



EUROPEAN JOURNAL OF FAMILY BUSINESS

CÁTEDRA SANTANDER DE EMPRESA FAMILIAR DE LA UNIVERSIDAD DE MÁLAGA

9 VOLUMEN

JANUARY - JUNE 2019

1 ISSUE

ISSN 2444-877X

www.revistas.uma.es/index.php/ejfb

SPECIAL ISSUE: Family business in the context of global changes

Guest editor: Francisca Parra Guerrero

Revisiting Internal Market Orientation in family firms.

Sergey Kazakov

5-20

Customer Orientation in Family Businesses.

Javier Morales Mediano, José Luís Ruiz-Alba, Isolino Pazos Villas, Raquel Ayestarán

21-28

Family firms' profile: Leiria Region.

Ines Lisboa

29-37

The Design of an aquaponic system run on solar power for a family business in Chad.

Dolores Tous Zamora, Francisco de la Rosa Sánchez, Eva M. Sánchez Teba, Manuel Cordero Tous, Rubén Ruiz Campos

39-48

Family business in transition economies: an exploratory study of private business.

Alexander Rosado-Serrano and Antonio Navarro-García

49-53

Innovation in Family Business and Cooperation: a literature review

Mariano Soler Porta, Antonio Padilla-Meléndez, Beatriz Rodríguez-Díaz

55-65



Editor in Chief: Vanesa F. Guzmán Parra. *Universidad de Málaga*

Associate Editors

Txomin Iturralde Jainaga *Universidad del País Vasco*
María Katuska Cabrera Suárez. *Universidad de Las Palmas de Gran Canaria*
José Carlos Casillas Bueno *Universidad de Sevilla*
Julio Diéguez Soto. *Universidad de Málaga*
María Concepción López Fernández. *Universidad de Cantabria.*
Amaia Maseda García *Universidad del País Vasco*
Ángel Luis Meroño Cerdán. *Universidad de Murcia*
Antonio Navarro García *Universidad de Sevilla*
Gregorio Sánchez Marín. *Universidad de Murcia*
José Roberto Vila Oblitas *Universidad de Málaga*

Assistant

Lujain Bayo Baitalmal *Universidad de Málaga*

Advisory Board

Isabel María Abad Guerrero (<i>Universidad de Málaga</i>)	Remedios Hernández Linares (<i>Universidad de Extremadura</i>)	Pere Mercadé Melé (<i>Universidad de Málaga</i>)
Francisco Acedo González (<i>Universidad de Sevilla</i>)	Felipe Hernández Perlínes (<i>Universidad de Castilla-La Mancha</i>)	Victor Molero Ayala (<i>Universidad Complutense de Madrid</i>)
Pilar Alarcón Urbistondo (<i>Universidad de Málaga</i>)	María Jesús Hernández Ortiz (<i>Universidad de Jaén</i>)	Sebastián Molinillo Jiménez (<i>Universidad de Málaga</i>)
Benjamín del Alcazar Martínez (<i>Universidad de Málaga</i>)	José Antonio Novo Peteiro (<i>Universidad de A Coruña</i>)	María Jesús Morales Caparrós (<i>Universidad de Málaga</i>)
Ana Rosa del Águila Obra (<i>Universidad de Málaga</i>)	Fernando Olivares (<i>Universidad de Alicante</i>)	María Jesús Moreno Domínguez (<i>Universidad de Huelva</i>)
Cristina Aragón Amonarriz (<i>Universidad de Deusto</i>)	Lourdes Eugenia Osorio Bayter (<i>Universidad Autónoma de Occidente de Cali [Colombia]</i>)	Ana María Moreno Menéndez (<i>Universidad de Sevilla</i>)
Rubén Arrondo García (<i>Universidad de Oviedo</i>)	José Antonio Otero Parra (<i>Universidad Europea Miguel de Cervantes</i>)	Claudio Müller Valenzuela (<i>Universidad de Chile</i>)
Juan Carlos Ayala Calvo (<i>Universidad de La Rioja</i>)	Antonio Padilla Meléndez (<i>Universidad de Málaga</i>)	Manuel Rey Moreno (<i>Universidad de Sevilla</i>)
Tomás Bañegil Palacios (<i>Universidad de Extremadura</i>)	María José Pérez Rodríguez (<i>Universidad Complutense de Madrid</i>)	Elena Rivo López (<i>Universidad de Vigo</i>)
Mário Lino Barata Raposo (<i>Universidad da Beira Interior</i>)	María José Quero Gervilla (<i>Universidad de Málaga</i>)	Alfredo Rocafort Nicolau (<i>Universidad de Barcelona</i>)
José Daniel Barquero Cabrero (<i>ESERP Business School</i>)	Juan Hernangómez Barahona (<i>Universidad de Valladolid</i>)	José Javier Rodríguez Alcaide (<i>Universidad de Córdoba</i>)
Mario Barquero Cabrero (<i>Universidad Rey Juan Carlos, Madrid</i>)	Carmina Jambriño Maldonado (<i>Universidad de Málaga</i>)	Lázaro Rodríguez Ariza (<i>Universidad de Granada</i>)
Rodrigo Basco (<i>American University of Sharjah, Sharjah, Emiratos Árabes</i>)	Santiago Lago Peñas (<i>Universidad de Vigo</i>)	Alfonso A. Rojo Ramírez (<i>Universidad de Almería</i>)
Helena Maria Batista Alves (<i>Universidad da Beira Interior</i>)	Virginia Llorente Muñoz (<i>Universidad de Málaga</i>)	Francisco Javier Rondán Cataluña (<i>Universidad de Sevilla</i>)
Patricia Benavides Velasco (<i>Universidad de Málaga</i>)	Sara Llovera Laborda (<i>Universitat Politècnica de Catalunya</i>)	Juan Carlos Rubio Romero (<i>Universidad de Málaga</i>)
Guillermo Bermúdez González (<i>Universidad de Málaga</i>)	Tomislav Mandaković (<i>Andreas School of Business Barry University [Miami]</i>)	José L. Ruiz-Alba Robledo (<i>University of Westminster, London, United Kingdom</i>)
Carlos De las Heras Pedrosa (<i>Universidad de Málaga</i>)	Joaquim Majó Fernández (<i>Universitat de Girona</i>)	Aurora Ruiz Rúa (<i>Inter-American Development Bank Washington(USA)</i>)
José Díez de Castro (<i>Universidad de Santiago de Compostela</i>)	Guadalupe Manzano García (<i>Universidad de La Rioja</i>)	José Antonio C. Santos (<i>Universidade do Algarve</i>)
Yüksel Ekinci (<i>Oxford Brookes University</i>)	F. Javier Maqueda Lafuente (<i>Universidad del País Vasco</i>)	Salvador Rus Rufino (<i>Universidad de León</i>)
Alejandro Escribá Esteve (<i>Universidad de Valencia</i>)	María del Pilar Marques Gou (<i>Universidad de Girona</i>)	Pilar Saldaña Gonzalo (<i>Universidad de Barcelona</i>)
Alejandro Escudero Yerro (<i>École Supérieure des Sciences Commerciales d'Angers [Francia]</i>)	Rocío Martínez Jiménez (<i>Universidad de Jaén</i>)	Juan Soriano Llobera (<i>Universitat Politècnica de Catalunya</i>)
Miguel Ángel Gallo (<i>IESE, Barcelona</i>)	María José Martínez Romero (<i>Universidad de Almería</i>)	Jorge Talavera Traverso (<i>Universidad ESAN [Perú]</i>)
Ignacio Gallego Domínguez (<i>Universidad de Córdoba</i>)	M. Teresa Mata Sierra (<i>Universidad de León</i>)	Sergio Olavarrieta (<i>Escuela de Negocios. Universidad de Chile</i>)
Germán Gémar Castillo (<i>Universidad de Málaga</i>)	João José de Matos Ferreira (<i>Universidad da Beira Interior</i>)	Adolfo Vázquez Sánchez (<i>Universidad de Sevilla</i>)
Anna María Gil Lafuente (<i>Universidad de Barcelona</i>)	Horacio Meléndez (<i>Universidad Católica Argentina</i>)	Rafael Ventura Fernández (<i>Universidad de Málaga</i>)
Jaime Gil Lafuente (<i>Universidad de Barcelona</i>)		Georgina Whyatt (<i>Oxford Brookes University</i>)
Jesús Giménez Sánchez (<i>Universidad Complutense de Madrid</i>)		
Eva María González Robles (<i>Universidad de Málaga</i>)		

CONTENTS

Special issue. Family business in the context of global changes

Guest Editors: Francisca Parra Guerrero

Revisiting Internal Market Orientation in family firms. Sergey Kazakov	5-20
Customer Orientation in Family Businesses. Javier Morales Mediano, José Luíz Ruiz-Alba, Isolino Pazos Villas, Raquel Ayestarán	21-28
Family firms' profile: Leiria Region. Ines Lisboa	29-37
The Design of an aquaponic system run on solar power for a family business in Chad. Dolores Tous Zamora, Francisco de la Rosa Sánchez, Eva M. Sánchez Teba, Manuel Cordero Tous, Rubén Ruiz Campos	39-48
Family business in transition economies: an exploratory study of private business . Alexander Rosado-Serrano and Antonio Navarro-García	49-53
Using PLS-SEM to model Family Business Behavior when addressing the protocol Soler Porta, M., Padilla-Meléndez, A., Rodríguez-Díaz, B. (2019). Innovation in Family Business and Cooperation: a literature review. European Journal of Family Business, 9(1), 55-65.	55-65

SPECIAL ISSUE - Family business in the context of global changes

Guest Editor Introduction to the Special Issue

Francisca Parra Guerrero

Catedrática de Marketing de la Universidad de Málaga

Directora y Fundadora de la Cátedra Santander de Empresa Familiar de la Universidad de Málaga

There have been many changes in the last years in all ENVIRONMENTS. This obliges us to react both on a macroeconomic and microeconomic level. As a result of the important role that family businesses play in the world economy, it is obliged to remain on the vanguard of this new horizon. In the present issue of the European Journal of Family Business we collect different investigations that prove that. New technologies in addition to a society that is evermore informed, trained and demanding make it necessary to focus further on the market and client. The family business has to adapt to climate change searching for new production systems and applying new technologies. It has to be conscious of the competitive advantage that innovation can create, this being directly proportional to its relation with the outside.

In the first article, Kazakov (2019) explores the Internal Market Orientation in family firms and proposes a novel IMO framework reflecting the noted global changes that affect family businesses.

Likewise, the work of Morales Mediano, J., Ruiz-Alba J.L., I. Pazos Villas, I. and Ayestarán R. (2019) investigate the customer orientation of service employees (COSE) in family businesses with a qualitative study comprised of 13 interviews conducted on senior managers in family firms. The results are analyzed using NVivo 11. This study expands on the potential of COSE with the use of family businesses for the first time and introduces new consequences apart from the original model.

Lisboa (2019) creates a family firms profile of the Leirian region (Portugal) using a sample of 233 family firms. Results show that most of respondent firms are exclusively owned and controlled by the family. The family identity is present in the firm, as well as the family culture and commitment. The family is an important influence in the business.

Rosado-Serrano and Navarro-García (2019) explore the background of transition economies observing the new phenomenon of private enterprise in the Republic of Cuba and franchising in Venezuela.

Finally, Soler (2019) put forward a bibliographic review of the incidence of cooperation with the environment in innovation in family enterprises.

We are hopeful that the works in this specific issue will help to enhance the understanding of global changes in the context of family business.



Revisiting Internal Market Orientation in family firms

Sergey Kazakov^{ab*}

^a Programa de Doctorado en Economía y Empresa Universidad de Málaga (Economics and Business Administration Phd. Programme at University of Málaga, Spain)

^b NRU HSE - Higher School of Economics, Moscow, Russian Federation

Received 08 January 2019; accepted 29 November 2019

JEL CLASSIFICATION
M310

KEYWORDS
Internal Market Orientation;
Job Satisfaction;
Employee Commitment;
Business Performance;
Family Business

Abstract The present conceptual paper depicts Internal Market Orientation (IMO) theory development conceptualization with a contemplation of new conditions, realities and technologies available to modern businesses in service industries. Based on the results of a conceptual study, this study proposes a novel IMO framework which reflects the noted global changes that affects family businesses.

The denoted model introduces novelty variables including Information Communication Technologies (ICTs) and Outsourced Personnel structural constructs. They avail to measure the effect of IMO implementation on job satisfaction and employee commitment that, in their turn, exhibit a positive impact on business performance in service industries.

CÓDIGOS JEL
M310

PALABRAS CLAVE
Orientación del Mercado interno;
Satisfacción en el trabajo;
Compromiso de los trabajadores;
Desempeño del negocio;
Empresa Familiar

Revisión de la orientación del mercado interno en empresas familiares

Resumen El presente estudio conceptual presenta el desarrollo de la teoría de la orientación del mercado interno (OMI) mediante la discusión de las nuevas condiciones, realidades y tecnologías disponibles para negocios modernos en empresas de servicio. Basado en los resultados de un estudio conceptual, esta investigación propone un nuevo marco OMI que refleje los cambios globales que afectan a las empresas familiares.

El modelo indicado introduce variables novedosas tales Tecnologías de la Información y Comunicación (TIC) y las subcontrataciones de personal. Se valora la medición del efecto de la implementación de la OMI en la satisfacción laboral y el compromiso de los empleados que, a su vez, muestran un impacto positivo en el desempeño del negocio en empresas de servicio.

<http://dx.doi.org/10.24310/ejfb/ejfb.v9i1.5468>

Copyright 2019: Sergey Kazakov

European Journal of Family Business is an open access journal published in Malaga by UMA Editorial. ISSN 2444-8788 ISSN-e 2444-877X
This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License (CC BY-NC-SA 4.0).

*Corresponding author

E-mail: sergey.p.kazakov@gmail.com

Introduction

The effects of marketing concept implementation in family businesses is a perspective research topic which has been underestimated by academia to date (Zainal et al., 2018). The marketing concept is about a customer centred business paradigm, which emphasises the development and promotion of products and services demanded by consumers (Zhou et al., 2009). The firm that delivers products and services with higher quality to consumer markets usually receives higher levels of customer satisfaction and loyalty resulting in higher revenues for the firm (Narver and Slater, 1990; Kohli and Jaworski, 1990). In other words, the key to success in business is value creation and its delivery to customers (AMA, 2007). Such lemma has been agreed by both academic and business communities. However, there is an issue of the proper marketing concept execution (Kazakov, 2016). This is a matter of common management concern particularly in the context of the family business (Brück et al., 2018) because family business is considered as an important contributor to the national economy (Zainal et al., 2018). Although the marketing paradigm per se is known as a philosophical foundation for business execution in a competitive world, nevertheless, it is noted as something not specific and not tangible. Hence, there is a necessity to support the marketing paradigm with a certain way of proper application (Kohli and Jaworski, 1990).

To tackle this challenge, the notion of Market Orientation (MO) was conceptualised by scholars and accepted by practitioners more than thirty years ago as a result of seeking the new marketing concept. It was expected to equip businesses with the tools to achieve greater customer satisfaction that would ultimately lead to better business performance. To date, Market Orientation (MO) is a renowned and profoundly studied yet developed concept in the modern marketing management (see Narver and Slater, 1990, 2000; Kohli and Jaworski, 1990, Kohli et al., 1993; Eccles, 1991; Deshpande et al., 1993; Day, 1994; Farrel and Ozckowski, 1997; Pelham, 2000; Kara et al., 2005; Kirca et al., 2005; Kazakov, 2012, 2016).

MO was later rethought as an integral construct of two basic constituents inclusive of External Market Orientation (EMO) and Internal Market Orientation (IMO). From the enterprise perspective, IMO implements marketing tools and techniques targeted at the organisation employees whilst EMO focuses on the external marketing actors (Lings and Greenley, 2009). IMO received some attention from academia recently but to date, this stream of research is in a paucity. There are certain imperfections in

the current state of IMO theory that become visible from the angle of the new economic conditions and business realities currently faced by the family firms. Until most recently, most IMO studies have been aimed to determine its antecedents rather than attempted to measure the impact of IMO implementation on business performance (Gounaris et al., 2009; Lings and Greenley, 2009; Ordanini and Maglio, 2009; Rodrigues and Carlos Piñho, 2012; Edo et al., 2015). Only a limited number of studies concentrated on gauging IMO consequences including employee job commitment, job satisfaction and loyalty, service quality and customer satisfaction (Tortosa et al., 2009; Tortosa-Edo et al., 2010; Ruizalba et al., 2014) but did not consider the actual business performance metrics of sales and revenue numbers, customer retention or churn rates. Similarly, accumulated research has been monotonously experiencing generalisation issues. It was usually applied to the contexts other than family businesses. Furthermore, a common business practice of third-party contracted or 'outsourced' manpower wide utilisation has not been yet considered in IMO studies but this practice has certain implications on family, non-family businesses and their employees as literature witnesses (Velocci, 2002; Munch, 2010; Seklecka et al., 2013; Gilani et al., 2016; Imm et al., 2016). Finally, as the emerging and rapidly developing Information and Communication Technologies (ICT) demonstrate a great impact on all facets of human life and activities (Buhalis and Law, 2008; Mittas et al., 2011), their vast expansion and impact should be both measured in IMO contexts. As Kohli and Jaworski (2017) point out, efficient MO conceptual framework should possess what they call a 'red thread' which "(a)... ties the entire concept together and (b) put boundaries on the concept" (2017: 3). We believe that ICT can be deemed precisely as such 'red thread' in the development of the IMO framework under this study.

Along with the unveiled imperfections of the general IMO theory, there is a scant array of extant research in the context of the family firms. Marketing is often examined as a business paradigm in the domain of big corporations through its better efficacy and valence are demonstrated by family firms as well (Miller and Le Breton-Miller, 2006; Micelotta and Raynard, 2011). IMO has been mainly investigated in the context of big companies too with only a few exceptions (Ruizalba et al., 2014; 2015; 2016). These studies, however, investigated only some discrete IMO constructs in family firms environment. The verification of the complete IMO framework elements and their direct effects on the business performance metrics for the family firms is still pending. Then, the

comparative family vs. non-family firms studies relevant to IMO are not present in the extant literature. These noted imperfections lead to a vocal demand reconcile IMO model framework, to gauge the antecedents and effects of IMO application in family firms and to posit four research questions of our study, as follows:

RQ1: What organisational behaviour elements, that are adequate to the challenges of the modern digital era, constitute IMO in the context of the family firms?

RQ2: Does IMO positively influence the business performance metrics of the family firms?

RQ3: Is there a difference in IMO concept implementation and its effects in the domains of family and non-family businesses?

RQ4: Do family firms, that have a higher level of IMO implementation, have better business performance metrics than family firms with a lower level of IMO implementation?

These research questions determine the purpose of the study which is threefold. First, we develop a novel IMO conceptual framework under this study which addresses the noted issues in IMO theory. We build a model that incorporates ICT as a cementing 'red-thread' heeding the recommendations of MO founders (Kohli and Jaworski, 2017). This paper posits ICT as an element that links all the components of the modernistic IMO concept together. Based on the accumulated literature, we revisit the most recent advancements in IMO theory and justify the manifested propositions for IMO conceptual framework improvement. Second, we introduce additional business performance metrics as an ultimate and desired consequence of IMO implementation in family businesses and also consider additional covariate variables including outsourced personnel as many family business organisations face this reality in their routine. Finally, we develop a research methodology and design for an adjacent study that will help to secure empirical evidence for the posited IMO conceptual model resulting from this study.

In order to accommodate the accomplishment of these research objectives, we lean on the literature pertinent to 'roots' studies and most notable contemporary IMO themed papers. We also encompass extant literature from other academic areas, those that examine ICTs influence on business organisations. Research stream relevant to the studies of how outsourced employees influence the working environment in business organisations is also on our agenda. In order to develop a novel IMO model framework, we also employ scientific methods of induction and deduction using the data obtained following the meetings, conversations, and observations relevant to practical businesses. This data aids to accumulate knowledge and understanding of

the modern family firms business realities resulting in consideration and inclusion of certain proposed concept elements.

This research is important to both general marketing and family firms literature. It contributes to the general IMO theory by the introduction of new variables. Incorporation of outsourced personnel variable will demonstrate if the job satisfaction of regular employees is affected by it. Then, the paper determines the effects that ICTs produce on every aspect of IMO implementation in the family firms context. This research is significant for the literature pertinent to family businesses because it outlines the empirical study aimed to build evidence that family business organisations are more prone to IMO deployment than non-family firms. This research possesses interest for both academia and practitioners as it affirms the positive IMO outcomes for the business performance of the family businesses. Completed research results and findings will generate, in our belief, the interest for business practitioners who can successfully apply IMO practices in their firms and furthermore effectively fine-tune internal marketing management to the present-day realities.

The rest of this paper is organised in three sections. In the literature review, we analyse the current state of MO general science and bridge it to the analysis of the available research relevant to the most notable papers relevant to IMO studies. Like common academic logic, literature review and completed research analysis ground an origin for hypotheses formalisation that will then follow in this paper. We resume with a proposition and justification of the conceptual framework that we named iIMO accompanied by the research methodology and design for the next research empirical phase where our assumptions will be hopefully validated. We conclude the paper by presenting theoretical contribution at this point of research supplemented by a discussion of possible limitations and concerns that may arise following the execution of the study.

Market Orientation roots. External and Internal Market Orientation

The core MO philosophy signifies its external vector and mainly targets outer marketing environmental actors including competitors and customers. Nevertheless, the earliest approaches to MO already contained internal business components that were deemed crucial for the successful implementation of MO in practice too. MO was initially conceptualised as a combination of a number of both internal external organisational behavioural components in MKTOR (Narver and Slater, 1990) and MARKOR

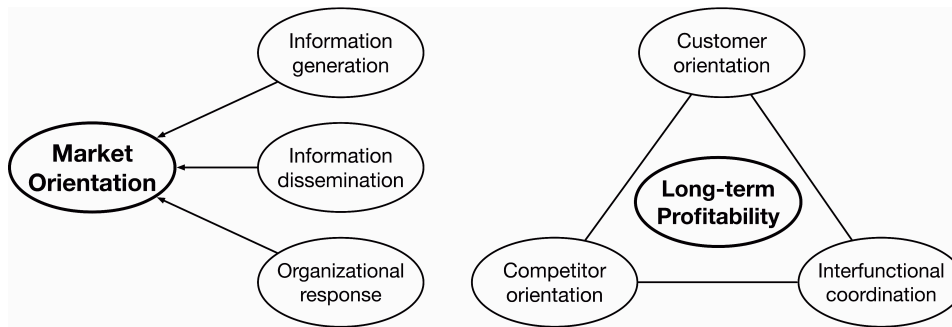


Figure 1 MARKOR (Kohli and Jaworski, 1990) (left) and MKTOR (Narver and Slater, 1990) (right) Market Orientation Models

(Kohli et al., 1993) models (Fig.1). Until recently, both MKTOR and MARKOR models have been profusely referred and cited in the academic literature dedicated to the numerous MO research questions.

Whilst both MARKOR and MKTOR models incorporate internal behavioural components of the organisation, they diverge in organisational focus. MARKOR concept is generally about how well the firm manages the data and how accurately the decisions are made based on thorough data analysis (Kohli and Jaworski, 1990). In contemporary marketing management concept, it is often noted as 'data-driven marketing' (Jeffery, 2010). MARKOR model received some criticism recently because of its solitary focus on antecedents of MO, rather than on its consequences and benefits that can be yielded by business organisations as well as due to its complexity (Pelham, 1993; Gabel, 1995). In MKTOR model, the emphasis is made on the internal organisational alignment amid various departments with a focus of impact on external market actors (Narver and Slater, 1990). Unlike the concept of MARKOR, this particular model features 'Long-term Profitability' as an ultimate goal for MKTOR implementation as its anticipated consequence. MKTOR model

received less critique in the literature so far, though some researchers noted that it has less predictive power and thus less useful for gauging the levels of MO in the organisation (Rojas-Méndez and Michel, 2013).

