
	30. Value capture (VCA)	30	<p>In the last 3 years in our company we have introduced new:</p> <ul style="list-style-type: none"> • Ways to reduce costs. • Pricing mechanisms. • Ways to be profitable. • Revenue streams. 	

Source: Several authors with own adaptation in Mejía-Trejo (2021a).

* [Sic]: It is published as presented (editor's note).