MARKOR and MKTOR together take the onset from the internal environment of the organisation but are mostly headed towards the external marketing environment actors, namely competitors and customers. Although 'Organisational Response' construct found in MARKOR model can also be discerned for internal marketing purposes, but according to the context of the Kohli and Jaworski (1990) it had an unambiguous external essence. Hence, the necessity to distinguish MO concept based on its focus arose shortly in academia. This call was described later by succeeding scholars who posited the bifurcation of MO universe into External Market Orientation (EMO) and Internal Market Orientation (IMO) (Fig.2).

From the perspective of the business organisation EMO is deemed as a powerful mean of value exchange with external entities including customers, intermediaries, service companies and other engaged market environmental actors (Kara et al., 2005). Conversely, IMO focuses on marketing actors

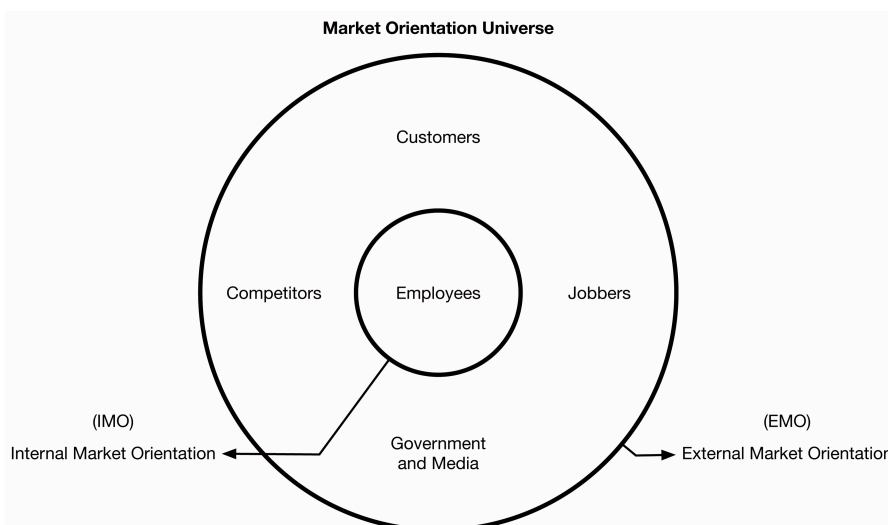


Figure 2 Market Orientation Universe constituents of Internal Market Orientation and External Market Orientation

within enterprise borders by the implementation of the marketing tools and techniques primarily targeted at those actors, namely organisation employees (Gounaris, 2006; Lings and Greenley, 2009). Within the remaining paragraphs of the literature analysis, we will solely contemplate the essence and extant studies in the domain of IMO, which is a scope of the present study.

Internal Marketing or Internal Market Orientation?

Internal marketing (IM) is noted as a predecessor of IMO and was often examined apart from the EMO framework and general MO paradigm in the past (Sasser and Albeit, 1976; Berry, 1981; George, 1990; Piercy, 1995; Gummesson, 1997). Since the general MO concept has received broad recognition and acceptance in the academia, the notions of IM and its réplicas such as 'Internal Customer Orientation' were adopted and upgraded to a broader IMO framework to exhibit the close chained links with the paradigm of MO (Lings, 2004). It does not mean, however, that the notion of IM completely disappeared from the academic domain.

Some scholars still insist on IM in their respective studies and use to examine it alone and isolated from the organisation's outward marketing according to the research objectives set for their researches (Hernandez-Diaz et al., 2017). Moreover, literature unveils that IMO is often studied through two basic perspectives that approach IMO either as corporate culture or consider it as organisational behavior (Domínguez-Falcón et al., 2017).

Synopsis of the recent Internal Market Orientation key studies

Recent IMO studies tended to concentrate on its antecedents, conceptual elements, and operationalisation. The latter typically pertained to an array of activities that enable and enforce IMO implementation in the business routine. The modelling of IMO constructs relied on many recognisable attributes inherited from classical Narver and Slater's MKTOR and Kohli and Jaworski's MARKOR approaches to MO. These transferred MO→IMO grounds, however, received different names and sometimes meanings once applied to IMO due to scholars' willingness to reflect a divergent nature of IMO.

Thanks to this, IMO has been recently manifested as a separate framework with its unique compounds but at the same time, it is posited as an antecedent of EMO thus appears to be an integral part of MO, as literature suggests

(Grönroos, 1997; Varey and Lewis, 1999; Conduit and Mavondo, 2001; Gounaris, 2006). This was made in order to retain the basic conceptual idea of MO in application to IMO to keep the integrity of MO theory as well as to omit the possible misleading theoretical offsets.

Extant IMO conceptual model frameworks, found in the literature, are inclined to follow the logic of MARKOR concept (Kohli and Jaworski, 1990) applied to the internal organisation environment context. However, they vary one from another as literature unveils (Fig.3). The antecedents of IMO, or organisation behavioural activities, typically contain three theoretical constructs and are inclusive of (1) Internal Market Research (Lings, 2004) also referred as Internal Intelligence Generation (Gounaris, 2006) or Intelligence Generation (Ruizalba et al., 2014), (2) Communications (Lings, 2004) or Internal-Intelligence Dissemination (Gounaris, 2006), Internal Communication (Ruizalba et al., 2014), or Dissemination (Tortosa-Edo et al., 2010) that both also can be formal or informal (Links and Greenly; 2010; Tortosa et al., 2009); and, finally, (3) Response (Lings, 2004; Tortosa et al., 2009; Tortosa-Edo et al., 2010), Response to Internal Intelligence (Gounaris, 2006) or Response to Intelligence (Ruizalba et al., 2014).

These and other MO studies per se mainly had commitments to scrutiny solely a set of IMO determinants, whilst some studies were extended to measure IMO constructs associations with the ultimate output dependable variables, e.g., customer satisfaction and covariances between IMO factors. Furthermore, scholars' interest in the IMO research surged in the first decade of the XXI century but then gradually declined. Hence, the IMO paradigm may need a re-thinking given an obvious need for a new era specifics consideration because these changes are impacting businesses, economies, and societies on the globe. This would deliver a cutting edge to the concept of IMO. Then, new technologies, globalisation and opposing isolationism, apparent changes in experience economy (Pine and Gilmore, 1998) followed by adopted labor legislation, prosumerism phenomenon as an advance in consumer behavior and their amalgamated effect on social well-being, emerging issues of work-life balance, visibly expanding utilisation of outsourced and out-staffed manpower in service organisations all together should be examined and addressed as construct and moderating variables in IMO model developed under the proposed study. The vast expansion if ICTs technologies and their effects on IMO should also be considered in the form of a 'red thread' which help to merge all IMO conceptual model components.

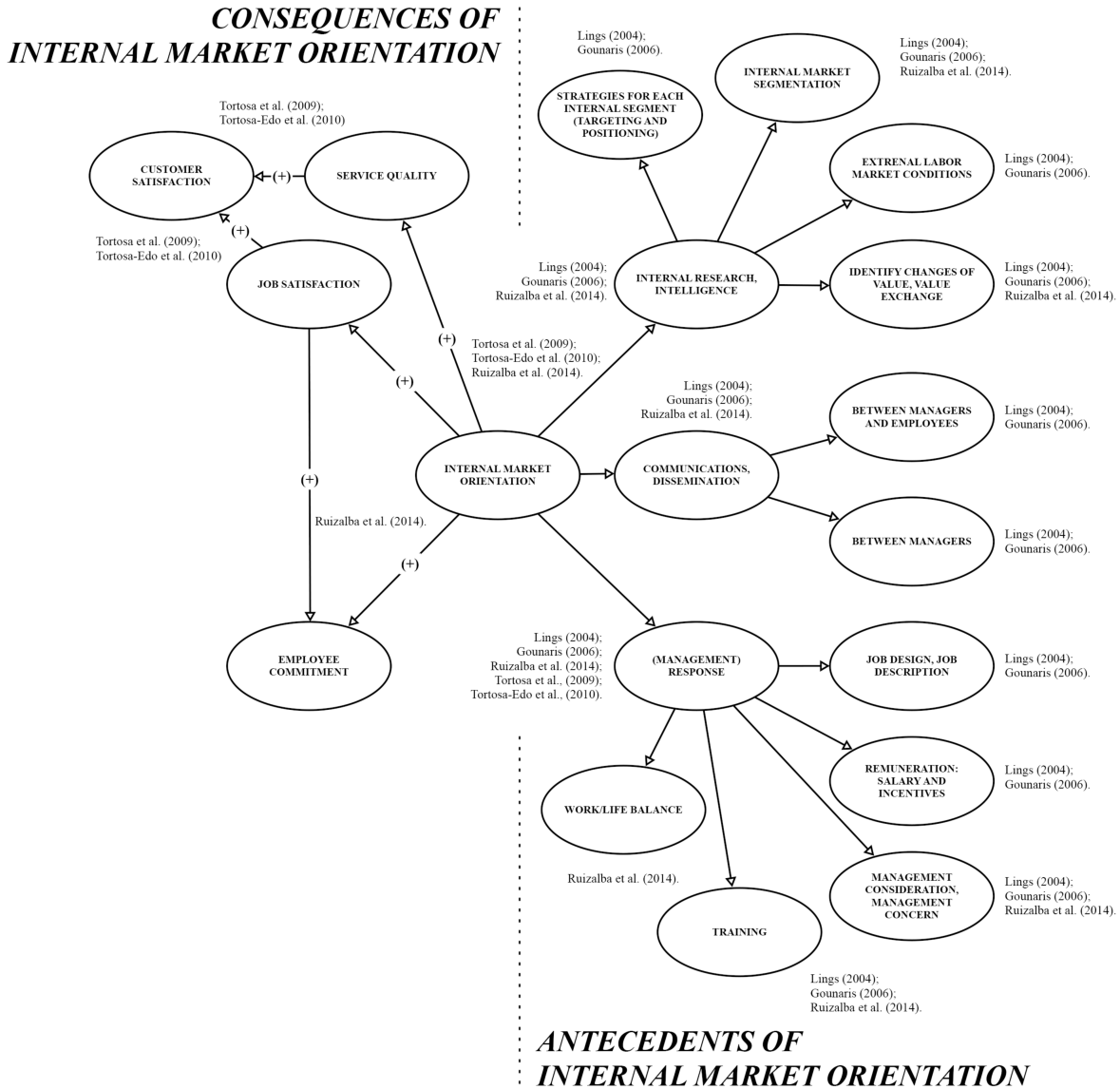


Figure 3 Aggregated IMO ‘big picture’ conceptual model based on extant literature

Therefore, in a context of the family firms:

H1: Personnel research and segmentation, external labor market research all together reinforced by ICTs application are sub-measurements of Working Environment Intelligence creation;

H2: Internal communications between managers, between managers and employees, between employees, between the HR department and employees, all together reinforced by ICTs application are sub-measurements of Corporate Interior Communications;

H3: Job essence and functions, remuneration policies, management concern and care, training and development, work/life balance all together reinforced by ICTs application are sub-measurements of Management Strategies and their Implementation;

H4: Working Environment Intelligence, Interior Communications, Management

Strategies, and Implementation are integral constructs of Internal Market Orientation.

Internal Market Orientation in the context of family firms

IMO has a complicated essence in the family firms business. Some family firms employ solely family members whilst others may also have personnel who are not the members of the family owning the business. In family firms, there is an overlay of professional and family belonging positions (Ruizalba et al., 2016). Internal relationship between relatives, family events and resulted emotions may impact the working environment of the family business. Non-family employees may be mentally impaired if these emotions are not controlled. Rational economic decisions in family firms may be affected by social and emotional valence of family members (Brück et al., 2018).

Researchers point out that family members are expected to demonstrate a higher commitment to the business than other employees (Distelberg and Sorenson, 2009). At the same time, family members may enjoy more privileges in comparison with contracted professionals employed by the same organisation. This may cause egocentric conduct from an employee belonging to the family who owns the business (Prencipe et al., 2014). Family members also have more flexibility in the working environment but at the same time have more difficulty to isolate their family life from the work (Stafford and Tews, 2009). These noted peculiarities depicting the nature of the internal environment in this type of business organisations should be considered by the IMO studies in the context in the family firms.

Some amount of IMO implementation in family firms research can be found in extant literature. A number of studies examined Work-Life-Balance (WLB) effects on employees job satisfaction and work commitment. One study, in this respect, determined a medium level of WLB presence in family firms. It found the positive influence of WFB on job satisfaction and employee job commitment. Consequently, the medium WFB scores explained the medium output values of the employees' perception of satisfaction and commitment to their jobs. This study also defined the uneven level of WLB implementation in family firms. Researchers determined three distinct clusters low, mid and high WLB presence in this respect. Higher WLB scoring firms had higher job satisfaction and employee commitment, as the study demonstrated (Ruizalba et al., 2016).

Other studies unveil a broader picture by gauging the effects of more complex IMO structures referred as strategic assets pertaining to family businesses. Strategic assets of HR policies and internal organisational capabilities are relevant to Management Strategies in the IMO framework (Fig. 3). They significantly improve the business performance of the family firms according to these studies (Thrassou et al., 2018; Zainal et al., 2018). IMO is repeatedly underestimated by family business organisations but possesses great potential for business performance metrics improvements of the family firms (Papilaya et al., 2015). Researchers noted that this potential is conditioned by better information dissemination, mutual commitment and the speed of response to changes in the family firms (Zainal et al., 2018). These organisational behaviours are common to this kind of firms because of their family nature and size nevertheless that family firms may not be necessarily small organisations (Thrassou et al., 2018).

Following the review of IMO studies in the context of the family firms, it becomes obvious that a number of publications relevant to IMO and family businesses is scant. The accumulated research is noted to be fragmented as it has examined just a number of separated IMO elements. It also measured the consequences following their application whilst omitting the entire IMO conceptual framework. To address these imperfections, in our belief, the consequences of IMO implementation for the family firms have to be measured and thoroughly explained. As noted above, some recent studies (Ruizalba et al., 2016) measured some of the IMO elements (e.g., WLB) effects on family firms business performance. We will shed more light on it and to assert the significance of entire IMO concept implementation outputs to the family business performance and its improvement. IMO implementation produces a domino effect where the utter financial business performance metrics (e.g., sale volume, etc.) are mediated by transitional dependent variables. As previous studies pointed out, those transitional variables in the IMO domain are job satisfaction and employee commitment (Rodrigues and Carlos Piñho, 2012, Edo et al., 2015). Consequently, it would be beneficial for the IMO theory to measure the first-order effects of IMO implementation. Hence, we posit the next research hypotheses as follows:

H51: Internal Market Orientation delivers a positive effect on Employee Job Satisfaction.

It was noted in the extant literature, that commonly extensive usage of third-party contracted or outsourced manpower utilised by family firms, has not been considered in IMO studies to date. According to the literature, this practice has certain implications on businesses and employees (Velocci, 2002; Munch, 2010; Seklecka et al., 2013). Outsourced personnel is perceived as a potential threat to regular employees, who fear the possible replacement of their function or position (Gilani et al., 2016). These fears grow substantially as family firms will use more outsourced manpower in the future (Imm et al., 2016). Outsourced employment might result in a reduction of regular employee job satisfaction in the family firms. We need to confirm it and thus posit a following hypothesis:

H52: Outsourced Personnel contracting reduces the positive effect of Internal Market Orientation on Employee Job Satisfaction.

A stream of recent studies have investigated the IMO impact on a limited number of its consequences. In this regard, Employee Job Commitment was often gauged as such consequence in an array of publications (Lings and Greenley, 2009; Ordanini and Maglio, 2009; Gounaris et al., 2009; Rodrigues and Carlos Pinho, 2012; Edo et al., 2015). Nevertheless,

these effects were not determined in the context of family firms, thus:

H6: Employee Job Satisfaction produces a positive impact on Employee Job Commitment and Loyalty in family business organisations.

Moreover, IMO impact on the ultimate business performance metrics, namely company sales, profit, customer churns and customer base increase has been studied neither in the context of the family firms nor in the context of the general IMO theory. However, this research was completed in the domain of the External Market Orientation (EMO) (Kazakov, 2012, 2016). In thus study, we propose to investigate whether IMO implementation may improve business performance, thus:

H7: Employee Job Commitment and Loyalty delivers a positive effect on the business performance of the family firms.

The specifics and the nature of family business both require a different approach to the IMO implementation than in non-family firms. Until most recently, non-family firms have received more attention from the IMO researchers. The extant literature is amassed by the studies that were accomplished in the context of the regular middle and big size service companies (Lings, 2004; Gounaris, 2006). Extant IMO theory is built around this kind of organisations. Existing IMO frameworks currently are relevant to non-family

businesses. Family firms are a big and important constituent of the global economy (Astrachan and Shanker, 2003). They have an internal environment that varies from non-family firms (Ruizalba et al., 2016). Thus, it would be beneficial for the IMO theory development to investigate the differences in IMO implementation and its outputs between family and non-family firms. Consequently, the following hypothesis can be posited:

H8: There is a difference in IMO concept implementation and its effects in the domains of family and non-family businesses.

Research methodology proposition

Following the literature review and detected gaps in the extant IMO theory, the need for its further development is evident in our belief. Firstly, IMO theory assets have to be re-evaluated in accordance with the practicalities pertaining to the modern era. The established IMO theoretical framework and its structural constructs namely Internal Market Research, Information Dissemination and Management Response should receive a ‘sync’ or revitalisation. This will allow to revamp IMO theory in order to make it more adequate and aligned to the modern state of the family firms. Secondly, we expect to contribute to IMO theory

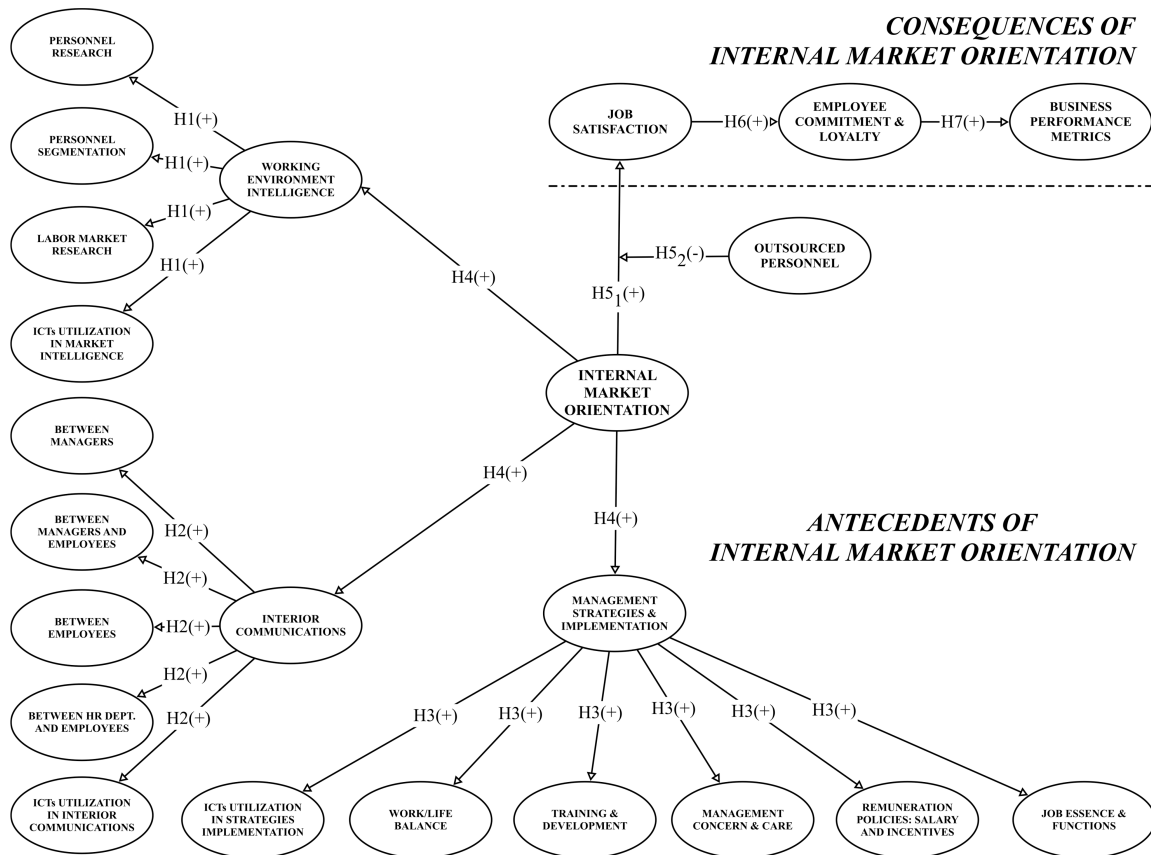


Figure.4 Theoretical Internal Market Orientation (iIMO) measurement and structural model framework including developed research hypotheses

by an amalgamation of revamped and enriched IMO sub-constructs into a single IMO framework. IMO impact on business performance factors will be hypothesised and tested in three ways: (a) direct effects; (b) sequential model where Job Satisfaction and Employee Loyalty (Commitment) are deemed as moderating variables of the IMO influence on Business Performance; and (c) consideration of the variable accounting the outsourced or labor utilisation that might produce effects on the results of IMO implementation in the family firms.

The consideration of the MO moderating variables was initially suggested by the earliest MO studies and were referred as 'supplier side moderator' effects on Market Orientation (Kohli and Jaworski, 1990) but later this call remained forsaken in the following research. While the process of hypothesised IMO model development under the present study we also will follow the counsel of the MO founders to keep the framework as parsimonious as possible with a utilisation of the fewer components where possible (Jaworski and Kohli, 2017).

IMO theoretical framework

Based on the literature review, research purpose and objectives we now can point the iIMO conceptual framework. iIMO is grounded on the preceding and recognised contributions in the recent research made by Lings (2004), Gounaris (2008), Gounaris and Greenley (2009), Tortosa et al., (2009); Tortosa-Edo et al., (2010), and Ruizalba et al., 2014 with a suggestion of additional exogenous (antecedents) and endogenous (consequences) variables supposed to attain an empirical evidence following the results of the data analysis (Fig.4).

The manifested iIMO model contains several novelties expected to initiate the academic discourse and to be accepted as the author's contribution to the theory of IMO. First, as recommended by Jaworski and Kohli (2017), the model bears a 'red thread' (Jaworski and Kohli, 2017: 3), e.g. a common conceptual element which 'runs through the components' (Jaworski and Kohli, 2017: 3) or all other iIMO constructs in the proposed structural model. In our case, it is about the Information and Communication Technologies or ICT. A number of recent studies emphasised ICT deployment and utilisation in personnel management resulting in improvements of processes and business performance (Aksin et al., 2007; Mithas et al., 2011; Palacios-Marqués et al., 2015; Popa and Soto-Acosta, 2016; Bondarouk et al., 2017). The existing literature provides scant references to ICT utilisation in IMO concept implementation thus ICTs should be addressed and examined as a proxy iIMO 'red thread' component in the conceptual model proposed under the present

study. This is the reason why the posited iIMO conceptual framework received an 'i' prefix as it reflects its technological nature determined by our vision of heavy ICT utilisation in the contemporary internal market orientation.

Second, it is intended to examine the mediating effect of outsourced manpower and on job satisfaction perceived by the full-time employees in small and family service business organisations. Part-time and outsourced employees have become an important factor in service industries (Gilani et al., 2016) as businesses strive for efficiency increase by personnel costs optimisation (Favreau et al., 2007). Scholars point to tension between part and full-time employees which may emerge following the onset of outsourced manpower utilisation in the family firms (Velocci, 2002) that lead to reduction in job satisfaction (Munch, 2010; Seklecka et al., 2013; Imm et al., 2016) whilst other scholars insist on full-time employees job satisfaction increase (Walker et al., 2009). Hence, this problem should be addressed by a proposed study.

Third, it is important to focus on business performance metrics as output and consequence of the IMO implementation in the context of small and family service businesses. Previous studies in the commonly used lean approach to IMO modelling resulting in quite parsimonious frameworks. They mainly were limited to the IMO conceptualisation and were not targeted to measure its effects or expose its connotations except one study in the literature review that measured the impact of IMO operationalisation on job performance and employee commitment (Ruizalba et al., 2014). Other studies addressed the customer satisfaction as an outcome of IMO (Tortosa et al., 2009) or intrinsic organisational and job performance (Tortosa et al., 2009; Fang et al., 2014; Gyepi-Garbrah and Asamoah, 2015; Babu and Kang, 2016) which is scantily linked to the specific business performance metrics. The proposed framework is deemed to fill this gap in IMO theory.

Finally, we speculate on the realignment of some causal paths between certain outcomes within the suggested iIMO model. Ruizalba et al. (2014) suggested that Employee Commitment is directly resulted by IMO operationalisation and grounded this finding based on Gounaris (2006), Lings (2004), Lam and Ozorio (2012). This can be certainly accepted but, however, the array of studies dedicated to holistic MO paradigm and 'satisfaction-loyalty' marketing academic literature posit that satisfaction is a prime consequence of MO that consequently drives loyalty (Fornell et al., 1996, Hult et al., 2017; Sleep et al., 2015; Watson et al., 2015) or, in other words, satisfaction is a prerequisite of the customer 'future loyalty' (Hult et al., 2017:38).

The renowned customer satisfaction and loyalty ACSI (American Customer Satisfaction Index) concept is built around the same idea (Fornell et al., 1996). The present study will examine the feasibility and relevance of 'customer satisfaction → customer loyalty' approach transfer to 'employee job satisfaction → employee commitment'. Under this cover, we speculate that job satisfaction is a mediating variable between the iMO effect on employee loyalty to the family firm. This study, if accomplished, will provide a sophisticated rationale for each and every suggested hypothesis grounded on the relevant literature. Further data collection and analysis will aid in the verification of the proposed hypotheses.

Data collection and analysis design

In short, the empirical research process will roughly consist of three key stages: (A) qualitative interviews with industry experts, family business owners and managers to validate the established and hypothesised model variables with an estimated number of 20 in-depth interviews in a research setting small and family service business sector in Russian Federation on behalf of proposed iMO framework, its variables, questionnaire and other research tools fine-tuning and rectification; (B) empirical quantitative study in small or family businesses in a form of personal survey using the convenience sampling of 400 participants in a research setting of the family firms in Russian Federation for data collection; and (C) data analysis aimed at obtaining an empirical evidence for the proposed iMO model and concept.

(A) Qualitative stage of the study will be plotted with a prime target to meet the following interim research project objectives:

(Ai) In-depth 45-60-minute interviews with 10 industry experts, e.g. representatives of the family business owners and managers with an equal quota for a qualitative study with utilisation of the interview guide elaborated in advance;

(Aii) in-depth 45-60-minute interviews with 10 academicians who pertain to Russian or foreign academic research and teaching institutions and who also specialise and have publications in the field of MO, IMO or relevant research areas with an utilisation of the interview guide elaborated in advance.

The qualitative phase of the proposed research project pursues attaining a dyadic goal. First, in a sub-phase (Ai) it will seek for an acknowledgement of managerial implications, confirm a general interest in research results implementation in routine practice and possibly deliver some interesting industry-related insights

that can represent a value for the research project. Second, sub-phase (Aii) will help to verify the research methodology including but not limited to research question, objectives, expected results and limitations, hypotheses and the wording of their statements; variables used in both measurement and structural models; regression paths, variables mediation or/and moderation; research tools, sampling technique, data collection and analysis methods. Aii sub-phase is expected to result in shaping the final overall approach to the research project and its methodology thus appears as an important step in the research and in the entire doctoral thesis preparation.

In the qualitative study the interviewees will be reached and recruited according to the following selection approaches:

Ai → a convenience sampling (Hultsch et al., 2002) method will be exploited by approaching 60 random family firms in Russia (SPARK and RBC databases, 2018); with 10 arrangements for the interview, it is expected to yield a response rate of 17% which lies in acceptable threshold values between 15% and 20% for response rates in the sampling recruiting for the social studies (Menon, et al., 1996);

Aii → a census sampling method will be applied for in-depth structured qualitative surveying of scholars (Geronimus and Bound, 1998) as the number of academia specialised in MO, IMO and EMO is rather limited to date and thus there will be no apparent necessity to run random sampling procedures by scholar sample extraction from the broader academic community.

The information retrieved following the accomplishment of the qualitative stage (A) of the proposed study is supposed to be a cornerstone for the entire research project. It will facilitate the confirmation of the research methodology hence provide a justification for the research direction as well as (A) will be considered as a powerful proxy for the consecutive stage of the proposed study incorporating quantitative research methods.

(B) Quantitative stage of the research will imply the straightforward methodological process inclusive of the following research activities:

(Bi) survey questionnaire production including both offline and online forms; the questionnaire will be based on the mockup sheet by Ruizalba et al. (2014) with an add-ons of supplementary questions reflecting novelty iMO assigned variables that are proposed following the literature review or their alternative forms if the qualitative stage will result in a demand to make certain changes; job satisfaction will be measured based on the approach and scale by Hartline and Ferrell (1996) and employee loyalty measurement will be evaluated on a scale suggested by Rusbult et al. (1988); business

performance metrics will be gauged partially based on the calibration approach of Kazakov (2012, 2016) and will imply the study participating employees perception and assessment of sales increase/reduction, customer base loss/retention/growth, business profitability dynamics in their respective organisation within the last fiscal year;

(Bii) the choice of Likert-type 7-point ordinal metric scale validation and justification vs. 3,5,10 point scales (Dawes, 2008; Ruizalba et al., 2014);

(Biii) the pilot run of offline survey engaging 10 dummy participants in order to confirm the overall questionnaire logic, single surveying length, understandability of the utilised questions wording and 1-7 scale answer keys (e.g., '1-2: completely does not comply with reality ~ 3-5: partly complies with reality ~ 6-7: fully complies with reality) preciseness;

(Biv) determination of the population (universe) in a research setting of Moscow region, Russian Federation with utilisation of SPARK, RBC, 2GIS and other available databases all together keeping a record of 30,000 family businesses (SPARK, 2018);

(Bv) extraction of elements, e.g. descriptive nominal and ordinal variables, pertaining to the general population that will guide the sampling procedure for the quantitative study; at the point of the research planning process to date these sample recruitment factors are deemed to embody both genders, all age groups, all terms of employment and all job positions within the respective family business organisations;

(Bvi) quantitative study sampling procedure will comprise the approach to potential survey participants via employers who will be contacted with a proposition of either sharing the research results or offering a diagnostic pragmatic study aimed at employees' job satisfaction and loyalty measurement in the specific organisation which may accompany the proposed study and can be built on the same methodology and research tools;

(Bvii) the combination of quota (probability) (Kothari, 2004) and convenience (non-probability) (Mennon et al., 1996) sampling techniques will be employed on behalf of the empirical quantitative study in order to obtain the even data distribution; the first step implies the attainment the commitment of 20 family and 20 non-family firms to participate in the study with assigned quota of 10 ordinary non-management employees per organisation as participants since line employees are considered a prime object of IMO (Tortosa et al., 2009); then, the employer will release an internal announcement about the study and the first 20 employees willing to participate will be selected

and interviewed either offline or online according to the expressed preference;

(Bviii) the margin error resulting from the sample size of 400 employees equals 5% according to the formulae (Hazewinkel, 2001); the margin error value of 5% remains in the acceptable threshold and is the most commonly selected by the researchers (Barlett et al., 2001).

As a result of the quantitative stage accomplishment, the undergoing research will be enriched with a data necessary for hypotheses verification and, more importantly, for securing empirical evidence for the proposed iMO conceptual framework.

(C) This sequential research project stage comprises the data triangulation, validation and analysis utilising appropriate and justified econometric methods available in the specialised computer software SPSS 25.0, Stata 15.0, Lisrel 8.8 and other industry standard packages delivering the worthy capabilities to meet the objectives of the present study.

Data analysis will be accomplished according to the following logic:

(Ci) descriptive statistics and data distribution analysis inclusive of scaled response scores will check the data distribution normality and its goodness of fit exhibiting the acceptable values of kurtosis and skewness (Gujarati, 2002: 147-148) which in return will secure the grounds for the statistical techniques application including SEM partial least squares path analysis (PLSPA) and confirmatory path analysis CFA (Westland, 2015);

(Cii) premature analysis of linkages between iMO model variables by running two-way Spearman correlation suitable for ordinal metric scales used in the questionnaire, and χ^2 (Greenwood and Nikulin, 1996) to test the primitive construct validity;

(Ciii) running iMO model computation using the SEM approach by exploiting the available capability of Stata 15.0 and additional screening computation of the same model in LISREL 8.8;

(Civ) iMO model construct reliability verification using the measurements of Cronbach α and Composite Reliability (CR) index, convergent validity verification by Average Variance Extracted (AVE) evaluation; discriminant validity testing done by the gauging of Maximum Shared Squared Variance (MSV) and Average Shared Square Variance (ASV) (Fornell and Larcker, 1981; Hair et al., 1998);

(Cv) iMO model goodness of fit statistics value thresholds evaluation including p-value, Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), Root Mean Square Residual (RMR), Standardised Root Mean Square Residual (SRMR), Goodness of Fit Index (GFI), Adjusted Goodness

of Fit Index (AGFI) and Normed Fit Index (NFI) (Hair et al., 1998; Hu and Bentler, 1999); (Cv) if needed, modification indices will be applied to the iMO model as this may deliver an improvement to the overall goodness of fit and its statistics.

The data analysis phase of the research project will result in the receipt of the rationale for the hypotheses verification and for generating the base for empirical evidence to the manifested theoretical propositions of the proposed study.

Research methodology delineated hereinabove, in our belief, is quite capable to ensure the smooth and effective research process facilitating designated contributions into IMO theory and development of recommendations mix helpful for business owners and managers in their aspiration for improvements in the business performance of their respective business organisations.

Theoretical contribution and implications for family businesses

The intended study will be accomplished in order to revisit the Internal Market Orientation paradigm in the setting of the contemporary digital era. It will examine how IMO is shaped in the context of the family businesses. This paper has certain theoretical and methodological contributions, and they can be depicted as follows:

1. this study posits a contribution by fostering, advancing and improving the MO and IMO theory and its compliance with the current level of global economic and social development;
2. the results of this study will deliver an enrichment of the IMO model framework by the establishment of its impact on the family firms ultimate business performance metrics via the initial influence of IMO on job satisfaction and employee commitment and loyalty as such sophisticated subjections were not addressed in academic literature before;
3. this paper introduces the novelty factors into the IMO model framework including ICTs and Outsourced Personnel Contracting that exhibit a moderating role in the IMO impact on endogenous variables of Job Satisfaction, Employee Commitment and Loyalty and, ultimately, Business Performance of the organisation. As the essence of IMO effects on business performance is the most important research question in terms of implications for business, this issue is addressed further by this paper;
4. the present conceptual research contributes to the generalisation of the IMO theory as it is substantiated in a setting of the emerging economy;

5. the present paper outlines the methodology for another adjacent study which will have definite implications for small and family service businesses. The adjacent study is expected to deliver empirical evidence for better business performance demonstrated by internal market-oriented organisations in comparison with non-oriented organisations.

Our research has certain implications relevant for family firms. Family businesses need an effective and affordable solution to increase their organisational and business performance. The proposed study will provide evidence to the iMO efficacy. It will demonstrate how iMO can improve employee job satisfaction and work commitment. The study will also attribute these organisational performance variables to the ultimate metrics of family firms business performance. Thus, the intended study is important for the family firms owners, managers and HR specialists.

The study will also suggest a set of recommendations for iMO implementation, including its deployment and improvement. iMO application will lead to personnel-related costs reduction and to enhancements in the organisational and business performance. The results of the study will also bear importance for employees of the family firms. It is anticipated that the study results will demonstrate what IMO elements improve employee well-being in the working environment. This information may encourage employees of the family firms to discuss the areas of improvement with their management. As a result, it can make employees be more effective at the working place. The study is also beneficial for customers who buy products or service from family firms. When family firms implement iMO in their working routine it is expected that customer satisfaction may also increase as a consequence of such implementation as demonstrated by previous studies (Tortosa-Edo et al., 2010).

Limitations of the study and avenues for future research

The proposed study will be not without a number of anticipated limitations. First, it will be completed in the context of one country, namely, Russian Federation. It is noted in some studies that Russians tend to be suspicious and reluctant when participating even in anonymous surveys (Diligensky and Chugrov, 2000). They are also noted to deliver socially desirable responses in polls or surveys (Gorshkov, 2010). Second, this context pertains to an environment of the emerging economy. Hence, iMO measurements may be impacted by the local specifics and thus may produce a certain bias of the research

results and reduce overall generalisability of the study.

As noted in the research methodology above, convenience method will be favoured for the sample recruitment within the family firms for data collection. Convenience sampling technique is chosen due to its better suitability for social studies and overall simplicity (Mennon et al., 1996). However, it is noted to possess the disadvantages that are typical for non-probability sampling techniques as the random sample recruitment is not secured in such cases (Etikan et al., 2016). At the point of preparing this conceptual paper for publication, we are unaware of how well the descriptive statistics will be distributed in the sample. The matter of how good the sample will represent the family firms in Russia is a question now too. The offset of the normal data distribution will certainly lead to clear limitations in the usage of designated SEM data analysis technique.

The proposed study is also expected to deliver insights into a sequential series of the studies with respect to identification of IMO antecedents and gauging its consequences for organisational and business performance in the domain of the family business. The future research may be focused on contributions to generalise the findings of the present study based on the research in different countries setting. IMO theory can benefit from comparative country-to-country or industry-to-industry kind of studies in this respect. Successor researchers may be interested in incorporating and testing the additional iIMO model elements, e.g., corporate culture or employer brand. Finally, iIMO elements value dynamics is another interesting topic to consider thus would require longitudinal research of the same sample using a time series study method.

Conclusion

This study fills the paucity in IMO studies in the context of family firms which was determined following the literature review. Preceding studies gave roots to the concept and determined the organisational behavioural components, known as IMO antecedents, that altogether constitute IMO (Lings, 2004; Gounaris, 2006). They also unveiled an important finding that HR management may be successfully carried out by the utilisation of Market Orientation paradigm applied to the internal environment. IMO shifts the Market Orientation focus from external 'regular' customers to internal customers or employees. Hence, nevertheless to the apparent differences, employees can benefit from the powers of Market Orientation too in a way how 'regular' customers are treated. Early studies formed a basis and institutionalised IMO concept in the literature. This theoretical

foundation is noted as classic and is accepted by academia. Nevertheless, given a speed of changes in the business environment, working relationships, and technological advancements, the classic IMO concept seems partly to erode its adequacy to modernity along with Market Orientation paradigm (Jaworski and Kohli, 2017). This study tackles this challenge by the introduction of ICT as a new exogenous variable and measurement of ICT factor loading in every IMO model construct. It is in line with the most recent studies that found improvements in processes and employee performance after ICT deployment in various organisations (Palacios-Marqués et al., 2015; Popa and Soto-Acosta, 2016). Although ICTs are an important tool to increase operational efficiency for most business organisations, their utilisation is crucial for usually low staffed family firms for processes automation (Consoli, 2012). IMO implementation can be also reckoned as a business process in family firms, hence, it is not an exception in this respect. Thus, our research bridges the existing gap in the theory by examination if ICTs can be a prerequisite to the IMO application.

The most recent stream of research built empirical evidence of IMO sheer effects on organisational and business performance. As extant literature witnesses, IMO improves service quality (Tortosa et al., 2009) and customer satisfaction (Tortosa-Edo et al., 2010). This is done by an increase in job satisfaction and employee commitment following the IMO implementation (Ruizalba et al., 2014). Our research is aligned with this establishment. However, unlike recent studies, this research also examines the mediation of outsourced personnel on job satisfaction in family businesses. It is worth the examination due to the growing utilisation of outsourced and third-party contracted workforce is a noted practice of family businesses (Amit et al., 2008). This may create tension in the relationship between regular and outsourced non-staff employees (Grimshaw and Miozzo, 2009).

Furthermore, we noted a paucity in business performance metrics used to gauge the IMO outputs as a characteristic of the extant literature. Employee job satisfaction, work commitment, and even customer satisfaction tend to be a cogent but still more qualitative type of metrics to depict family business performance. They also are more relevant to organisational performance rather than demonstrate the actual business results in the IMO aftermath. A number of studies were themed with an introduction of more profound business performance metrics but those were relevant to the gauging of general Market Orientation consequences (Kazakov, 2016). Our study addresses this theoretical imperfection and

introduces three business performance outputs for iIMO implementation. Being solely quantitative, these metrics, namely dynamics of sales turnover, revenue and number of family firms customers, deliver more plausible information about IMO implementation results. Organisational and business performance of family and non-family firms have been addressed in a number of previous studies. The literature witnesses that family firms often demonstrate better business performance than non-family businesses (Miller and Le Breton-Miller, 2006). Researchers explain this finding by a higher grade of commitment and long-term orientation of family firms stakeholders (Allouche et al., 2008). It is noted, however, that most of the previous studies of this topic used solely financial indicators of business performance. We also utilise metrics in our study to gauge financial performance. Additionally, our study employs a customer quantity as a supplementary measurement that depicts how well businesses perform from the marketing perspective. Furthermore, this study is aimed to exhibit a mediating role of IMO implementation in business performance. A bunch of questions arises in relation to it. Does IMO further improve family firms business performance and extends a gap between family and non-family business organisations even if the latter implement IMO too? Or, can IMO implementation by the non-family firms compensate the posited lagging or even equalise business performance if family firms do not execute IMO, etc. By addressing these questions, findings of the proposed study will hopefully feed the discussion around the comparison of family and non-family businesses performance in the relevant literature.

References

- Aksin, Z., Armony, M., Mehrotra, V. (2007). The modern call center: A multi-disciplinary perspective on operations management research. *Production and operations management*, 16(6), 665-688.
- Allouche, J., Amann, B., Jaussaud, J., & Kurashina, T. (2008). The impact of family control on the performance and financial characteristics of family versus nonfamily businesses in Japan: A matched-pair investigation. *Family Business Review*, 21(4), 315-330.
- Amit, R., Liechtenstein, H., Prats, M. J., Millay, T., Pendleton, L. P. (2008). Single family offices: Private wealth management in the family context. Tàpies J. and Ward JL (2008)(eds.), *Family Values and Value Creation. The Fostering of Enduring Values Within Family-Owned Business*, Basingstoke, Palgrave Macmillan.
- Babu, M. M., Kang, J. (2016). Assessing the Impact of Internal Marketing Orientation on an Organization's Performance. In *Rediscovering the Essentiality of Marketing* (pp. 429-430). Springer International Publishing.
- Barlett, J. E., Kotrlik, J. W., Higgins, C. C. (2001). Organizational research: Determining appropriate sample size in survey research. *Information technology, learning, and performance journal*, 19(1), 43.
- Bondarouk, T., Harms, R., Lepak, D. (2017). Does e-HRM lead to better HRM service?. *The International Journal of Human Resource Management*, 28(9), 1332-1362.
- Brück, C., Ludwig, J., Schwering, A. (2018). The use of value-based management in family firms. *Journal of Management Control*, 28(4), 383-416.
- Buhalis, D., Law, R. (2008). Progress in information technology and tourism management: 20 years on and 10 years after the Internet—The state of eTourism research. *Tourism management*, 29(4), 609-623.
- Consoli, D. (2012). Literature analysis on determinant factors and the impact of ICT in SMEs. *Procedia-social and behavioral sciences*, 62, 93-97.
- Dawes, J. (2008). Do data characteristics change according to the number of scale points used. *International journal of market research*, 50(1), 61-77.
- Day, G.S. (1994). The Capabilities of Market-Driven Organizations. *Journal of Marketing*, 58(4), pp. 37-52.
- Deshpande, R., Farley, J. U., Webster, F. E. Jr. (1993). Corporate culture, customer orientation, and innovativeness. *Journal of Marketing*, 57(1), pp. 23-37.
- Diligensky, G., Chugrov, S. (2000). The West" in Russian Mentality. Office for Information and Press, Brussels Institute of World Economy and International Relations, Moscow, 10-11.
- Distelberg, B., Sorenson, R. L. (2009). Updating systems concepts in family businesses: A focus on values, resource flows, and adaptability. *Family Business Review*, 22(1), 65-81.
- Eccles, R.G., Jr. (1991). The Performance Measurement Manifesto. *Harvard Business Review*. 69(1), pp. 131-137.
- Edo, V. T., Llorens-Monzonis, J., Moliner-Tena, M. À., Sánchez-García, J. (2015). The influence of internal market orientation on external outcomes: The mediating role of employees' attitudes. *Journal of Service Theory and Practice*, 25(4), pp. 486-523.
- Etikan, I., Musa, S. A., Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American journal of theoretical and applied statistics*, 5(1), 1-4.
- Fang, S. R., Chang, E., Ou, C. C., Chou, C. H. (2014). Internal market orientation, market capabilities and learning orientation. *European journal of marketing*, 48(1/2), pp. 170-192.
- Farrell, M.A., Oczkowski, E. (1997). An analysis of the MKTOR and MARKOR measures of market orientation: an Australian perspective. *Marketing Bulletin - Department of Marketing Massey University*, 8, pp.30-40.
- Favreau, M., Miles, M., Hatch, N., Hawks, V. (2007). Outsourcing relationships between American and Chinese companies. In *Electrical Insulation Conference and Electrical Manufacturing Expo, 2007* (pp. 348-351). IEEE.
- Fornell, C., Larcker, D. F. (1981). Evaluating structural equation models with unobservable

- variables and measurement error. *Journal of marketing research*, 39-50.
- Fornell, C., Johnson, M. D., Anderson, E. W., Cha, J., and Bryant, B. E. (1996). The American customer satisfaction index: nature, purpose, and findings. *Journal of Marketing*, 60(4), pp. 7-18.
- Gabel T.G. (1995). Market orientation: theoretical and methodological concerns. In Barbara B Stern and George M Zinkhan (eds.). *Proceedings of the American Marketing Association Summer Educators' Conference*, Chicago, Il: American Marketing Association, 368-375.
- Geronimus, A. T., Bound, J. (1998). Use of census-based aggregate variables to proxy for socioeconomic group: evidence from national samples. *American Journal of Epidemiology*, 148(5), 475-486.
- Gilani, H., Gilani, H., Jamshed, S., Jamshed, S. (2016). An exploratory study on the impact of recruitment process outsourcing on employer branding of an organisation. *Strategic Outsourcing: An International Journal*, 9(3), 303-323.
- Gorshkov, M. K. (2010). The sociological measurement of the Russian mentality. *Russian Social Science Review*, 51(2), 32-57.
- Gounaris, S. (2006). Internal-market orientation and its measurement. *Journal of Business Research*, 59, pp. 432-448.
- Gounaris, S., Vassilikopoulou, A., Chatzipanagiotou, K. (2010) Internal-market orientation: a misconceived aspect of marketing theory. *European Journal of Marketing*, 44 (11/12), pp. 1667-1699.
- Greenwood, P. E., Nikulin, M. S. (1996). *A guide to chi-squared testing* (Vol. 280). John Wiley and Sons.
- Grimshaw, D., Miozzo, M. (2009). New human resource management practices in knowledge-intensive business services firms: the case of outsourcing with staff transfer. *Human Relations*, 62(10), 1521-1550.
- Gujarati, D. N. (2002). *Basic Econometrics* (Fourth ed.). McGraw Hill.
- Gyepi-Garbrah, T. F., Asamoah, E. S. (2015). Towards a holistic internal market orientation measurement scale. *Journal of Strategic Marketing*, 23(3), pp. 273-284.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., Tatham, R. L. (1998). *Multivariate data analysis* (Vol. 5, No. 3, pp. 207-219). Upper Saddle River, NJ: Prentice hall.
- Hartline, M., Ferrel, O.C.(1996). The management of customer contact service employees: an empirical investigation. *Journal of Marketing*, 60, 52-72.
- Hazewinkel, Michiel, ed. (2001) [1994], *Errors, theory of*. *Encyclopedia of Mathematics*, Springer Science+Business Media B.V. / Kluwer Academic Publishers.
- Hu, L. T., Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal*, 6(1), 1-55.
- Hult, G. T. M., Morgeson, F. V., Morgan, N. A., Mithas, S., Fornell, C. (2017). Do managers know what their customers think and why? *Journal of the Academy of Marketing Science*, 45(1), pp. 37-54.
- Hultsch, D. F., MacDonald, S. W., Hunter, M. A., Maitland, S. B., and Dixon, R. A. (2002). Sampling and generalisability in developmental research: Comparison of random and convenience samples of older adults. *International Journal of Behavioral Development*, 26(4), 345-359.
- Imm, N. S., Sambasivan, M., and Perumal, S. (2016). Cultural Changes in Total IT Outsourcing: Dutch-American and Dutch-German. *Pertanika Journal of Social Sciences and Humanities*.
- Jeffery, M. (2010). *Data-driven marketing: the 15 metrics everyone in marketing should know*. John Wiley and Sons.
- Jaworski, B. J., Kohli, A. K. (2017). *Conducting field-based, discovery-oriented research: Lessons from our market orientation research experience*. *AMS Review*, 1-9.
- Kara, A., Spillan, J.E., DeShields, O.W. Jr. (2005). The Effect of a Market Orientation on Business Performance: A Study of Small-Sized Service Retailers Using MARKOR Scale. *Journal of Small Business Management*, 43(2), pp. 105-118.
- Kazakov, S. (2012). Market orientation as an effective approach to marketing in service organizations. *Marketing and Marketing Research [Rynochynaya Orientatsia kak effektivnyy podkhod k organizatsii marketinga na predpriatyiah sferiyi uslug. Marketing i marketingovyie issledovania]*, 91(1), pp. 42-55.
- Kazakov, S. (2016). The impact of market orientation levels on business performance results: The case of the service industry in Russia. *Worldwide Hospitality and Tourism Themes*, 8(3), 296-309.
- Kirca, A.H., Jayachandran, S., Bearden, W.O. (2005). Market orientation: a meta-analytic review and assessment of its antecedents and impact on performance. *Journal of Marketing*, 69 (2), pp. 24-41.
- Kohli, A.K., Jaworski, B.J. (1990). Market Orientation - the construct, research propositions, and managerial implications. *Journal of Marketing*. 54(2), pp: 1-18.
- Kohli, A.K., Jaworski, B.J., Kumar, A. (1993). MARKOR: A measure of market Orientation. *Journal of Marketing Research*. 30(4), pp. 467-477.
- Kothari, C. R. (2004). *Research methodology: Methods and techniques*. New Age International.
- Lam, D., Ozorio, B. (2012). Linking employee's personalities to job loyalty. *Annals of Tourism Research*, 39 (4), pp. 2203-2206.
- Lings, I.N. (2004). Internal market orientation: constructs and consequences. *Journal of Business Research*, 57 (4), 405-413.
- Lings, I. N., Greenley, G. E. (2009). The impact of internal and external market orientations on firm performance. *Journal of Strategic Marketing*, 17(1), pp. 41-53.
- Mennon, A., Bharadwaj, S.G., Howell, R. (1996). The quality and effectiveness of marketing strategy: effects of functional and dysfunctional conflict in intraorganizational relationships. *Journal of the Academy of Marketing Science*, 24(4) pp. 299-313.
- Micelotta, E. R., Raynard, M. (2011). Concealing or revealing the family? Corporate brand identity strategies in family firms. *Family Business Review*, 24(3), 197-216.
- Miller, D., Le Breton-Miller, I. (2006). Family governance and firm performance: Agency,

- stewardship, and capabilities. *Family business review*, 19(1), 73-87.
- Mithas, S., Ramasubbu, N., Sambamurthy, V. (2011).** How information management capability influences firm performance. *MIS quarterly*, 237-256.
- Munch, J. R. (2010).** Whose job goes abroad? International outsourcing and individual job separations. *The Scandinavian Journal of Economics*, 112(2), pp. 339-360.
- Narver, J.C., Slater, S.F. (1990).** The Effect of a Market Orientation on Business Profitability. *Journal of Marketing*, 54(4), pp. 20-35.
- Narver, J.C., Slater, S.F. (2000).** The Positive Effect of a Market Orientation on Business Profitability: A Balanced Replication. *Journal of Business Research*, 48, pp. 69-73.
- Ordanini, A., Maglio, P. P. (2009).** Market Orientation, Internal Process, and External Network: A Qualitative Comparative Analysis of Key Decisional Alternatives in the New Service Development. *Decision Sciences*, 40, pp. 601-625.
- Palacios-Marqués, D., Soto-Acosta, P., Merigó, J. M. (2015).** Analyzing the effects of technological, organizational and competition factors on Web knowledge exchange in SMEs. *Telematics and Informatics*, 32(1), pp. 23-32.
- Papilaya, J., Soisa, T.R., Akib, H. (2015).** The influence of implementing the strategic policy in creating business climate, business environment and providing support facilities towards business empowerment on small medium craft enterprises in Ambon Indonesia. *International Review of Management and Marketing*, 5(2), 85-93.
- Pelham A.M. (1993).** Mediating and moderating influences on the relationship between market orientation and performance. Doctoral dissertation, Pennsylvania State University.
- Pine 2nd., B. J., Gilmore, J. H. (1998).** Welcome to the experience economy. *Harvard Business Review*, 76(4), pp. 97-105.
- Popa, S., Soto-Acosta, P. (2016).** Social web Knowledge Sharing and Innovation Performance in Knowledge-Intensive Manufacturing SMEs. In *European Conference on Knowledge Management* (p. 733). Academic Conferences International Limited.
- Prencipe, A., Sasson, B. Y., & Dekker, H. C. (2014).** Accounting research in family firms: Theoretical and empirical challenges. *European Accounting Review*, 23(3), 361-385.
- Rodrigues, A. P., Carlos Pinho, J. (2012).** The impact of internal and external market orientation on performance in local public organizations. *Marketing Intelligence and Planning*, 30(3), pp. 284-306.
- Rojas-Méndez, J.I., Michel, R. (2013).** Chilean wine producer market orientation: Comparing MKTOR versus MARKOR. *International Journal of Wine Business Research*, 25(1), 27-49.
- Ruizalba, J.L., Bermúdez G., Rodríguez M., Blanca, M.J. (2014).** Internal market orientation: An empirical research in hotel sector. *International Journal of Hospitality Management*, 38, pp. 11-19.
- Ruizalba, J., Arán, M.V., Porras, J.L.G. (2015).** Analysis of corporate volunteering in internal market orientation and its effect on job satisfaction. *Tourism & Management Studies*, 11(1), pp.173-181.
- Ruizalba, J., Soares, A., Arán, M.V., Porras, J.L.G., (2016).** Internal market orientation and work-family balance in family businesses. *European Journal of Family Business*, 6(1), pp.46-53.
- Rusbult, C. E., Farrell, D., Rogers, G., Mainous, A. G. (1988).** Impact of exchange variables on exit, voice, loyalty, and neglect: An integrative model of responses to declining job satisfaction. *Academy of Management journal*, 31(3), 599-627.
- Seklecka, L., Marek, T., Lacala, Z. (2013).** Work Satisfaction, Causes, and Sources of Job Stress and Specific Ways of Coping: A Case Study of White-Collar Outsourcing Service Employees. *Human Factors and Ergonomics in Manufacturing and Service Industries*, 23(6), pp. 590-600.
- Sleep, S., Bharadwaj, S., Lam, S. K. (2015).** Walking a tightrope: the joint impact of customer and within-firm boundary spanning activities and perceived customer satisfaction and team performance. *Journal of the Academy of Marketing Science*, 43(4), pp. 472-489.
- Stafford, K., Tews, M. J. (2009).** Enhancing Work-Family Balance Research in Family Businesses. *Family Business Review*, 22(3), 235-238.
- Thrassou, A., Vrontis, D., Bresciani, S. (2018).** The agile innovation pendulum: A strategic marketing multicultural model for family businesses. *International Studies of Management & Organization*, 48(1), 105-120.
- Tortosa, V., Moliner, M. A., Sánchez, J. (2009).** Internal market orientation and its influence on organisational performance. *European Journal of Marketing*, 43(11/12), 1435-1456.
- Velocci, A. L. (2002).** Employees creatively fight outsourcing. *Aviation Week and Space Technology*, 157(8), 48-48.
- Walker, M., Sartore, M., Taylor, R. (2009).** Outsourced marketing: it's the communication that matters. *Management Decision*, 47(6), pp. 895-918.
- Watson, G. F., Beck, J. T., Henderson, C. M., Palmatier, R. W. (2015).** Building, measuring, and profiting from customer loyalty. *Journal of the Academy of Marketing Science*, 43(6), 790-825.
- Westland, J. C. (2015).** Structural equation models: From paths to networks. (Vol. 22). Springer.
- Zainal, H., Parinsi, K., Hasan, M., Said, F., & Akib, H. (2018).** THE INFLUENCE OF STRATEGIC ASSETS AND MARKET ORIENTATION TO THE PERFORMANCE OF FAMILY BUSINESS IN MAKASSAR CITY, INDONESIA. *Academy of Strategic Management Journal*, 17(6).
- Zhou, Y., Chao, P., Huang, G. (2009).** Modeling market orientation and organizational antecedents in a social marketing context: Evidence from China. *International Marketing Review*, 26 (3), pp. 256-274.



Customer Orientation in Family Businesses

Javier Morales-Mediano^{a*}, José L. Ruiz-Alba^b, Isolino Pazos-Villas^c, Raquel Ayestarán^c

^a Universidad Pontificia Comillas - ICADE, C. Alberto Aguilera, 23, 28015, Madrid, Spain

^b University of Westminster, 35 Marylebone Rd., NW1 5LS, London, United Kingdom

^c Universidad Francisco de Vitoria, Ctra. Pozuelo a Majadahonda, Km 1.800, 28223, Pozuelo de Alarcón, Spain

Received 18 June 2019; accepted 28 July 2019

JEL CLASSIFICATION
M30

KEYWORDS
Customer orientation;
COSE;
Family influence;
Customer experience;
HRS

Abstract The purpose of this article is to investigate the customer orientation of service employees (COSE) in family businesses. This study elaborates on the perception and importance of COSE in family-owned companies. The paper also proposes new consequences of COSE in the family business context.

The research is based on a qualitative study comprised of 13 interviews conducted on senior managers in family firms. The results are analysed using NVivo 11.

This investigation confirms the relevance of the COSE construct in family businesses and the role of the family influence over it. New consequences are elicited, including differentiation, customer experience, and customer well-being.

The results show that practitioners consider COSE as a key element for success. This study sheds light on how COSE can be applied in a family business in order to enhance the customer experience.

This study expands on the potential of COSE with the use of family businesses for the first time and introduces new consequences from the original model.

CÓDIGOS JEL
M30

PALABRAS CLAVE
Orientación al cliente;
COSE;
Influencia familiar;
Experiencia del cliente;
HRS

Orientación al cliente en la Empresa Familiar

Resumen El objetivo de este artículo es investigar la orientación al cliente de los empleados de servicio (COSE por sus siglas en inglés) en empresas familiares. También se proponen nuevas consecuencias de COSE en el contexto de la empresa familiar.

La investigación se basa en un estudio cualitativo compuesto por 13 entrevistas realizadas a directivos de empresas familiares. Los resultados se analizaron utilizando NVivo 11.

Los resultados confirman la relevancia del constructo COSE en las empresas familiares y la influencia familiar sobre él. Se identifican nuevas consecuencias, incluidas la diferenciación de la empresa, la experiencia del cliente y el bienestar del cliente.

Los resultados muestran que los profesionales participantes consideran COSE como un elemento clave para el éxito. Este estudio arroja luz sobre cómo se puede aplicar COSE en una empresa familiar para mejorar la experiencia del cliente.

Este estudio amplía el potencial de COSE con el uso de empresas familiares por primera vez e introduce nuevas consecuencias al modelo original

<http://dx.doi.org/10.24310/ejfbefjb.v9i1.6639>

Copyright 2019: Javier Morales-Mediano, José L. Ruiz-Alba, Isolino Pazos-Villas, Raquel Ayestarán.

European Journal of Family Business is an open access journal published in Malaga by UMA Editorial. ISSN 2444-8788 ISSN-e 2444-877X

This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License (CC BY-NC-SA 4.0).

*Corresponding author

E-mail: jmorales@comillas.edu

Introduction

The importance of family businesses in today's economy is significant as shown in developed countries through a number of indicators, such as the percentage of GDP that the businesses represent (Lee, 2006; Aldamiz Echevarría, Idígoras, & Vicente-Molina, 2017). However, despite the economic importance of family firms, academics still wish to investigate these types of companies in the marketing field further (Reuber & Fischer, 2011). Indeed, Benavides-Velasco, C. A., Quintana-García, C., & Guzmán-Parra (2013) found that there are a limited number of studies on family businesses from a marketing perspective.

Another reason for investigation into family businesses from a marketing perspective is to examine certain characteristics of family businesses, including their complexity, dynamism, and richness in intangible resources (Habbershon & Williams, 1999). Furthermore, researchers wish to understand the ways in which resources and capabilities are used in order to generate these aforementioned characteristics that set family businesses apart from other firms. (Tokarczyk, Hansen, Green, & Down, 2007).

Several resources and capabilities of family-owned companies can be studied (Lee & Le Breton-Miller, 2006). Amongst these, Blocker, Flint, Myers, & Slater (2011) studied customer orientation (CO) and proved it to be an important capability to create higher value for customers. Indeed, CO still attracts the interest of many scholars (Bommaraju, Ahearne, Krause, & Tirunillai, 2019; Mukerjee Shaikh, 2018). Unfortunately, very few have studied the construct of CO from the perspective of family businesses (González-Porras, Ruiz-Alba, & Guzmán-Parra, 2018). Based on the literature review conducted for this study, no studies have questioned whether the application of CO is different in the context of family companies.

Thus, the overarching aim of this study is to investigate the role of customer orientation in family businesses. The idea behind this aim is explore the construct of CO to assess its importance, applicability, and potential consequences.

As a consequence of the above, the following research questions (RQ) are proposed:

RQ1: What is the consideration of customer orientation in a family business?

RQ2: Which characteristics make an employee to be customer oriented?

RQ3: How does being a family business specifically affect the customer orientation of the employees?

Regarding the article structure, the introduction presents the research justification and the

research questions, together with a presentation of the article structure. Then, the literature review reviews the family business academic field, with a particular focus on the construct of CO. Thirdly, this study describes the methodological approach that has been followed. Next, the article offers the results and findings from the qualitative study based on the contributions of 13 senior managers from different family companies. The article closes with a conclusion that includes contributions, potential future research avenues, and limitations.

Literature Review

Marketing in family business

As discussed in the Introduction, despite the potential of family-owned companies to do things differently from companies with alternate ownership structures (Davis, 1983), little research has been published about specific functions of family companies, and even less about their marketing strategies and activities (Clark, Key, Hodis, & Rajaratnam, 2014).

Habbershon & Williams (1999) grouped the main differences of family companies identified in the academic literature. These differences are present in a twofold level, first, their organization, and second, their capabilities. Based on this research, the group of resources that emerge from the family involvement is coined as 'familiness'. The level of familiness serves to assess the different competitive advantages of family companies. The effects of familial involvement has been studied in a number of researches. For instance, there are studies connecting familiness to internationalization strategies (Segaro, Larimo, & Jones, 2014; Alayo, Maseda, Iturralde, & Arzubaga, 2019; González-Porras, Ruiz-Alba, Rodríguez-Molina, & Guzmán-Parra, 2019), quality management (Danes, Loy, & Stafford, 2008), and reputation (Craig, Dibrell, & Davis, 2008). However, the field of marketing in family business is largely unexplored and frequently ignored by academics (Sharma, 2004; Reuber & Fischer, 2011).

An exception to this lack of attention from researchers is in the special issue about marketing and family firms published by the journal *Family Business Review* (Reuber & Fischer, 2011). Four articles were published on this issue; two discussed the perception of family companies in the market (Micelotta & Raynard, 2011; Parmentier, 2011) and two studied marketing practices implemented by family firms (Beck, Janssens, Debruyne, & Lommelen, 2011; Zachary, McKenny, Short, & Payne, 2011). The latter

articles gave special attention to the construct of Market Orientation (MO) as Cabrera-Suarez, Déniz-Déniz, & Martín-Santana (2011) also did. However, as Morales Mediano and Ruiz-Alba (2019) suggest, it is important to clarify the stance taken by academics when dealing with the constructs of MO and CO. According to these authors, there are three research streams on this regard. The first stream considers MO and CO as synonyms, the second defines CO as part of MO, the third considers MO and CO as independent constructs. Surprisingly, no study related to MO or CO and family businesses explicitly assumed one of these three streams, instead leaving this interpretation to the reader. Conversely, this study embraces the third research stream and considers CO an individual and behavioural characteristic of employees in front of MO defined as an organizational-level construct (Hennig-Thurau and Thurau, 2003). This stance opens multiple new possibilities to study the individual, behavioural, and independent-to-MO perspective of CO in relation to family-owned companies to start closing this research gap.

Customer orientation

Saxe & Weitz (1982) placed CO at the core of the marketing concept and also empirically measured the construct within salespeople. However, as Shapiro (1988) claimed, there was not yet a clear differentiation between MO and CO. That was why Hennig-Thurau & Thurau (2003) shed light on the concept of CO and treated it separately to MO. Hennig-Thurau (2004) pointed out that the economic success for services companies could be significantly impacted by customer orientation. That association is due to “the intangible nature of services and their high level of customer interaction and integration” (Hennig-Thurau 2004).

Following that reasoning, Hennig-Thurau & Thurau (2003) developed a theoretical framework of the customer orientation of service employees (COSE) that was empirically together with its consequences on a later research (Hennig-Thurau 2004).

The COSE model, in its version consists of four characteristics of service employees, as follows: technical skills, social skills, motivation, and decision-making authority. Technical and social skills are those needed by an employee to respond to the customer’s requirements, motivation is the personal incentive that the service employee requires to fulfil those needs, and decision-making authority is the perceived freedom (by the employee) that he or she has to fulfil customer needs (Hennig-Thurau & Thurau 2003) Figure 1 illustrates the model structure.

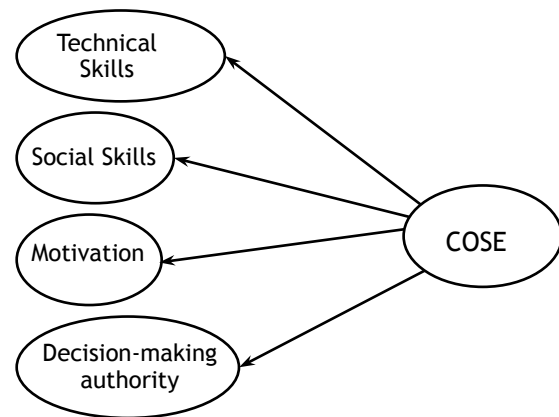


Figure 1 Model of COSE dimensions and consequences (Hennig-Thurau 2004).

These four dimensions were proven to impact customer’s satisfaction, commitment, and retention. These three consequences of the COSE construct are considered by Hennig-Thurau (2004) as crucial factors for service companies’ success. The test was carried out through a questionnaire presented to service customers from both travel agencies and media retailers (Hennig-Thurau 2004).

Due to the practical approach of the model, it is possible to extract several implications for management of service companies, from budget allocation for staff training to recruiting strategies. These actions should be aimed at improving the four dimensions considered in the COSE model (Hennig-Thurau 2004).

In fact, the COSE model has been embraced by several authors since it was presented for the first time. Some authors based their research on the original model (Ndubisi, 2012; Jansri & Trakulmaykee, 2016), but did not fully utilise the measurement instrument as originally developed by Hennig-Thurau (2004). Likewise, Kim (2009), Walsh, Ndubisi, & Ibeh (2009), Kim & Ok (2010), Kang & Hyun (2012), and Kuppelwieser, Chiummo, & Grefrath (2012) attempted to go further than the original COSE model, either by introducing new consequences or implementing control variables as Hennig-Thurau (2004) suggested. Other authors focused their studies upon a specific industry, like banking. This was because COSE plays an important role in the banking industry, due to the high competitiveness (Moghadam, 2013), service complexity (Raie, Khadivi, & Khdaie, 2014), the need to understand the customer’s needs to provide an adequate service (Bramulya, Primiana, Febrian, & Sari, 2016), and the high level of interaction and duration of the relationship (Rouholamini & Alizadeh, 2016). Morales Mediano & Ruiz-Alba (2018) took one step further in this regard and studied COSE in the context of private banking.

They considered private banking an ideal context for the study of COSE because they believed the industry was what they coined as a highly relational service (HRS).

However, despite the interest gained by the COSE model in recent years (Kuppelwieser, Chiummo, & Grefrath, 2012), it is striking to see the limited research related to this important construct and family businesses. Therefore, due to this gap in the literature, one may wonder whether or not the lack of previous research is due to a mismatch between the purpose and definition of the construct and the characteristics of family. Hence, the following two research questions are proposed:

RQ1: What is the consideration of customer orientation in family business?

RQ2: Which characteristics enable an employee to be customer oriented?

Additionally, as it has been presented previously, family-owned companies operate differently to other companies (Lee, 2006). This is why it is necessary to study the potential impact family companies on some traditional constructs, such as touched upon by Frank, Kessler, & Korunka (2012), but this has not yet been assessed with CO. Consequently, the following research question is proposed:

RQ3: How does being a family business specifically affect the customer orientation of the employees?

Methodology

Qualitative methodologies are particularly suitable when the purpose of the study is to investigate how practitioners perceive a specific construct (Yin, 2015). There are numerous alternatives amongst the different strategies for data gathering in qualitative methodologies (Creswell, 2009). Amongst these, qualitative surveys have proven to be a valid and reliable procedure, and they have been extensively accepted and used (Kvale, 1994).

For the purpose of this study, a qualitative questionnaire was first prepared and discussed by four academics. The final version consisted of six questions related to the aim of the research. After minor amendments, the final version was used to interview a total of 13 practitioners out of 25 contacted. The group of practitioners consisted of senior managers working for family-run companies. The sample was considered valid (52% replied out of the 25 contacted) as the following criteria were met (Flick, 2010): (1) the variety of sectors (consumer goods, education, transportation, hospitality, health care), and (2) the depth a detail of the answers gathered.

Table 1 shows the details of the participants.

Table 1 List of participants (own elaboration).

Participant	Sector	Company size
P1	FMCG	SME
P2	Hospitality	Large enterprise
P3	Hospitality	Large enterprise
P4	Passenger Transport	Large enterprise
P5	Education	SME
P6	Finance	SME
P7	Consulting	SME
P8	FMCG	Large enterprise
P9	Healthcare	SME
P10	Hospitality	SME
P11	Hospitality	Large enterprise
P12	On-line store	Large enterprise
P13	Hospitality	SME

Each questionnaire was checked for spelling and unclear answers were clarified through an email or phone call with the respondent. Following this, the written answers were loaded in the qualitative data analysis software NVivo 12 in order to obtain the corresponding qualitative analysis. This analysis was comprised of the reading and coding of all the data by two researchers, who simultaneously identified the main codes and themes related to each research question.

Results and Discussion

Research question 1: What is the consideration of customer orientation in family business?

There was a high level of consensus in relation to the consideration of customer orientation in family business. All the respondents agreed that COSE is essential for their business: "in our company it is crucial to be customer oriented" (P1). However, the reasons for this varied between participants.

The first group of five participants justified customer orientation due to the need to focus on the customer. According to these participants, putting effort into the customer is crucial to better know and understand your clients, to improve your service, and to differentiate from your competitors. In the words of P8: "we have been putting the focus on our customer for long years, why? Basically, because we have to give the customers what they want, otherwise our competitors will occupy the first position in their minds".

A second group comprised of three participants who placed a high importance on the level of COSE due to its effect on the customer experience. In the majority number of service companies, as expressed by the participants, the service employee is a determinant of the customer's experience, such as in passenger transportation, lodging, or education. According

to P3, “companies are working on the customer orientation to improve the customer experience”. The third and final group of five participants expressed the importance of COSE in terms of its utility to understand and satisfy the customers’ needs, and therefore to create higher value for them. P13 explained this idea as follows: “customer orientation implies the wish to help, serve and satisfy the needs of our customer”.

Research question 2: Which characteristics enable an employee to be customer oriented?

The second research question was represented in the interview by means of a question regarding the four dimensions of COSE as presented in the Literature Review. Each dimension was assessed by the participants. This resulted in a qualitative ranking of the four dimensions. Social skills were identified as the most relevant for the participants, followed by motivation, then technical skills, and last the decision authority of the service employee.

Social skills were deemed to be the most important and hence the skill that employees “must have more developed” (P10). The reason for this is that employees possessing adequate social skills will be able to empathize with customers. This empathy will eventually help the employee to listen actively, understand the customer needs and better serve them. P9 expressed this idea in the following particular manner: “social skills are critical to make the customer to feel sheltered”.

The level of motivation ranked second after social skills. Based on the responses, there are three ideas that underpin this importance: (1) the proactivity and adaptability of the employee, (2) a job well done, and (3) the image transmitted to the customer. As explained by P6, P4, and P10 respectively; “proactivity is crucial when delivering a service”; “the best motivation should be a well-done work”; “we have to transmit to our customer the good environment we have in our company”. Nevertheless, there are some particular services where motivation is taken for granted because of the characteristics of the service employees. P9 was the example for this: “this is a purely vocational industry, so motivation is a given”.

Thirdly, technical skills were considered as relatively important for several participants, but not as much as social skills or motivation. Five of the participants referred to technical skills as a requirement, but only based on the employee’s specific position and supported by previous training. Therefore, technical skills are something the employee may learn or gain through experiences. P10 was clear on the limited impact of the technical skills: “the technical knowledge is something you need to learn and update, but they do not create value, every company has similar knowledges”. However, once again P9

diverged from the main consensus of participants, as according to this respondent, “there are services where technical skills are complex and mandatory by law”.

Lastly, participants placed decision authority as the least important due to the fact that family business are usually more hierarchized. This strong hierarchy means that each employee in the organisation has well-defined responsibilities, and therefore the employee is not expected to assume a high level of decision authority. P13 explained this in the following: “the importance of the decision authority will depend on the level of responsibility of the position as defined by the company”. On this regard, P9 was also in disagreement with the other respondents. In particular services where the judgement of the employee is critical for the service outcome the employee must enjoy complete freedom to take decisions. In the words of P9: “in some positions, having decision authority is a life-or-death matter”.

Research question 3: How does being a family business specifically affect the customer orientation of the employees?

Most of the participants (10 out of 13) did see a difference of the impact of a family company on the level of employee CO. However, the arguments varied from one participant to another. Five of the participants expressed this influence as the flexibility of the organisational structure and the consequent ease to develop the customer orientation of employees. P6 and P8 expressed respectively: “family companies have more flexible structures” which helps “to take decisions and execute them quicker than other companies”.

Five other participants pointed out the direct involvement of the family as the main difference in the customer orientation of service employees. This is due to three factors: (1) the closeness to the employees and their work, and (2) the better working environment that this attitude creates within the company. P11 elaborated this idea as follows: “in our case, the fact that the family uses our services and gives priority to the customers highlights in an exemplary manner how important the customer is”. Another participant expressed a similar idea but added that the imitation effect occurs when this closeness is translated to the customer. P9’s argument was: “The way we treat each other amongst the family is expanded to the rest of employees, so we treat them in a very familiar way. This implies that the way we treat our customers is adopted by our employees by imitation”.

Despite the high consensus showed by the participants on the influence of a family company on COSE, there were three participants that expressed the opposite. According to these participants the level of COSE should not be

associated in any case to the type of company the employee works for. Based on these responses, the customer orientation of employees is more linked to the type of service or the company management. In the words of P13: “I believe that customer orientation, as I mentioned before, has to be a essential competence of any employee working in this sector, regardless the company being family-owned or not”.

Conclusion and Future Research

The present study provides significant and original contributions to the academic knowledge. These contributions are also significant for professionals involved in family business companies.

The main academic contribution of this research is that it is the first study of the development of the construct of COSE in family companies. This study serves to confirm the following:

1. Customer orientation of service employees is considered an important behaviour within family companies for three reasons: (1) the level of differentiation attained, (2) the improved customer experience, and (3) the customer well-being.

2. Amongst the four dimensions of COSE, social skills stood out as the most important, followed by motivation, technical skills, and lastly decision-making authority.

3. The structure and characteristics of a family-run company influences the level of customer orientation by means of the organisational flexibility and the familial involvement that creates an increased closeness with the employee and a better working environment. These aspects are indeed part of the family influence construct developed by Astrachan, Klein, & Smyrniotis (2002).

Undoubtedly, the three consequences of COSE in family business are a novelty in the field. Moreover, whereas the different importance of the COSE dimensions was already suggested by Morales Mediano & Ruiz-Alba (2018), no one confirmed this in relation to an empirical study in family business. Finally, the influence of a family company was confirmed. These three contributions open enormous possibilities for further research that should be based on a series of research propositions and a conceptual model, as presented in Figure 2.

This model invites to provide a group of research proposition (RP) that emanates from the answers to the research questions of this article and that can be subject of future investigation:

- RP1: Family influence has a direct impact on COSE in family business.
- RP2: COSE in family business has a direct impact on differentiation.

- RP3: COSE in family business has a direct impact on customer experience.
- RP4: COSE in family business has a direct impact on customer well-being.

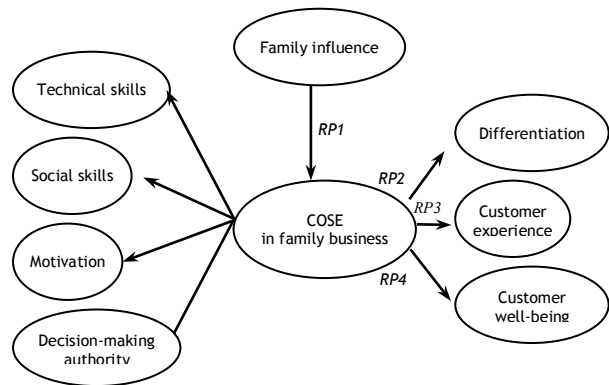


Figure 2 Consequences of COSE in family businesses.

Another interesting contribution is related to the responses from one participant (P9) whose company was in the healthcare industry. These results showed some differences with the rest of participants. These responses were primarily related to the characteristics of the service based on a vocational profession and the technical knowledge and judgement of the employees. This supports the conclusions of Morales Mediano & Ruiz-Alba (2019b) in their study about COSE in a highly relation services (HRS).

Practitioners can also benefit from this research. Understanding the influence of familiness on such an important construct as COSE should help professionals working for family companies to better deal with employees when developing their customer orientation, as well as foreseeing the influences of a high level of customer orientation.

As any research, the present study is not free of limitations. One limitation is related to the methodology. Qualitative methodologies are usually criticized for their lack credibility, transferability, dependability, and conformability (Lincoln & Guba, 1985). Special care has been taken by the authors of this research to overcome these limitations. In particular, the heterogeneity of the sample should allow for the transfer of the conclusions to any other family company. Besides, a robust and structured methodology has been followed in order to eliminate any improvisation, to eliminate the risk of bias, and to ensure the neutral positioning of the researchers (Kvale, 1994).

To conclude, this article offers several future research avenues. The first and most obvious continuation is the complementation of this qualitative study with a quantitative study. The conceptual model and research propositions could

be tested in this new research. Additionally, this study could also explore whether or not the four dimensions of COSE have different quantitative importance.

A second possible study would be to include both the management professionals and the employees of family-owned companies. It would also be of great interest to include the perspective of customers in this new research.

A final future research that has been opened tangentially in this paper is related to the definition of HRS (Morales Mediano & Ruiz-Alba, 2019b). As expressed by one participant, there are services, from all types of companies, whose characteristics require a special analysis. A definitive definition of HRS will contribute to the service marketing literature.

References

- Alayo, M., Maseda, A., Iturralde, T., & Arzubiaga, U. (2019). Internationalization and entrepreneurial orientation of family SMEs: The influence of the family character. *International Business Review*, 28(1), 48-59.
- Aldamiz-Echevarría, C., Idígoras, I., & Vicente-Molina, M. A. (2017). Gender issues related to choosing the successor in the family business. *European Journal of Family Business*, 7(1-2), 54-64.
- Astrachan, J. H., Klein, S. B., & Smyrniotis, K. X. (2002). The F-PEC scale of family influence: A proposal for solving the family business definition problem. *Family Business Review*, 15(1), 45-58.
- Beck, L., Janssens, W., Debruyne, M., & Lommelen, T. (2011). A study of the relationships between generation, market orientation, and innovation in family firms. *Family Business Review*, 24(3), 252-272.
- Benavides-Velasco, C. A., Quintana-García, C., & Guzmán-Parra, V. F. (2013). Trends in family business research. *Small Business Economics*, 40(1), 41-57.
- Bommaraju, R., Ahearne, M., Krause, R., & Tirunillai, S. (2019). Does a customer on the board of directors affect business-to-business firm performance?. *Journal of Marketing*, 83(1), 8-23.
- Bramulya, R., Primiana, I., Febrian, E., & Sari, D. (2016). Impact of relationship marketing, service quality and customer orientation of service employees on customer satisfaction and behavioral intentions and its impact on customer retention. *International Journal of Economics, Commerce and Management*, 4(5), 151-163.
- Clark, T., Key, T. M., Hodis, M., & Rajaratnam, D. (2014). The intellectual ecology of mainstream marketing research: an inquiry into the place of marketing in the family of business disciplines. *Journal of the Academy of Marketing Science*, 42(3), 223-241.
- Craig, J. B., Dibrell, C., & Davis, P. S. (2008). Leveraging family-based brand identity to enhance firm competitiveness and performance in family businesses. *Journal of Small Business Management*, 46(3), 351-371.
- Creswell, J. W. (2009). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (3rd ed.). Thousand Oaks, CA: SAGE Publications.
- Danes, S. M., Loy, J. T. C., & Stafford, K. (2008). Business planning practices of family-owned firms within a quality framework. *Journal of Small Business Management*, 46(3), 395-421.
- Flick, U. (2010). *An Introduction to Qualitative Research* (4th ed.). Thousand Oaks, CA: SAGE Publications.
- González-Porrás, J. L., Ruiz-Alba, J. L., & Guzmán-Parra, V. F. (2018). Customer orientation of service employees in family businesses in the hotel sector. *Revista de Estudios Empresariales, segunda época*(2), 73-85.
- González-Porrás, J. L., Ruiz-Alba, J. L., Rodríguez-Molina, M. A., & Guzmán-Parra, V. F. (2019). International management of customer orientation. *European Journal of International Management*. Advance online publication. DOI: 10.1504/EJIM.2020.10022183
- Habbershon, T. G. & Williams, M. L. (1999). A resource-based framework for assessing the strategic advantages of family firms. *Family Business Review*, 12(1), 1-25.
- Hennig-Thurau, T. (2004). Customer orientation of service employees: Its impact on customer satisfaction, commitment, and retention. *International Journal of Service Industry Management*, 15(5), 460-478.
- Hennig-Thurau, T. & Thurau, C. (2003). Customer orientation of service employees—Toward a conceptual framework of a key relationship marketing construct. *Journal of Relationship Marketing*, 2(1-2), 23-41.
- Jansri, W. and Trakulmaykee, N. (2016). Customer perceived value and customer orientation of salespeople in purchasing luxury natural products. In 7th International Research Symposium in Service Management: Service Imperatives in the New Economy: Approaches to Service Management and Change (pp. 157-169). Nakhonpathom: Service Education, Research and Innovation. Retrieved from: http://www.muic.mahidol.ac.th/conferences/irssm/7/wp-content/downloads/IRSSM_7th_Proceedings.pdf
- Kang, J. and Hyun, S.S. (2012). Effective communication styles for the customer-oriented service employee: Inducing dedicational behaviours in luxury restaurants patrons. *International Journal of Hospitality Management*, 31(3), 772-785.
- Kim, W. (2009). Customers' responses to customer orientation of service employees in full-service restaurants: a relational benefits perspective. *Journal of Quality Assurance in Hospitality & Tourism*, 10(3), 153-174.
- Kim, W. & Ok, C. (2010). Customer orientation of service employees and rapport: influences on service-outcome variables in full-service restaurants. *Journal of Hospitality & Tourism Research*, 34(1), 34-55.
- Kuppelwieser, V. G., Chiummo, G. R. and Grefrath, R. S. (2012). A replication and extension of Hennig-Thurau's concept of COSE. *Journal of Customer Behaviour*, 11(3), 241-259.

- Kvale, S. (1994).** Ten standard objections to qualitative research interviews. *Journal of Phenomenological Psychology*, 25(2), 147-173.
- Lincoln, Y. S. & Guba, E. G. (1985).** *Naturalistic Inquiry*. Newbury Park, CA: Sage Publications.
- Lee, J. (2006).** Family firm performance: Further evidence. *Family Business Review*, 19(2), 103-114.
- Micelotta, E. R. & Raynard, M. (2011).** Concealing or revealing the family? Corporate brand identity strategies in family firms. *Family Business Review*, 24(3), 197-216.
- Miller, D. & Le Breton-Miller, I. (2006).** Family governance and firm performance: Agency, stewardship, and capabilities. *Family Business Review*, 19(1), 73-87.
- Moghadam, M. (2013).** Determinants of customer retention: Offering a model to banking industry. *Journal of Applied Business and Finance Researches*, 2(3), 76-81.
- Morales Mediano, J. & Ruiz-Alba, J. L. (2018).** New perspective on Customer Orientation of Service Employees: A conceptual framework. *The Service Industries Journal*. Advance online publication. DOI: 10.1080/02642069.2018.1455830.
- Morales Mediano, J. & Ruiz-Alba, J. L. (2019a).** The Market Orientation and Customer Orientation Continuum: A Literature Review for Service Marketing. In B. Palacios Florencio (Ed.), XXXIII AEDEM Annual Meeting: Diversidad y talento: Efectos sinérgicos en la gestión (pp. 1786-1794). Seville: AEDEM - European Academy of Management and Business Economics. Retrieved from <https://redaedem.org/uploads/congresos/doc/19/Libro%20XXXIII%20AEDEM%20Annual%20Meeting.pdf>
- Morales Mediano, J. & Ruiz-Alba, J. L. (2019b).** Customer orientation in highly relational services. *Marketing Intelligence and Planning*. Accepted for publication.
- Ndubisi, N. O. (2012).** Mindfulness, reliability, preemptive conflict handling, customer orientation and outcomes in Malaysia's health sector. *Journal of Business Research*. 65(4), 537-546.
- Parmentier, M. A. (2011).** When David met Victoria: Forging a strong family brand. *Family Business Review*, 24(3), 217-232.
- Raie, M., Khadivi, A., and Khdaie, R. (2014).** The effect of employees' customer orientation, customer's satisfaction and commitment on customer's sustainability. *Arabian Journal of Business and Management Review (Oman Chapter)*, 4(1), 109-121.
- Reuber, A. R. & Fischer, E. (2011).** Marketing (in) the family firm. *Family Business Review*, 24(3), 193-196.
- Rouholamini, M. & Alizadeh, R. (2016).** A study of customer orientation in the Iranian banking industry: The case of Mellat Bank. *International Journal of Research in Management, Economics and Commerce*, 6(6), 50-55.
- Saxe, R. & Weitz, B. A. (1982).** The SOCO scale: A measure of the customer orientations of salespeople. *Journal of Marketing Research*, 19(3), 343-351.
- Shapiro, B. P. (1988).** What the hell is 'market oriented'? *Harvard Business Review*, 66(6), 119-125.
- Segaro, E. L., Larimo, J., & Jones, M. V. (2014).** Internationalisation of family small and medium sized enterprises: The role of stewardship orientation, family commitment culture and top management team. *International business review*, 23(2), 381-395.
- Sharma, P. (2004).** An overview of the field of family business studies: Current status and directions for the future. *Family business review*, 17(1), 1-36.
- Walsh, G., Ndubisi, N. O., and Ibeh, K. I. N. (2009).** After the horse has left the barn it's too late to close the door: a study of service firms' conflict handling ability. In T. Flannery (Ed.), *Australia and New Zealand Marketing Academy Conference (ANZMAC) Annual Conference*. Melbourne: ANZMAC - ANZAM. Retrieved from <https://www.semanticscholar.org/paper/After-the-horse-has-left-the-barn-it's-too-late-to-Walsh-Ndubisi/cb6249efe2f24e55a8117535600af671fe95bbbc>
- Yin, R. K. (2015).** *Qualitative research: from start to finish*. New York: Guilford Publications.
- Zachary, M. A., McKenny, A., Short, J. C., & Payne, G. T. (2011).** Family business and market orientation: Construct validation and comparative analysis. *Family Business Review*, 24(3), 233-251.



Family firms' profile: Leiria Region

Ines Lisboa^{a*}

^a School of Technology and Management, Centre of Applied Research in Management and Economics, Polytechnic Institute of Leiria (Portugal)

Received 02 february 2019; accepted 11 June 2019

JEL CLASSIFICATION
M10, M14

KEYWORDS
Family firms;
Business profile;
Family
commitment;
Family identity;
Leiria/ Portugal

Abstract Most firms around the world are family firms. Their relevance and contribution to country's economy is globally recognized. Therefore, understand these companies in detail is crucial. This study aims to design family firms profile using a sample of 233 family firms of Leiria region. Results show that most of respondent firms are exclusively owned and controlled by the family. Moreover, 70% are in the first generation, as 33% are in the business for less than 10 years. In mean, more than two family members actively work in the firm. The family identity is present in the firm, as well as the family culture and commitment. The family is an important influence in the business.

CÓDIGOS JEL
M10, M14

PALABRAS CLAVE
Empresas
familiares;
Perfil de negocios;
Compromiso
familiar;
Identidad familiar;
Leiria/ Portugal

Perfil de las Empresas Familiares en la Región de Leiria

Resumen La mayoría de las empresas del mundo son familiares. Su relevancia y contribución a la economía del país es reconocida globalmente. Por lo tanto, entenderlas en detalle es crucial. Este estudio tiene como objetivo diseñar el perfil de estas empresas utilizando una muestra de 233 empresas familiares de la región de Leiria. Los resultados muestran que la mayoría de las empresas encuestadas son propiedad y control exclusivo de la familia. Además, el 70% pertenece a la primera generación, ya que el 33% está en el negocio por menos de 10 años. Es decir, más de dos miembros de la familia trabajan activamente en la empresa. La identidad familiar está presente en la empresa, así como la cultura y el compromiso familiar. La familia es una influencia importante en el negocio.

<http://dx.doi.org/10.24310/ejfbefb.v9i1.5593>

Copyright 2019: Ines Lisboa

European Journal of Family Business is an open access journal published in Malaga by UMA Editorial. ISSN 2444-8788 ISSN-e 2444-877X
This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License (CC BY-NC-SA 4.0).

*Corresponding author

E-mail: ines.lisboa@ipleiria.pt

Introduction

The Portuguese Association of Family Business (APEF - Associação Portuguesa de Empresas Familiares, 2018) estimates that family firms represent around 70% of firms worldwide, making relevant contributions to economic recovery, special after 2007/2008 financial crisis, when diverse economies had some financial problems, and to job and wealth generation (Pimentel, Scholten and Couto, 2017, APEF, 2018). Likewise, it is critical to understand this type of companies, namely its characteristics that may enhance the firm's value, but can also limit its growth.

This work aims to provide a profile of family firms in Leiria region. Leiria is the 13th largest district in Portugal but is the 3rd regarding the gross domestic product per resident, after Lisbon and Oporto (Pordata, 2018). Thus, Leiria is an important region to Portugal, due to its contribution and to help boosting the economy. Moreover, Lisboa (2018) estimates that family firms are more than 90% of active firms in Leiria. These facts justify the need of this study to better understand family firms.

Information about ownership and governance, executive manager, family members involved in the company and the board, the family generation, and corporate values, commitment and culture are analyzed to characterize family firms in Leiria region and compare it with other regions.

The results show that to most of the respondents, the family totally owns and controls the firm. Male managers are predominant, as well as a single manager rather than a board of directors, which can be justified due to the firm's dimension. Most firms are in the first generation, but this can explain with the number of years that these firms are in the business (61% are in the business for less than 20 years). More than two family members actively participate in the firm, contributing to the diffusion of family identity. Finally, the family identity, culture and commitment are in the family business, as we show using the factorial analysis. The family is an important factor to the family firm's success and perpetuation for the future.

This work makes a great contribution to family firms debate, since a characterization of family firms in Leiria region is provided, helping to design a profile of family firms. Moreover, it is analyzed a region where family firms are predominant, and the contribution of firms to the country gross domestic product is greater. The contribution is not only relevant to empirical literature but also to practitioners, specially owners and managers of family firms as they can understand the relevance of this type of firms and how they can use family firms' characteristics to enhance the firm's value.

The work structure is the following: after this introduction chapter, chapter 2 reviews literature of family firms, namely concept, and its main characteristics. Chapter 3 explains the sample and methodology. Chapter 4 discusses the main results. The last chapter shows the conclusions of the work.

Literature review

Family firm's thematic is been debated for decades. The work of Berle and Means (1932) call the attention for the separation of ownership and management. Later, Wortman (1994) argued that family firms' topic has been studied for more than 30 years. La Porta, Lopez-de-Silanes and Shleifer (1999) said that family firms are prevalent all over the world and are the oldest type of firms. More recent, diverse studies confirm that family firms make a vital contribution to overall economy and wealth (e.g. APEF, 2018).

According to Sraer and Thesmar (2007), family firms have singular characteristics, which are different from those of non-family firms. Although, family firm's topic has not been widely accepted, due to the difficulty to find a unique definition globally recognized (Pimentel *et al.*, 2017). This makes difficult to compare different studies and to make generic conclusions about family firms (Miller, Breton-Miller and Cannella, 2007).

Analyzing diverse concepts of family firms, three fundamental factors are usually present: ownership, management, and perpetuation of the firm. 1) Regarding ownership the family must own at least part of the firm. Some researchers establish a minimum percentage of ownership, as 10% (Braun and Sharma, 2007), 20% (La Porta *et al.*, 1999), 25% (European Family Business, 2018) or more than 50% (Basco, 2013), while others only argued that the family must be the major owner (Miralles-Marcelo, Miralles-Quirós and Lisboa, 2014). 2) Some researchers argue that the family must be in the board of director (Anderson and Reeb, 2003), while others say that must be the executive officer (European Family Business, 2018) or that the executive officer must be the founder or successor (Villalonga and Amit, 2006 and 2008). 3) Finally, a family firm must promote the perpetuation of the firm to future generations (Ward, 1987). Although, this factor is difficult to measure and most studies only see if there are more than one family member working in the firm.

Martín-Reyna and Duran-Encalada (2012) argued that the family firm's definition dilemma may be explained due to the different cultural and legal contexts, that may lead to different factors to call a firm as family firm. Although, there is a consensus that "family firms are those where a family owner exercises much influence over the

firm's affairs" (Gomez-Mejia, Cruz, Berrone and De Castro, 2011:658).

Astrachan, Klein and Smyrniotis (2002) created a scale (F-PEC scale) that includes three subscales (power, experience and culture) to analyze the influence of the family in the business. The power wants to measure the dominance of the firm through ownership, management, and financing. Experience refers to family's experience in the firm, which can be measured through the family generation in activity. Finally, culture is measured through the values and aims of the firm must be embedded in those of the family. Jaskiewicz, González and Schiereck (2005) used the F-PEC scale and created different clusters of family firms attending of the family involvement in the firm. These clusters are: weak, normal and strong.

Meanwhile, there is a consensus that family firms have singular characteristics that make them apart from non-family ones (Kellermanns, Eddleston, Barnett and Pearson, 2008). Gersick, Davis, Hampton and Lansberg (1997) argued that in family firms there are three independent subsystems that can overlap, namely family, ownership, and management. Family members can be owners and/or managers of the firm, managers may be family or non-family members, some family members may own the firm while other no. Therefore, some conflict of interests can arise as the family sees the firm as an extension of their heritage, non-family owners can want to maximize the firm's return and non-family managers can try to satisfy their self-interests (Gersick *et al.*, 1997).

Family founder has a singular involvement in the firm, not only because he/she created the firms, but also because he/she supports the entrepreneurship. Moreover, the firm is the family's investment, the source of income and employment, the status and reputation, and the family's inheritance (Chami, 2001, Gomez-Mejia, Larraza-Kintana and Makri, 2003, Kellermanns *et al.*, 2008).

The family wants to promote the continuity of the firm across future generations (Kellermanns *et al.*, 2008). Therefore, family and the firm's aims are congruent, and the strategy and procedures are consistent over time (Gomez-Mejia, Haynes, Nuñez-Nickel, Jacobson & Moyano-Fuentes, 2007). Trust and long-term relationships between all stakeholders are also established (Anderson and Reeb 2003), communication is simpler, and the decision making is faster (Chami, 2001).

Usually a family's owner or other family member is the firm's manager or highly control an external manager. Thus, agency cost between the principal and manager is avoided or at least reduced (Jensen and Meckling, 1976). Likewise, La Porta *et al.* (1999) argued that family

ownership acts as a substitute for legal protection of investors.

Investments are also done in a long-term perspective, as the family wants the firm to continue successfully across future generations. Therefore, manager's myopia of short-term results is avoided, and family investors are known as patient capital (Nieto, Casasola, Fernández and Usero, 2009).

Despite characteristics that enhance the family firms' value and entrepreneurial behavior, some singularities of these firms limit their growth and sustainability in the future. The family has difficulty to break with the past and to leave the comfort zone, making difficult to follow the market changes (Martins, 1999). Disinvestments usually are not done or are done too late, leading to risk increase (Lisboa, 2018). Moreover, conservative investments are made to avoid risks, leading to the stagnation of the firm, and to the opposite of its expectations, it means, to increase risk instead of avoiding it (Burkart, Panunzi and Shleifer, 2003).

When the firm has free cash flows, the family may try to satisfy self-interests, leading to the expropriation of small investors and the firm's wealth (Barontini and Caprio, 2006). This leads to other type of agency costs (type II): between group of investors, which is enhanced due to the lack of monitorization of family members (Schulze, Lubatkin, Dino and Buchholtz, 2001). This problem is related with the socio-emotional wealth proposed by Gomez-Mejia *et al.* (2007). Not only the maximization of the firm's value is an aim of a family firm, but also the maximization of the family private benefits, that enhance the family reputation and wealth. Moreover, misunderstanding between family members that work in the firm and others family members may also occur, leading to another agency problem (Villalonga, Amit, Trujillo and Guzmán, 2015).

Moreover, the family may be in high positions even when they do not have enough knowledge or are prepared to do it. This may lead to inefficient decisions, which may increase the firm risk (Miller *et al.*, 2007). The lack of succession preparation is another problem (Lisboa, 2018). In fact, most firms fail to pass to the second or other generation since the founder usually sustain the firm control and not prepare it. Moreover, more generations involved in the firm may bring more conflicts as there are more persons in charge, making it difficult to find a consensus (Nieto *et al.*, 2009). The firm's workers may also not be identified with the successor and may be less involved in the firm than before (Lisboa, 2018).

All these peculiarities set family firms apart from non-family counterparts, giving relevance to understand the dynamics of family firms.

Sample and methodology

Sample

This work analyzes family firms in Leiria region. Leiria is the 13th largest region of Portugal but is the 3rd region with the major contribution to the gross domestic product by residence (Pordata, 2018). It includes 16 municipalities, namely: Alcobaça, Alvaiázere, Ansião, Batalha, Bombarral, Caldas da Rainha, Castanheira de Pêra, Figueiró dos Vinhos, Leiria, Marinha Grande, Nazaré, Óbidos, Pedrogão Grande, Peniche, Pombal e Porto de Mós.

Leiria is in the coastal zone, with diverse infrastructures and transports. It has companies from diverse industries: from the extractive industry, to ceramics, cement, plastic, molds, furniture, and glass production. Moreover, tourism is also relevant not only due to the beach, but also because it has two monuments classified as world heritage (JLM Consultores de Gestão, Sargento, Lopes and Fernandes, 2014). Lisboa (2018) has analyze this region and estimate that family firms represent around 90% of firms in Leiria. Therefore, the choice of this sample was due the relevance of the region, and the importance of family firms in this region.

First a list of firms classified as family firms by SABI database was collected. SABI listed 11 456 active companies and classified as family ones 10 630. Only 4 700 companies had contact information (diverse companies are micro companies without any contact information, other than address).

For these companies with contact information, an electronic survey was sent to characterize and profile family business. The survey was sent by email and was active from April 2018 till June 2018. The study guarantees the confidentiality of the answers and the collected data. The number of answers was 233, around 5% of the possible sample. All answers are from private-own firms.

Data collection

The survey was design based on the works of Astrachan *et al.* (2002), namely the items that characterize the F-PEC scale and Pimentel *et al.* (2017) that have done a similar work to Azorean firms. It was divided into four parts. The first part refers to the firm's identification, namely name and year of foundation. The name was asked to eliminate duplicate answers. The year of foundation helps to understand how long the firm is in the business.

The second part aims to characterized ownership and management. It was asked information about family ownership, how the firm is managed (by a board of directors or a singular manager), the influence of the family in the firm's manager, and its gender. This helps to understand the family involvement in the firm.

In the third part firm's experience is addressed. In which generation is the firm, how many family members are involved in the firm's manager and work in the firm. The last part of the survey aims to characterize the family's identity. Nine sentences were asked, and the family respondent should evaluate it on a 5-point scale, where 1 "strongly disagree" and 5 "strongly agree".

Methodology

Descriptive and graphic analysis are used to describe the sample. The aim is to do a characterization of family firms in Leiria region, and thus these analyses help to reach our purpose. Moreover, we also use a principal component analysis to explore the identity, commitment and culture of the family in the firm.

Results

The first part of the survey was designed to make an identification of the firms in the sample. The 233 firms are working in business for different periods. We have firms in the business for more than 40 years, being the older in the business for 77 years, but we also have young firms with 1 year of activity. The mean value is 17 years. More detail can be seen in the following graph.

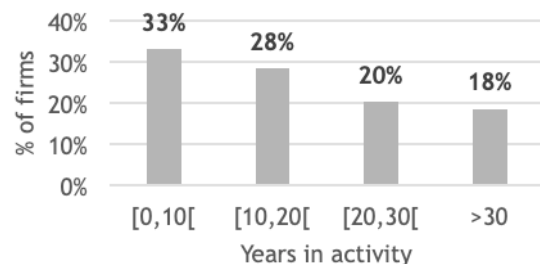


Figure 1 Years in activity.

38% of family firms in Leiria region maintain their activity over 20 years, and 18% for more than 30 years. These percentages are smaller than those of Azorean firms (Pimentel *et al.*, 2017), suggesting more new firms in Leiria region (which was confirmed in the Portuguese Statistics - INE). La Porta *et al.* (1999) argued that family firms are the oldest type of firms. Although, firms with more than 24 years may be in the second generation, and succession is one of the main reasons of family firms' failure (Henrique, 2008). The percentage of new companies in also relevant (33%), and 16% are in the business for less than 3 years. This result can be explained due to the crisis period from 2008 till 2014, since diverse companies went to bankruptcy during crisis (INE), and some owners may have decided to open a new business after this period.

Regarding ownership, diverse studies, as Nieto *et al.* (2009) and Miralles-Marcelo *et al.* (2014), argued that family usually want to sustain the firm' control. This result is also proved in this sample, as it can be observed in the following graph.

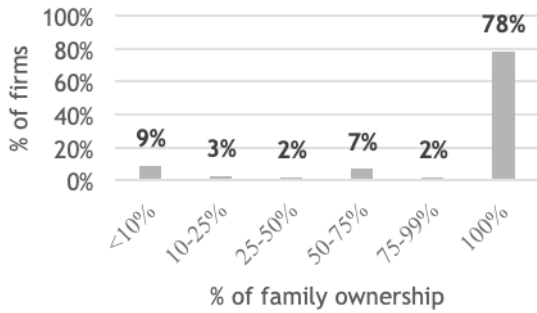


Figure 2 Percentage of family ownership.

Most of family firms in Leiria region prefer to detain the total ownership (78%), as it helps to control the business. Moreover, as the firms in the sample are small and medium size, they may have few owners, which may explain the results. Moreover, 89% of the firms in the sample detain more than 25% of the firm's ownership, which is the minimum percentage of ownership establish in some definitions of family firms, as for instance Nieto *et al.* (2009) and European Family Business (2018). Only a small percentage of firms detain less than 10% of the firm's ownership.

Family firms with less than 10% of family ownership (9% of the firm in our sample) can be related with SGPS firms (5% of the firms in the sample are SGPS firms), and thus the family control is not directly exercised but through other family firms (pyramidal structure).

Moreover, 10% of the firms have a board of directors, while 90% are managed by a singular person. This result is justified due to the dimension of most firms. The singular manager is normally the family-owner (92%), as we can see in the following graph.

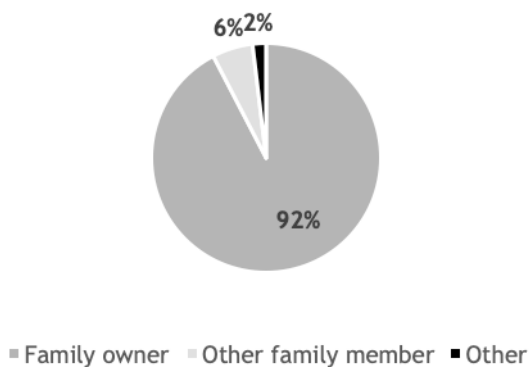


Figure 3 Type of manager (Percentage of firms).

Comparing with Azores, we can conclude that firms in Leiria region have less firms with board of directors (at least firms that answer to this survey), and more firms are managed by a family owner or other family member (Pimentel *et al.*, 2017). This result goes in line with the idea that a family member manages the firm to avoid agency costs between the principal and manager. Moreover, 65% of the firm's managers are the same since the beginning of the firm, and 20% manage the firm for at least half of the firm's lifetime (and less than total years in activity). Kellermans *et al.* (2008) argued that family CEO tend to remain much longer in power than those of non-family firms. In fact, the family want to manage the firm not only to avoid agency costs between the principal and manager, but also to assure the family identity and culture in the firm, and due to the difficulty to transmit information to others.

Most of the firm's managers are male (76%), showing that women still have difficulty to be in the top of the career. Although, this percentage is higher than those of the Fortune 500 in 2018, when only 4.8% of the firms are managed by women.

The firms that have a board of director, usually have 3 members on the board (65% of the firms with board of directors). Most of them are family members (61%), as we can observe in the following graph.

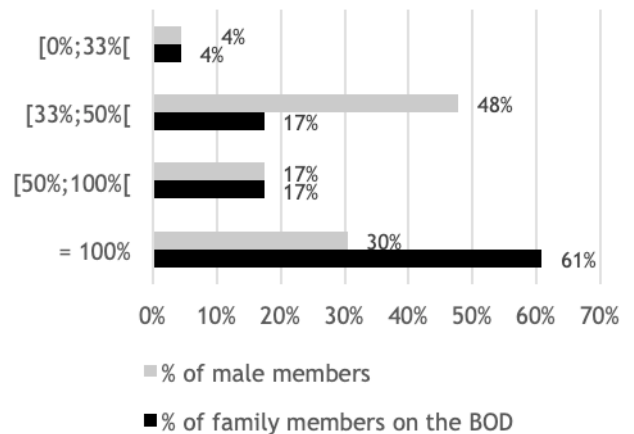


Figure 4 Percentage of family and male members on the board of directors (BOD).

The percentage of female in management increase when the firm has a board of directors (the percentage of firms with only male members in the board of directors are 30%), suggesting that personality differences between genders are valorized in these firms.

One factor that characterize family firms is its continuity for future generations. The following

graph shows in which generation (generations) is the family firm, regarding ownership and management.

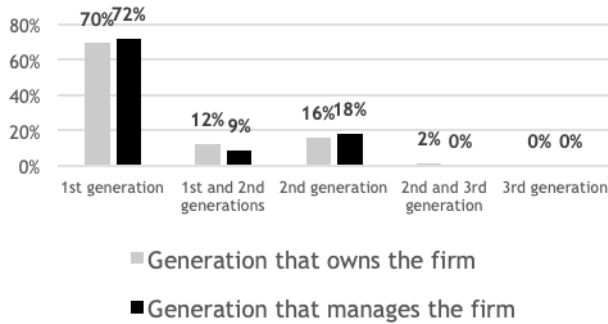


Figure 5 Family generation in ownership and management.

Most of the firms are owned by the first generation (70%), which can be explained due to the lifetime of the firm. Henrique (2008) argues that firms usually are 24 years in the first generation. As most firms are in the business for less than 30 years, this result is corroborated. 12% of the firms in the sample are owned by the first and second generations, although part of these firms are still managed by the first generation. This result supports the idea that the founder has difficulty to pass information to future generations and decide to sustain the firm’s control. Similar results were found by Pimentel *et al.* (2017).

Only 16% of the firms that answer the survey in Leiria region are in the second generation, and 2% are owned by both second and the third generations. Finally, only one firm is in the third generation and is own and managed by this generation. The lack of other generations in ownership and control may be justified by the firm’s age, but also by the difficulty of the firm’s succession. According to Associação Empresarial

Portuguesa (AEP, 2011 - Portuguese business association) only 50% of family firms survive in the second generation and 20% in the third generation. In Azores there are more firms owned and managed by the third generation, but these firms have a longer lifetime also.

Figure 6 shows the participation of the family in the firm.

The mean value of family members with active participation in firms located in Leiria region is 2.16, while the number of family members working in the firm is in mean 2.38. These results suggest that most firms have more than 2 family members that decide the firm’s strategy, investment, operational plan, among others. The higher the number of family members, the easier to have the family identity in the business. Moreover, we can see that not all family members are interested in the family business (ate least do not have an active participation on it) or have not opportunity to participate in the business. Similar numbers were found by Pimentel *et al.* (2017) to Azorean firms.

Finally, the last part of the survey aims to identify the family’s identity. Nine sentences were asked to family owners and the respondents should evaluate it on a 5-point scale, where 1 “strongly disagree” and 5 “strongly agree”. The percentage of the answers are in the following table.

Observing the table before we can see that most respondents agree or strongly agree with the sentences. Less than 7% of the respondents disagree with it. These results suggest that the family beliefs, its proud and loyalty to the family business, and the family identity is present in the firm.

The sentence 7 (We really care with the future of the family business) is the one with more percentage of strongly agree (68%). In fact, one factor that characterizes family firms is the firm’s future, not only because the firm is a



Figure 6 Family participation in the firm.

Table 1 Percentage of answers to characterize the family identity.

Statement	Strongly agree	Agree	Undecided	Disagree	Strongly Disagree
1. The family has influence on the firm and business	40%	29%	19%	7%	4%
2. The family and the firm share the same values	43%	36%	13%	5%	3%
3. Our family members are willing to make great efforts to contribute to the firm's success	57%	29%	10%	3%	1%
4. We support the family business in discussion with friends, employees and others	26%	38%	25%	8%	3%
5. We feel loyalty to the family business	55%	29%	13%	1%	1%
6. We proudly tell others that we are part of the family business	54%	21%	18%	3%	4%
7. We really care with the future of the family business	68%	21%	9%	2%	1%
8. The decision to get involved in the family business has had a positive influence on my life	39%	35%	18%	5%	3%
9. I would like my descendants to follow the family business	38%	28%	21%	5%	7%

family' investment, but also is a source of wealth, employment, and reputation. Although, only 38% of the answers strongly want the descendants to follow the family business (sentence 9). A family firm usually want to pass the firm to future generations. Although, 12% of the answers do not want their descendants to continue with the firm. As there are some new firms, with less than 3 years (16%), the family may have not decided yet the future of the firm, namely who will continue with the firm, if someone will continue. Lisboa (2018) found that diverse firms in Leiria region have not prepared yet the succession of the firm and one of the main reason given was that there is still much time to think about it.

Sentences 3 (Our family members are willing to make great efforts to contribute to the firm's success), 5 (We feel loyalty to the family business) and 6 (We proudly tell others that we are part of the family business) have more than 50% of the answer: strongly agree. These results suggest that the family see their members as a

gain to the firm, contributing to its success, because they see the firm as an extension of the family wealth. Regarding sentence 6 we can see that nowadays family firms are proud to be classified as such. Martins (1999) found that most family firms do not classify themselves as such because they think that family firms are linked to unproductive firms or small firms. The great effort of the media and research to show the benefits of family firms is having results.

Regarding the sentences 1 (The family has influence on the firm and business), and 2 (The family and the firm share the same values) the large majority of the respondents agree or strongly agree with the statement, suggesting that family identity is present in the firm.

More a less 39% of the respondents strongly agree with sentence 8 (The decision to get involved in the family business has had a positive influence on my life). This suggests that not all family owners are really happy with the firm, may be because of the recession period (2008-2014) that have great impact in the firm's financial

Table 2 Principal Components Analysis.

Statement	PC 1 Commitment	PC 2 Experience	PC3 Identity
1. The family has influence on the firm and business			0.926
2. The family and the firm share the same values			0.613
3. Our family members are willing to make great efforts to contribute to the firm's success	0.838		
5. We feel loyalty to the family business	0.677		
6. We proudly tell others that we are part of the family business		0.696	
7. We really care with the future of the family business	0.769		
8. The decision to get involved in the family business has had a positive influence on my life		0.888	
Eigenvalue after varimax rotation	2.339	1.765	1.482
Explained variance	33.411%	25.212%	21.171%
Overall accumulated variance	79.794%		
KMO and Barlett's sphericity test	KMO = 0.901; Chi-square = 843.803; p-value = 0.000		

situation. Although, only 8% of respondents disagree with the sentence.

Finally, to sentence 4 (We support the family business in discussion with friends, employees and others) most respondents only agree, and 12% disagree. This result suggests that most respondents do not want to speak about the family business may be because the owner wants to sustain the firm's control and retain its information, leading to the lack of information transparency.

Comparing the answer of this survey with the one done to Azorean firms, we can conclude that the family is less proud and commitment to the firm in Leiria region (Pimentel *et al.*, 2017).

These sentences were factor analyzed using principal component analysis with varimax (orthogonal) rotation. Results are present in the following table.

Sentences 4 and 9 were eliminated from this analysis as these sentences did not have a relevant contribution to explain any principal component.

Three components were proposed and explain 79.8% of the variance for the entire set of variables. The first principal component (PC 1) is explained by the sentences 3, 5 and 7, and express the family commitment in the business. It explains 33.4% of the variance. Sentences 6 and 8 establish the second principal component (PC2), which is related with the family culture. It explains 25.2% of the variance. Finally, the third principal component (PC 3) label family identity links the sentences 1 and 2. The variance explained by this factor is 21.2%.

Conclusion

Family firms are the oldest and more common type of firms all over the world. These firms make an important contribution to the gross domestic product, employment and wealth creation. Therefore, understanding these firms is important. This study aims to design a profile of family firms in Leiria region.

Leiria, even though not been one of the major cities in Portugal, is the third city with higher gross domestic product per residence. Moreover, the percentage of family firms in this region is high, which justifies this study.

Results show that one third of the respondent firms are in the business for less than 10 years, while 38% for more than 20 years. This fact justifies that most of the firms are in the first generation (70%). In the large majority of the respondents, the family owns 100% of the business, and control and manage the firm. Only few companies have a board of directors, normally with three members, and 60% of them are in mean family members. Managers usually are male, but when the firm has a board of directors this has both male and female

members. More than two family members actively participate in the firm.

Most respondents agree or strongly agree with the proposed sentences that aim to analyze the family involvement, identity and pride of the family business. We see that the family is involved in the firm and is important for the firm's success. The family is pride of the family business. The respondents care about the future, but 12% of them do not want their descendants to follow the family business.

Finally, we found three principal components related with family commitment, culture and experience, and these components explain 79.8% of the variance for the set of variables analyzed. With this study the proposed aims were accomplished. Although, as all the works have some limitations. First, we only have 233 responses, which represent only 5% of the possible answers. This is a major limitation of using surveys. Second, the survey had closed answers and some firms may have given an answer due to a specific situation (for instance, a family without any descendants or impossibility to have descendants may answer that they not agree to pass the firm to future generation). Finally, we analyze only a region. Future researches should focus in other regions to extend results and make comparisons.

References

- AEP - Associação Empresarial Portuguesa (2011). *Livro Branco da Sucessão Empresarial. O Desafio da Sucessão Empresarial em Portugal*. Associação Empresarial de Portugal
- Anderson, R., and Reeb, D. (2003). Founding-family ownership and firm performance: Evidence from the S&P500. *Journal of Finance*, 58(3), 1301-1328.
- APEF - Associação Portuguesa de Empresas Familiares (2018) retrieved from: <http://www.empresasfamiliares.pt/>.
- Astrachan, J., Klein, S., and Smyrniotis, K. (2002). The F-PEC Scale of Family Influence: A Proposal for Solving the Family Business Definition Problem. *Family Business Review*, 15(1), 45-58.
- Barontini, R., and Caprio, L. (2006). The effect of family control on firm value and performance: Evidence from Continental Europe. *European Financial Management*, 12, 689-723.
- Basco, R. (2013). The family's effect on family firm performance: A model testing the demographic and essence approaches. *Journal of Family Business Strategy*, 4(1), 42-66.
- Berle, A., and Means, G. (1932). *The Modern Corporation and Private Property*, Hancourt, Brace & World, Inc. Copyright, New York (Republished 1968).
- Braun, M., and Sharma, A. (2007). Should the CEO also be chair of the board? An empirical examination of family-controlled public firms. *Family Business Review*, 20(2), 111-126.
- Burkart, M., Panunzi, F., and Shleifer, A. (2003). Family Firms. *Journal of Finance*, 58, 2167-2201.

- Chami, R. (2001). What is Different about Family Businesses? *Working Paper International Monetary Fund*, WP/01/70.
- European Family Business (2018). Retrieved from <http://www.europeanfamilybusinesses.eu/>.
- Gersick, K., Davis, J., Hampton, M., and Lansberg, I. (1997). *Generation to generation: Life cycles of the family business*. Harvard Business School Press, Boston, Massachusetts - EUA (1st edition).
- Gomez-Mejia, L., Cruz, C., Berrone, P., and De Castro, J. (2011). The Bind that Ties: Socioemotional Wealth Preservation in Family Firms. *The Academy of Management Annual*, 5:1, 653-707.
- Gomez-Mejia, L., Haynes, K., Nuñez-Nickel, M., Jacobson, K., and Moyano-Fuentes, J. (2007). Socioemotional Wealth and Business Risks in Family-controlled Firms: Evidence from Spanish Olive Oil Mills. *Administrative Science Quarterly*, 52, 106-137.
- Gomez-Mejia, L., Larraza-Kintana, M., e Makri, M. (2003). The determinants of executive compensation in family-controlled public corporations. *Academy of Management Journal*, 46(2), 226-237.
- Henrique, C. (2008). A governação nas empresas familiares. Tese de mestrado em Finanças do ISCTE.
- INE - Instituto Nacional de Estatísticas - Statistics Portugal. Retrieved from <https://ine.pt/>
- Jaskiewicz, P., González, V., Menéndez, S., and Schiereck, D. (2005). Long-run IPO Performance Analysis of German and Spanish Family-Owned Business. *Family Business Review*, 18(3), 179-202.
- Jensen, M., and Meckling, W. (1976). Theory of the Firm: Managerial Behaviour, Agency Cost and Ownership Structure. *Journal of Financial Economics*, 3, 305-360.
- JLM Consultores de Gestão, Sargento, A., Lopes, A., and Fernandes, M. (2014). *Plano Estratégico - Leiria Região de Excelência*. Blue Print Design e Comunicação.
- Kellermanns, F., Eddleston, K., Barnett, T., and Pearson, A. (2008). An Exploratory Study of Family Member Characteristics and Involvement: Effects on Entrepreneurial Behavior in the Family Firm. *Family Business Review*, 21(1), 1-14.
- La Porta, R., Lopez-de-Silanes, F., and Shleifer, A. (1999). Corporate Ownership Around the World. *Journal of Finance*, 54, 471-517.
- Lisboa, I. (2018). Sucessão nas empresas familiares e o impacto no endividamento. Evidência para as PME da região de Leiria. *Revista de Gestão dos Países de Língua Portuguesa*, 17(2), 26-42.
- Martins, J. (1999). *Empresas Familiares*, GEPE - Gabinete de Estudos e Prospectiva Económica do Ministério da Economia, Lisboa - Portugal (1st edition).
- Martin-Reyna, J., and J. Duran-Encalada (2012). The Relationship among Family Business, Corporate Governance and Firm Performance: Evidence from the Mexican Stock Exchange. *Journal of Family Business Strategy*, 3, 106-117.
- Miller, D., Breton-Miller, I., Lester, R., and Cannella Jr, A. (2007). Are Family Firms Really Superior Performers? *Journal of Corporate Finance*, 13, 829-858.
- Miralles-Marcelo, J., Miralles-Quirós, M., and Lisboa, I. (2014). The impact of family control on firm performance: Evidence from Portugal and Spain. *Journal of Family Business Strategy*, 5(2), 156-168.
- Nieto, M., Casasola, M., Fernández, Z. and Usero, B. (2009). Impacto de la Implicación Familiar y de Otros Accionistas de Referencia en la Creación de Valor. *Revista de Estudios Empresariales*, 2, 5-20.
- Pordata (2018). Retrieved from: <https://www.pordata.pt/>.
- Pimentel, D., Scholten, M., and Couto, J. (2017). Profiling Family Firms in the Autonomous Region of the Azores. *Revista Portuguesa de Estudos Regionais*, 46, 89-107.
- Schulze, W., Lubatkin, M., Dino, R., and Buchholtz, A. (2001). Agency Relationships in Family Firms: Theory and Evidence. *Organization Science*, 12, 99-116.
- Sraer, D., and Thesmar, D. (2007). Performance and Behavior of Family Firms: Evidence from the French Stock Market. *Journal of the European Economic Association*, 5, 709-751.
- Villalonga, B., and Amit, R. (2006). How Do Family Ownership, Control, and Management affect Firm Value? *Journal of Financial Economics*, 80, 385-417.
- Villalonga, B., and Amit, R. (2008). How are U.S. family firms controlled? *Review of Financial Studies*, 22(8), 3047-3091.
- Villalonga, B., Amit, R., Trujillo, M., and Guzmán, A. (2015). Governance of Family Firms. *Annual Review of Financial Economics*, 7, 635-654.
- Ward, H. (1987). Structural Power—A Contradiction in Terms? *Political Studies*, 35(4), 593-610.
- Wortman, M. (1994). Theoretical foundations for family-owned business: A conceptual and research-based paradigm. *Family Business Review*, 7(1)



Design of an aquaponic system run on solar power for a family business in Chad

Dolores Tous-Zamora ^a, Francisco de-la-Rosa-Sánchez ^a, Eva M. Sánchez-Teba ^{a*},
Manuel Cordero-Tous ^b, Rubén Ruiz-Campos ^c

^a *Departamento de Economía y Administración de Empresas. Universidad de Málaga (Spain)*

^b *Investigador Instituto Universitario de Domótica y Eficiencia Energética. Universidad de Málaga (Spain)*

^c *Grupo de Investigación de Recursos Naturales. Universidad de Málaga (Spain)*

Received 02 february 2019; accepted 11 June 2019

**JEL
CLASSIFICATION**
M10, M14

KEYWORDS
aquaponics;
aquaculture;
hydroponics;
integrated system;
solar power;
Chad

Abstract This article describes the design of a single-family aquaponic system powered by solar energy. This technique called “aquaponics” is an activity that blends aquaculture (farming aquatic species) and hydroponics (growing plants in a water-based environment) into one integrated system. A description is given of the elements in the aquaponic circuit, which is sized to scale for a family business, in addition to the budget required for its implementation in Chad. The use of renewable energy offers the possibility of implementing sustainable farming in underdeveloped countries. The objective of this system is to maximize the production of fish and vegetables, taking into account their limitations (20 kg of fish can be produced for every 1,000 liters of water while 8 liters of water are necessary to grow each plant). The fish farmed in this case will be tilapia, as it is technically feasible and has a flavor that is acceptable to the inhabitants of Chad. The cultivated plants include all types of fruits and vegetables, as well as aromatic plants.

CÓDIGOS JEL
M10, M14

PALABRAS CLAVE
Acuaponía;
acuicultura;
hidroponía; sistema
integrado;
alimentación solar;
Chad

Diseño para una empresa familiar de un sistema acuapónico con energía solar en el Chad

Resumen Este artículo expondrá el diseño de un sistema acuapónico unifamiliar alimentado con energía solar. Esta técnica llamada “acuaponía”, es una actividad en la que convergen la acuicultura (cría de especies acuáticas) y la hidroponía (cultivo de plantas sobre el agua) en un mismo sistema integrado. Se hace una descripción de los elementos del circuito acuapónico, un dimensionamiento a nivel de empresa familiar así como el presupuesto que permita su implementación en el Chad. Al incluir el uso de energías renovables, nos da la posibilidad de implementar el cultivo sostenible en países subdesarrollados. El objetivo de esta instalación es maximizar la producción de pescados y vegetales, teniendo en cuenta sus limitaciones (se pueden producir 20 kg de peces por cada 1000 litros de agua y son necesarios 8 litros por planta cultivada). El pescado que se criará será la tilapia, ya que técnicamente es factible y su sabor es aceptado por los habitantes del Chad. En cuando al cultivo de plantas, serán todo tipo de frutas y verduras, así como plantas aromáticas.

<http://dx.doi.org/10.24310/ejfbefb.v9i1.5220>

Copyright 2019: Dolores Tous-Zamora, Francisco de-la-Rosa-Sánchez, Eva M. Sánchez-Teba, Manuel Cordero-Tous, Rubén Ruiz-Campos. European Journal of Family Business is an open access journal published in Malaga by UMA Editorial. ISSN 2444-8788 ISSN-e 2444-877X This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License (CC BY-NC-SA 4.0).

*Corresponding author
E-mail: emsanchezteba@uma.es

Introduction

The environmental challenges facing the world have evolved over the past few decades as the population continues to grow, creating an onslaught of problems; it is therefore becoming increasingly important to develop new techniques for harvesting resources to feed humans in a sustainable way.

This article explains the design of a single-family aquaponic system powered with solar energy that is still not very widely used in Spain. This technique called “aquaponics” blends aquaculture (farming aquatic species) and hydroponics (growing plants in a water-based environment) into one integrated system.

Aquaculture products (generally fish) are permanently or periodically linked to hydroponic cultivation (vegetables) through a single water circuit. In this system, the metabolic waste generated by the fish and the leftover food are used by the plants and transformed into organic plant material (Somerville, C. 2014).

A valuable product is thereby generated by means of a disposable sub-product, with the added advantage of the water (free of nutrients) being available for reuse by fish and other aquatic species. This is what we call the solar aquaponics cycle, since the entire system functions with solar energy. Based on these reasons, aquaponics meets the criteria of environmental, social and economic sustainability (López. 2016).

This article explains the design of a single-family aquaponic system powered with solar energy that is still not used very extensively in Spain. This technique called “aquaponics” is an activity that blends aquaculture (farming aquatic species) and hydroponics (growing plants in a water-based environment) into one integrated system. This technology can boost the entrepreneurship of family businesses in third world countries (Carney, 2005), (Bañegil, Barroso y Tato, 2011)

The objective of this system is to maximize the production of fish and vegetables; however, there are limitations as 1,000 liters of water are needed for 20 kg of fish to live and grow, which means that 10,000 liters of water are required for this project (2 tanks of 2,000L and 6 tanks of 1,000L) for a total production of 200 kg of fish. For the hydroponic part of vegetable production, approximately 8 liters of water are needed for each plant, for a total of up to 1,200 plants.

Antecedents

This technique was already used in the Far East, Egypt, and in Aztec civilization. In regard to recent references, the first studies published on aquaponics are from the 1970s, which show that

the metabolic waste produced by fish could be used as nutrients for cultivating plants using hydroponic methods (Wolfe, Zweig. 1977); (Lewis et al. 1978); (Naegel. 1977); (McLarney. 1972). But it wasn't until the 80s when aquaponic cultivation systems began to be used with closed circuits and sand filters; and the Speraneo system offered a major advance in separating the fish and plant areas (Bender. 1984); (Burgoon, Baum. 1984); (Rakocy. 1984), (1987), (1989); (Jensen, Collins, 1985) (Rennet, 1989) (Sanders, McMurty. 1988); (Zuckeman, et al. 1989). In the 90s, concrete data applicable to commercial production began to be obtained (McMutry.1993); (Clarkson, Lane. 1991) (Álvarez. 1999) (Masser. 1999) (Rakocy.1993), (1997); (Thomas. 1998); (Clarkson. 1991); (Resh. 1995) (Costaa-Pierce. 1998); (Guterstam. 1996); (Hochheimer. 1998); (Losordo. 1999); (Rakocy. 1993). In the beginning, cultivation beds with different substrates were used, such as sand or gravel. Although these systems are still in use today, they are not usually applied on a commercial scale, and having been substituted by other more appropriate systems including “root floating” and “nutrient film” techniques (NFT) (Rakocy 2004)(2006); (Bijo. 2007); (Conolly. 2010); (Diver. 2006); (Ramírez. 2013); (Bañuelos. 2017).

At the present time, every continent has aquaponic experiences and systems, especially the United States, Australia, Canada, Barbados, Nicaragua, China, Bangladesh, Japan, and, more recently, Europe. A few initiatives exist in Spain, with great potential for development (Bakiu. 2014); (Boutwell, 2007); (Caló. 2011); (Duning 2012); (Gómez. 2015); (Intagri. 2017); (Candarle. 2015); (Iturbide. 2008); (Ramos. 2006); (Range. 2005); (Jchapell. 2008), (Nuevo, 2011), (Hernández y Mancebo, 2016), (Barros, Hernangómez y Martín, 2017).

Methodology

First, a review was conducted of the existing literature.

This is an innovative production system, since there are only two real case studies in existence in Spain: one in Malaga (a small family facility) and another in Murcia (a large-scale facility, currently in the installation phase). In Europe, there is only one of these systems fully operational in Germany. Given the scarce implementation of this production system, it was necessary to consult with researchers who are experts in this field, specifically from *Aula del Mar* (Giacosa, Mazzoleni y Usai, 2018).

Table 1 Temperatures and precipitation in Chad.

	January	February	March	April	May	June	July	August	Sept.	October	Nov.	Dec.
Avg. Temp. (°C)	25.3	27.6	30.8	31.4	29.5	27.3	25.9	25.6	25.8	27.2	27.2	25.7
Min. Temp. (°C)	16.5	18.7	22.9	24.7	23.7	22.2	21.6	21.4	21	21.3	18.6	16.4
Max. Temp. (°C)	34.2	36.6	38.8	38.1	35.4	32.5	30.3	29.8	30.6	33.2	35.9	35
Avg. Temp. (°F)	77.5	81.7	87.4	88.5	85.1	81.1	78.6	78.1	78.4	81.0	81.0	78.3
Min. Temp. (°F)	61.7	65.7	73.2	76.5	74.7	72.0	70.9	70.5	69.8	70.3	65.5	61.5
Max. Temp. (°F)	93.6	97.9	101.8	100.6	95.7	90.5	86.5	85.6	87.1	91.8	96.6	95.0
Precipitation (mm)	0	0	5	32	86	136	216	270	195	45	1	0

Neither of the two facilities that are currently in operation in Spain use solar energy, which is what we propose in this paper.

Location

Chad is located in the center of the African continent, and is twice the size of Spain. It has approximately 12 million inhabitants, 80% of which live off what they cultivate/breed. This region could greatly benefit from the use of aquaponic crops grown with renewable energy, since the area has no electricity network and the conditions for cultivation are rather difficult. The city we have chosen is Kélo, located in the southwestern part of the country, specifically the area of Bayaka, home to more than 3,500 orphan children who face serious problems of survival.

A brief climate study of the area is necessary in order to install the circuit, which is shown below in the table of temperatures and precipitation:

The temperatures have an annual variation of approximately 6°C, with an average of 31°C, which is the ideal temperature for farming fish such as tilapia. Precipitation is essentially non-existent during the winter months, but it rains a great deal from May to November, with a peak in August with tropical storms.

Based on a study of solar maps of the area, we have extracted two values that are necessary for the design of the photovoltaic circuit: global horizontal irradiance (GHI), and direct normal irradiance (DNI). The following values are present for the study area considered in this article (north of Moundou): GHI: 2300kW h/m²; DNI: 1800 kWh/m².

Required water

Potable water must comply with a minimum set of conditions. The table below indicates these required characteristics. The required amount will be the total capacity of the tanks plus 20% extra to fill the pipes, pump, filter, and for possible evaporation. The circuit will be

connected at all times to a water intake to compensate for water losses.

Table 2 Required water conditions.

Parameters	Units	Water input
pH	-	7-8.5
Alkalinity (KH)	ppm	660
Hardness (GH)	ppm	300
Ammonia	Mg/l	<1
Nitrites	Mg/l	<1
Nitrates	Mg/l	5-150
Transparency	-	Adequate
Temperature	°C	28-31
Dissolved oxygen	Mg/l	>5

Description of the required equipment

Tanks

The aquaculture production will take place in the tanks. There are multiple types according to size, shape and material. For this project, we will use IBC (Intermediate Bulk Container) tanks with a maximum capacity of 3 m³. They are transportable, rigid or flexible, made of plastic or metal, and are the most affordable tank of this type. The top surface will be cut open so that the fish tanks will be uncovered in order to put the fish in and take them out. The pipes will be installed by drilling on the sides of the tank, avoiding dead zones in order for the water to circulate as much as possible.

Pipes

The pipes will be of various diameters, based on the part of the circuit where they are located. The material used for the pipes is polyethylene, which offers the following advantages: unaffected by soil movement, odorless and tasteless, insoluble, resistant to chemical agents, low friction factor, thermal insulation, durable, requires little to no maintenance, flexible, and lightweight.

An average of 1,500 liters/hour will be required to recirculate the water from the tanks. The water speed will be 0.5 m/s with a diameter of 0.0325m.

The speed must be greater for the 1,000 L in the hydroponic part, used for drip irrigation of 39 vertical tubes with 30 plants per tube, since the load losses in the valves for drip irrigation are greater. The optimal speed in this part of the circuit is 0.8 m/s, with a diameter of 0.02099m.

The collecting pipes of the tanks, which receive the discharge of the 32m pipes, are associated with 4,000 liters in tanks, and therefore must have the capacity to evacuate 4,000 liters/hour. For the hydroponic part of vegetable production, the relationship has been estimated at 8L per plant, allowing for the cultivation of up to 1,200 plants. The speed of evacuation will be less, fixed at 0.3 m/s. The diameters of the other pipes in the circuit are as follows:

Table 3 diameters of the other pipes in the circuit .

Section	Q in circulation (l/h)	V(m/s)	DN (mm)	Normalized DN
Propulsion pumps-distribution	4,000	0.5	73.3	75
Distribution-tanks	1,500	0.5	0.0325	32
Tank outlets-manifold	1,500	0.3	0.042	50
Main manifold-tank	4,000	0.3	0.0686	75
Manifold hydroponics	1,000	0.8	20.05	20
Propulsion pumps-hydroponics area	1,000	-	75	75
Propulsion hydroponics-main tank	1,000	0.8	20.05	20
Propulsion pump-filter	500	0.1	0.035	32
Propulsion pump-UV filter	1,500	0.5	0.0325	32

In addition to water flows, it is necessary to comply with certain pressure values, which are shown in the table below:

Table 4 values of water.

Normalized diameter PE (mm)	Normalized pressure (Kg/cm ²)	Water volume (m ³ /h)
16	2.5	0.4
20	2.5	0.6
25	4	1.8
32	4	3.5
40	4	5
50	4	8
63	4	15
75	4	22

Biological filter

This filter controls the amount of nitrites and nutrients that circulate from the aquaculture production to the hydroponics. It is essential in order to produce the aquaponics phenomenon. For this study, we will create our own filters, layer by layer, which are even more effective and with a total cost that is 5 times less expensive. Also, as they are gravity-based filters, they are easier to manufacture and install.

The order of the filtering stages is as follows: The first layer is a perforated rectangular plastic box that distributes the water flow falling throughout the entire filter in the form of rain. The flow will be controlled using a shut-off valve. Next, the water passes through 2 layers of mesh, each 3 cm thick, in order to eliminate the larger sediment particles. Next, there is a layer of Perlon fiber (physical filter), which is a filtering material consisting of numerous tiny balls of synthetic fibers. Finally, there is a layer of arlita, a very lightweight expanded clay aggregate. In addition to acting as a filter, arlita also favors bacteria nesting, which is a necessary process in order for the aquaponic process to occur. Hence, the filter is complete.

The filter has 3 phases: mechanical, physical and chemical. The chemical part is the hydroponic area for plants. It works through gravity, and the water must reach this part at low speed, essentially as it would naturally fall, which is achieved through manual regulation of the shut-off valve connected to this part of the circuit, which must filter 500 l/h at low speed. The measurements of the initial boxes are 40x20 cm. 3.5 cm-wide holes will be made in the boxes in order for the water to fall through the filter to the subsequent phase in the form of rain.

Just below the previous distribution box, 2 rectangular polypropylene mesh layers, measuring 40x20x3, will serve as the mechanical part of the filter. This phase eliminates the larger sediment particles.

Next is a layer of Perlon fiber (physical filter). This material consists of spheres of synthetic fibers, which are 0.5 cm in diameter. It is durable, resistant to wear and tear, inexpensive, and has high elasticity.

The last layer is made of arlita, a very lightweight expanded clay aggregate. This material is ideal as it has excellent filtering properties and favors the bacteria nesting process, which is necessary in order for the nitrification phenomenon to occur. During this process, which can take days, the nested bacteria help the oxidation of the ammonium, which is converted into nitrate, and eventually nitrite.

All of these phases are installed in the boxes as mentioned above.

Vertical tubes

This vertical aquaponic design requires 39 vertical PVC tubes, which are 2 meters long and have a diameter of 75mm each. They are used to grow 36 plants per tube, with holes perforated every 10 cm, installed on the 4 “sides” of each tube so that there are 9 plants per side. A small container will be installed in each hole, from the inside of the tube, containing the substrate where the plants will grow. The water from the fish tanks will go to the higher part of these tubes, falling along all of these internal containers. The harvested plants will grow towards the outside of the tube, pushing through the holes.

These tubes will be screwed into harvesting tubes that are larger in diameter, which bring the water to the hydroponic manifold chamber. The water with the nutrients collected from the plants is pumped from this chamber to the aquaculture tanks.

Aerator

An aerator will be installed in the main tank in order to maintain the levels of oxygen above 5 mg/l. Since the objective is mass production of fish, the selected aerator will have a capacity of 140L/min of air, 100 W, 240V, with a 20mm tube incorporated in order to introduce air at a pressure of 0.42 bar.

Ultraviolet filter

1,500 liters per hour will pass through this filter, pumped by Pump 1. The circuit has a total quantity of 12,000 liters of water, therefore requiring a 55 W filter to work with a system of 20,000L.

Auxiliary elements

These elements are shown in the table below:

Table 5 Auxiliary elements.

Element	Diameter (mm)	Measurement (unit)
Elbow fitting: female PVC 90°	75	7
	32	10
	20	7
T's: female PVC	75-32	15
	20	6
Ball valves: body and ball in PVC, EPDM joints, Teflon stop ring, PN10	75	6
	32	20

Pumps

Five pumps will be used in this case, four of which receive water from the main tank. The water volume from the secondary pump will be controlled with a gate valve.

The required pumps do not have high flows and are not very tall, which means that they must be very powerful. They are therefore feasibly powered with photovoltaic energy.

The theoretical water flow to be pumped is 24,000 l/h, and the design of the pumping unit is as follows:

PUMP 1: H-01. Submersible pump with a capacity of 14,000 l/h, 7 meters high, 120W, 50Hz, 230V. Measurements: 208x138x158mm and weighing 3.7kg. It will feed four 1,000-liter tanks and the UV filter in two branches at the entrance to the main tank. This pump will be in continuous operation.

PUMP 2: H-02. Submersible pump with a capacity of 9,000 l/h, 8.5 meters high, 140W, 230V. It will feed two 2,000-liter tanks and the mechanical filter in two branches at the entrance to the main tank. This pump will be in continuous operation.

PUMP 3: H-03. Submersible pump with a capacity of 7,500 l/h, 7 meters high, 80W, 230V. It will feed two 1,000-liter tanks and one recirculation branch to the main tank. This pump will be in continuous operation.

PUMP 4: H-04. Submersible pump with a capacity of 2,000 l/h, 3 meters high, 55W, 230V. It will feed the hydroponic part of the circuit. This pump will be in continuous operation.

PUMP 5: H-05 Submersible pump with a capacity of 2,000 l/h, 3 meters high, 55W, 230V. It will be used to return the water coming out of the hydroponic part. This pump will be operated when the water from the collection chamber reaches a certain level, which will be controlled with a buoy.

The load losses in the circuit are as follows:

Table 6 Load in the circuit.

Type of singularity	K
Fully open valve	0.2
Half-open valve	5.6
90° Elbow	1
45° Elbow	0.4
Pipe outlet	1

The most unfavorable case is when there is increased speed, and when the constant has a value of 1 (pipe outlet or 90° elbow). One of these areas is in the elbow fitting at the outlet of the propulsion of the hydroponic part, where the load loss is 0.0326 m.

As the pumps have a minimum pumping height of 3 meters, these losses represent 1% of the total height; considering that there is not a long stretch of pipe to flow through, the load losses in the circuit are concluded to be negligible.

Photovoltaic circuit

The power supply for the mechanical equipment will be installed in a photovoltaic energy circuit, which functions as follows: the sun hits the photovoltaic panels, which creates a potential difference in the silicon crystal, which generates a continuous current that passes through the regulator, which then determines how much current is necessary for our consumption, and how much can be directed to the accumulation or battery system, thereby avoiding excessive charges/discharges. All of the consumption elements for this project use 220V with an alternating current, therefore making it necessary to install an adaptation system for currents or inverters, which must have the capacity to support the full power of the system, taking into account the simultaneity coefficient for all uses of the circuit. This electronic circuit transforms the continuous current into an alternating current, and also changes the voltage required for said consumptions.

In order to calculate this circuit, the following steps are necessary:

Determination of the total power consumed by the system.

The consumption of active power must be defined and the simultaneity coefficient must be applied, based on the number of hours per day that the equipment will be in operation.

Table 7 Power consumption.

Element	Voltage (W)	Coefficient	Total
Pump 1	120	1	120
Pump 2	140	1	140
Pump 3	80	1	80
Pump 4	55	1	55
Pump 5	55	0.7	38.5
Aerator	100	1	100
UV Filter	55	1	55
LED lights	4 X 30	0.5	60
Auxiliary electrical outlet	3600	0.1	360
Total			1,008.5

The total required potential is multiplied by 24h, obtaining the consumption in Wh per day, which

is 2.4204 Wh/day. This type of installation has a yield of 75%, making it necessary to use oversized equipment, which means that the total energy required is 32.272 Wh/day.

Estimated local solar radiation.

The program PVGIS is used to obtain this figure, which requires the following inputs:

Latitude: 32°30' 0" N

Longitude: 3°41' 29" E

Nominal potential of the Photovoltaic System: 1kWp

Slope of the modules: 35 deg.

Orientation (azimuth) of the modules: 0 deg.

Resulting in the following table:

Table 8 Radiation in Chad.

Month	Ed	Em	Hd	Hm
January	4.32	134	5.56	172
February	4.92	138	6.37	178
March	5.48	170	7.36	228
April	5.07	152	6.98	209
May	4.86	151	6.81	211
June	4.81	144	6.86	206
July	4.77	148	6.95	215
August	4.81	149	6.97	216
September	4.57	137	6.48	195
October	4.67	145	6.39	198
November	4.51	135	5.92	178
December	4.14	128	5.27	163
	4.74	144	6.49	197

Where:

Ed: Average daily electrical energy production of the system (kWh)

Em: Average monthly electrical energy production of the system (kWh)

Hd: Daily average amount of overall irradiation by square meter received by the modules of the system (kWh/m²)

Hm: Monthly average amount of overall irradiation by square meter received by the modules of the system (kWh/m²)

The month with the least amount of radiation (lowest Hd) is December, with 5.27 kWh/m², and therefore the system will be sized for this amount of radiation in order to ensure that the system will cover the demand for power in the circuit throughout the entire year.

A voltage of 1kW/m² is used to calibrate the modules. The radiation obtained is then divided by this value, and the value of peak hours of sunshine (HSP) are required, which are 5.27 HSP. This figure represents the number of hours of sunshine equivalent to the sun shining with a voltage of 1,000 W/m², since the intensity of the

sun's radiation varies throughout the different hours of the day.

Calculation of the number of photovoltaic modules.

Polycrystalline photovoltaic panels are used, which are installed in the ground, minimizing the cost of installation.

It is very important to understand how variations in temperature can effect the electrical voltage and the current. Small variations in temperature can cause a great variation in intensity, while the voltage will continue to be practically constant. Since there are considerable variations in temperature in Chad, it is important to keep this in mind when selecting the appropriate panel.

To calculate the number of modules required, it is necessary to estimate the yield for the modules due to the orientation, dirt in the environment, installation, etc. This value varies from 0.7 to 0.8. It is also necessary to know the peak power value of the modules to be installed. This value varies from 180 to 250 Wp. By selecting the lowest yield and the average peak power, the number of modules required is obtained: 44 200W modules for power supply in the least favorable month.

The voltage will be determined by the batteries that must be connected to the panels to store the energy collected during the day in order to work at night and recirculate the water at night. The SV 260 Poly model photovoltaic panel was selected as it fits the required profile.

The basic parameters for the design of the rest of this circuit are:

- Intensity of short circuit (Isc): 8.94^a
- Open circuit voltage (Voc): 34.8 V
- Maximum power (Pm): it can supply a maximum of 194.4 Wp per module.
- Maximum voltage (Vm): 28.5 V.
- Maximum current (Im): 6.76 for the selected panel.
- Form factor (FF): The relationship between the maximum power (or the product of the current and the voltage at the point of maximum power) and the product of ISC and VOC. The better the cell, the higher the value.
- Efficiency: 15.51%

The corners of the selected model are reinforced with ASA (a highly resistant hard plastic), which helps a lot in transportation as well as stability once it has been installed. The cells are connected in a series, surrounded by an EVA encapsulation (plastic), which seals the panel. It

also has a Tedlar cover (another type of plastic), which makes the cells water tight, in addition to a glass cover.

Calculation of the capacity of the accumulation batteries.

In order to design the batteries' capacity, it is necessary to estimate the desired value of autonomy in order for the system to work on cloudy days or when there is little sunshine. The system will be in operation 7 days a week, 24 hours a day, and the estimated time without any sunshine is 6 days. Therefore, the capacity will be 13446.67 Ah (c100). The depth of battery discharge is estimated at 60%, and the voltage for each module will be 24 V. C100 means that the calculation is valid for charging cycles of 100 hours, which is the value that is usually estimated for the electrification of isolated facilities. The charging and discharging periods should therefore be moderated, since the system will always be in operation.

The selection of the battery system is a critical point for the facility, since it is the part that usually breaks down in this type of photovoltaic systems. Replacement battery equipment must be on hand, since the shelf life of these batteries may be reduced due to low intensity charges or overloads.

The selected model is OPZS, with 2V cells, specifically a Pc-Ac battery (lead acid) with liquid electrolyte. Since it has 2V cells, it is necessary to form a battery bank of 12 units in order for the system to operate on 24V.

sine wave. As the total calculated power is 1,008W, the inverter must support this amount of power. The selected model is Ecosolar Blue 2,000W 24V.

Installation and start-up

We will need 2-3 weeks to install the system, with two workers working full-time.

The circuit must be installed indoors or under some type of greenhouse or roof, since the fish and plants will not survive in the desert climate of Chad if exposed to the elements.

These steps should be followed for start-up:

1. Fill the main tank, keeping the potable water supply always connected.
2. Check the photovoltaic electrical supply, and the configuration of the inverter.
3. Fill the aquaculture tanks by pumping.
4. Circulation of water through the hydroponic part by pumping.

5. Circulation of water through the filter and the UV filter.
6. Turn on the aerator.

- photovoltaic system.
- Filling out the weekly control form.

Maintenance

A worker is recommended to be on-site 24 hours a day since, if the circulation stops even for a few hours, it could have catastrophic consequences on the fish and plant population. The worker's tasks are as follows:

- Monitoring the water circulation through all of the parts of the circuit.
- Draining the tanks for cleaning.
- Unclogging the holes where water comes out.
- Harvesting fish, embryonated eggs and plants.
- Monitoring the fish population.
- Changing broken parts (valves, elbow fittings, Tee's...).
- Solving problems related to the

Overall system budget

This is the price of the supply of the equipment used for the project. Approximately 15% additional cost should be added for assembly. The price of the system will vary depending on the country where it is installed. With labor included, the budget may reach 10,000 euros.

Conclusions

The design of this system powered with solar energy is a viable solution for the problems of famine plaguing many underdeveloped countries. The sustainable cultivation of fish and plants responds to the population's needs of self-supply and is feasible in hostile environments for the development of conventional farmlands, especially in landlocked countries.

This paper is a proposal for action, describing the necessary elements for an aquaponic circuit

Table 9 Overall system budget.

Family aquaponics system budget

Item	Units	Measurement	Price	Total
1. Hydraulic circuit				
1.1 Tanks				
1,000L IBC Aquatic Tanks	unit	8	160 €	1,280 €
2,000L IBC Aquatic Tanks	unit	2	200 €	400 €
Total 1.1				1,680 €
1.2 Pipes				
PE 100 Ø 75 mm PN 16 distribution pipe	ml	40	8.77 €	350.80 €
PE 100 Ø 50 mm PN 16 outlet collecting pipe	ml	10	3.96 €	39.60 €
PE 100 Ø 32 mm PN 16 distribution and propulsion pipe UV filter	ml	60	1.67 €	100.20 €
PE 100 Ø 20 mm PN 16 exterior pipe hydroponic circuit	ml	35	0.70 €	24.50 €
Total 1.2				515.10 €
1.3 Pumps				
Submersible pump: 14,000 l/h, 7 meters high, 120W, 50Hz, 230V Grech model CTP-14000 or similar	unit	1	83.47 €	83.47 €
Submersible pump: 9,000 l/h, 8.5 meters high, 140W, 230V Grech model CPP-16000F or similar	unit	1	89.68 €	89.68 €
Submersible pump: 7,500 l/h, 7 meters high, 80W, 230V Grech model CPP-10000F or similar	unit	2	88.20 €	88.20 €
Submersible pump: 2,000 l/h, 3 meters high, 55W, 230V Sun Sun model HQB-2503 or similar	unit	2	23.14 €	46.28 €
Total 1.3				307.63 €
1.4 Aquaponic filter				
Plastic perforated box 40x20 cm water distribution	unit	5	15 €	75 €
Rectangular mesh filters PP 40x20x3cm	unit	2	10.50 €	21 €
Physical filter: Perlon fiber layer 10 Kg	bag	1	2.59 €	2.59 €
Arlita filter: bacteria nesting 10 Kg	bag	1	6.25 €	6.25 €
Total 1.4				104.84 €
1.5 Hydroponic tubes				
PVC Tubes Ø 15 cm x 2 meters high for automation	unit	40	11.40 €	456 €
Total 1.5				456 €
1.6 Hydraulic elements				
Rensu LP-100 aerator or similar with capacity of 140 l/min of air, 100 W, 240 V	unit	1	152 €	152 €
Sun Sun UV Filter or similar CUV-155 55W, 240V	unit	1	89.90 €	89.90 €
90° PVC female elbow fitting Ø 75mm	unit	7	7.80 €	54.60 €
90° PVC female elbow fitting Ø 32mm	unit	10	2.60 €	26 €
90° PVC female elbow fitting Ø 20mm	unit	7	1.80 €	12.60 €
PVC female Tee Ø 75-32 mm	unit	15	21.47 €	322.05 €
PVC female Tee Ø 20 mm	unit	6	7.50 €	45 €
Ball valves Ø 32mm body and ball in PVC, EPDM joints, Teflon stop ring, PN10	unit	25	5.97 €	149.25 €
Ball valves Ø 20mm body and ball in PVC, EPDM joints, Teflon stop ring, PN11	unit	6	3.50 €	21 €
Total 1.6				872.40 €
2. Photovoltaic circuit				
Solar World photovoltaic panel or similar 60 x modules 260 Wp, 24 V CC, Isc 8.94 A, Efficiency 15.41%	unit	1	180 €	180 €
2V Hoppecke battery cells 8 OPZS 800 or similar	unit	12	335 €	4,020 €
Regulator with maximum power solar tracker, Bluesolar MPPT 75/15 A or similar	unit	1	92.57 €	92.57 €
Ecosolar Blue Inverter 2000W 24V or similar with input 24V CC and output 230 V CA	unit	1	348 €	348 €
Total 2				4,640.57 €
Total budget				8,576.54 €

sized to scale for a family business, as well as the budget for its implementation in Chad.

It is necessary to ensure the electrical power supply for this system, as it is essential to preserve the production. The use of solar energy and an accumulation or battery system is therefore necessary for the system to operate on cloudy days or when there is little sunshine. The system will be in operation 7 days a week, 24 hours a day, with an estimate of periods without sunshine.

The maintenance of this type of system is vital since, if the circulation stops even for a few hours, it could have catastrophic consequences on the fish and plant population.

The production limitations are 20Kg of fish per 1,000 liters of water for the aquaponic part, and approximately 8 liters of water per plant for the hydroponic part of vegetable production. The cultivation of fish and vegetables must be planned taking these limitations into account.

Bibliography

- Álvarez Torres, P. (1999). Desarrollo de la acuicultura en México y perspectivas de la acuicultura rural.
- Bañeguil Palacios T.M, Barroso Martínez, A. y Tato Jiménez, J.L. (2011). Profesionalizarse, emprender y aliarse para que la empresa familiar continúe. *Revista de Empresa Familiar*, 1(2), 27-41.
- Bañuelos Jaúregui, J.R. (2017). Acuaponía: parámetros básicos de diseño. Monografía. Torreón, Coahuila. Universidad Antonio Narro. México.
- Bakiu, R., Shehu, J. (2014). Aquaponic system as excellent agricultural research instruments in Albania. *Albanian Journal of Agricultural Sciences*, 385.
- Barros, I., Hernangómez, J. y Martín Cruz, N. (2017). Familiness and socioemotional wealth in Spanish family firms: An empirical examination. *European Journal of family business*. 7, 14-24.
- Bender, J. (1984). An integrated system of aquaculture, vegetable production and solar heating in an urban environment. *Aquacultural Engineering*, III(2), 141-152.
- Bijo, P. A., Thorarensen, H., Johannsson, R., Jenson, P. (2007). Feasibility study of a recirculation aquaculture system.
- Boutwell, J. (2007). Aztecs aquaponics revamped. Napa Valley Register.
- Burgoon, P.S., Baum, C. (1984). Year-round fish and vegetable production in a passive solar greenhouse. Paper presented at the Sixth international congress on soilless culture, Lunteren, Holanda.
- Caló, P. (2011). Introducción a la acuaponía. Centro Nacional de Desarrollo acuícola (CENADAC). Ministerio de Agricultura, Ganadería y Pesca. Argentina.
- Candarle, P. (2015). Técnicas de acuaponía, Centro Nacional de Desarrollo agrícola, (CENADAC), Dirección de acuicultura.
- Carney, M. (2005). Corporate governance and competitive advantage in family-controlled firms. *Entrepreneurship Theory and Practice*, 29(3), 249-265.
- Clarkson, R., Lane, S.D. (1991). Use of small-scale nutrient film hydroponic technique to reduce mineral accumulation in aquarium water. *Aquaculture and fisheries management*, XXII, 37-45.
- Connolly, K.T., T. (2010). Optimization of a backyard aquaponics. BREE 495, Design 3, Bioresource Engineering, Faculty of Agricultural and Environmental Sciences - McGill University.
- Costa-Pierce, B.A. (1998). Preliminary investigation of an integrated aquaculture- wetland ecosystem using tertiary-treated municipal wastewater in Los Angeles County, California.
- Diver, S. (2006a). Aquaponics-Integration of hydroponics with aquaculture: Attra.
- Diver, S. (2006b). Aquaponics-Integration of hydroponics with aquaculture: Attra - National Sustainable Agriculture Information Service.
- Duning, R. D., Losordo, Thomas M and Hobbs, Alex O. (2012). A Spreadsheet Tool for the Economic Analysis of a Recirculation Tank System: Southern Regional Aquaculture Center.
- Giacosa, E., Mazzoleni, A., & Usai, A. (2018). Business Process Management (BPM) How complementary BPM capabilities can build an ambidextrous state in business process activities of family firms. *Business Process Management Journal*.
- Gómez M., R.C., Ortega L., N.E., Trejo R., L.I. (2015). La acuaponía: Alternativa sustentable y potencial para producción de alimentos en México. *Agroproductividad*. 8(3), 60-65.
- Guterstam, B. (1996). Demonstrating ecological engineering for wastewater treatment in a Nordic climate using aquaculture principles in a greenhouse mesocosm. *Ecological Engineering*, VI, 73-97.
- Hernández, F y Mancebo, E. (2016). Conditional mediation of competitive strategy and environment in international entrepreneurial orientation of family business. *European Journal of family business*. 6, 86-98.
- Hochheimer, J.N. Wheaton, F. (1998). Biological filters: trickling and RBC design. Paper presented at the Proceedings of the Second International Conference on Recirculating Aquaculture, Roanoke, VA.
- Iturbide D, K. (2008). Caracterización de los efluentes de dos sistemas de producción de tilapia y el posible uso de plantas como agentes de biorremediación. Universidad de San Carlos de Guatemala.
- Jchapell, J. A; Brown, T. W y Purcell, T. (2008). A demonstration of tilapia and tomato cultureutilizing an energy efficient integrated system approach. 8th International Symposium o Tilapia in Aquaculture 2008. pp 23-32
- Jensen, M.H., Collins, W.L., (1985). Hydroponic vegetable production. *Hort. Rev.* 7:483-558.

- Lewis, V. M., Yopp, J.H., Scharamm, H.L., Brandenburg, A.M. (1978). Use of hydroponics to maintain.
- López Jaime, J. (2016). Manual de Acuaponía, cultivo sostenible de peces y plantas. Málaga: Aula del Mar.
- Losordo, T. (1999). Recirculating Aquaculture Tank Production System: A Review of Component Options: Southern Regional Aquaculture Center.
- McLarney, W. (1972). Irrigation of garden vegetables with fertile fish pond water. New Alchemy Agricultural Research Report (2).
- McMurtry, M.R., Sanders, D.C., Nelson, P. V. (1993). Mineral nutrient concentration and uptake by tomato irrigated with recirculating aquaculture water as influenced by quantity of fish waste products supplied. *Journal of Plant Nutrition*, XVI(3), 407-409.
- McMurtry, M.R., Sanders, D.C., Cure, J.D., Hodson, R.G., Haning, B.C., St. Amand, P.C. (1997). Efficiency of water use of an integrated fish/vegetable co-culture system. *J World Aquacult Soc* 28:420-428.
- Masser, M.P., Rakocy, J.E y Losordo, T.M. (1999). Recirculating aquaculture tank production systems: management of recirculating systems. Southern Regional Aquaculture Centre Publication No. 452. Southern Regional Aquaculture Centre, USA.
- Naegel, L. C. A. (1977). Combined production of fish and plants in. *Aquaculture*, X(1), 17-24.
- Nueno, P. (2011). Iniciativa emprendedora y empresa familiar: Emprendiendo a través de las generaciones. *Universia Business Review*, cuarto trimestre, 96-101.
- Rakocy, J.E., (1984). A recirculating system for tilapia culture and vegetable hydroponics. In: R.C. Smitherman and D. Tave (Eds.), *Proceedings of the Auburn Symposium on Fisheries and Aquaculture*, Auburn University, Auburn AL., pp.103-114.
- Rakocy, J.E., Nair, A. (1987). Integrating fish culture and vegetable hydroponics: Problems and prospects. *Virgin Islands Perspect*, 19-23.
- Rakocy, J.E. (1989). Hydroponic lettuce production in a recirculating fish culture system. *Univ. Virgin Island Agric. Esp. Station, Island perspectives* 3, 4-20.
- Rakocy, J. E., Hargreaves, J.A., Bailey, D.S. (1989). Effects of hydroponic vegetable production on water quality in a closed recirculating system. *J. World aquat. Soc.*, XX(1), 64A.
- Rakocy, J.E., Hargreaves, J. A., Bailey, D.S. (1993). Nutrient accumulation in a recirculating aquaculture system integrated with vegetable hydroponic production. In: J.-K. Wang, Ed. *Techniques for Modern Aquaculture*. American Society of Agricultural Engineers, St. Joseph, MI, pp 148-158.
- Rakocy, J.E., D.S. Bailey, K.A. Shultz and W.M. Cole. (1997). Evaluation of a commercial scale aquaponic unit for the production of tilapia and lettuce. Pages 357-372 in K. Fitzsimmons, ed. *Tilapia Aquaculture: Proceedings of the Fourth International Symposium on Tilapia in Aquaculture*, Orlando, Florida.
- Rakocy, J.E, Shultz, R.C, Bailey, D.S. y Thoman, E.S. (2004). Aquaponic production of tilapia and basil: comparing a batch and staggered cropping system. *Acta Horticulturae (ISHS)* 648:63 69.47.
- Rakocy, J.E, Masser, M.P y Losordo, T.M. (2006). Recirculating Aquaculture Tank Production Systems: Aquaponics—Integrating Fish and Plant Culture. Southern Regional Aquaculture Centre Publication No. 454. Southern Regional Aquaculture Centre, USA.
- Ramirez Ballesteros, M. (2013). Evaluación del crecimiento de tilapia, acocil y lechuga en un Sistema de recirculación acuapónico en condiciones de laboratorio. Universidad Autónoma de México.
- Ramos, C. (2006). Aquaponics Guadalajara. *Aquaponics Journal.*, 40, 12-13
- Range, P. Range B. (2005). Aquaponics helps to feed students, staff at orphanage in Reynosa, México. *Aquaponics Journal.*, 39, 18-19.
- Rennet, B (1989). The possibility of combined fish and vegetable production in greenhouse. *Advanced Fish Science.*, 19-27.
- Resh, H.M., (1995). Hydroponic food production: a definitive guidebook of soilless food-growing methods. Woodbridge Press Publishing Company, Santa Barbara, CA.
- Sanders, D., McMurty, M.R. (1988). Fish increase greenhouse profits. *American Vegetable Grower*, 32-33.
- Somerville, C.; Cohen, M.; Pantanella, E.; Stankus, A. & Lovatelli, A. (2014). Small-scale Aquaponic Food Production. *Integrated Fish and Plant Farming*. FAO Fisheries and Aquaculture Technical Paper No. 589. Roma, FAO. 262 p.
- Thomas M. Losordo, Michael P. Masser y James Rakocy. (1998). Recirculating Aquaculture Tank Production Systems: An Overview of Critical Considerations. Southern Regional Aquaculture Centre Publication No. 451. Southern Regional Aquaculture Centre, USA.
- Wolfe, J., Zweig, R. (1977). Summary of fish culture techniques in solar aquatic ponds. *Journal of the New Alchemist*.
- Zuckerman, B.M., M. Bess Dicklow, G.C.C., L Roberto (1989). Suppression of plant parasitic nematodes in the chinampa agricultural soils. *Chemical Ecology*, XV(6).



Family business in transition economies: an exploratory study of private business

Alexander Rosado-Serrano^{ab}, Antonio Navarro-García^{c*}

^a *Universidad Interamericana de Puerto Rico. Departamento de Ciencias Económicas y Administrativas. Puerto Rico*

^b *Universidad de Puerto Rico. Escuela Graduada de Administración de Empresas. Puerto Rico*

^c *Universidad de Sevilla Departamento de Administración de Empresas y Marketing, Spain*

Received 18 June 2019; accepted 28 July 2019

JEL CLASSIFICATION
J12;G32;N8;P20

KEYWORDS
Family Business;
Transition Economies;
Sucesion;
Franchising

Abstract This paper aims to explore the background of transition economies observing the new phenomenon of private enterprise in the Republic of Cuba and franchising in Venezuela. We provide an outline of the changes expected in this former central-planned economies, the key traits that might rise on the aftermath of the transition, the current state of private enterprise in Cuba. We suggest how franchising could be a solution to develop a strong entrepreneurial families in transition economies with future suggestions for research

CÓDIGOS JEL
J12;G32;N8;P20

PALABRAS CLAVE
Empresa Familiar;
Economía de transición;
Sucesión;
Franquicia

Empresa familiar en economías en transición: un estudio exploratorio de la empresa privada

Resumen Este documento tiene como objetivo explorar los antecedentes de las economías en transición observando el nuevo fenómeno de la empresa privada en la República de Cuba y las franquicias en Venezuela. Proporcionamos un resumen de los cambios esperados en estas antiguas economías de planificación centralizada, los rasgos clave que podrían surgir a raíz de la transición, el estado actual de la empresa privada en Cuba. Sugerimos cómo la franquicia podría ser una solución para desarrollar familias emprendedoras fuertes en economías en transición con futuras sugerencias para la investigación

<http://dx.doi.org/10.24310/ejfbefjb.v9i1.5363>

Copyright 2019: Alexander Rosado-Serrano, Antonio Navarro-García.

European Journal of Family Business is an open access journal published in Malaga by UMA Editorial. ISSN 2444-8788 ISSN-e 2444-877X This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License (CC BY-NC-SA 4.0).

Introduction

Family business is the most prevalence form of business worldwide. Latin America culture embraces the family ties. It is very common to find family firms in the region that have operated for many years because of their strong family relationship and value their legacy. Historically in Latin America there has been a strong influence of family and social alliances. These alliances, dating to the colonial period, favor the concessions to exploit business activities (Rosado-Serrano, 2017). To this day, business relationships in Latin America are predicated on in-group personal relationships (Becker, 2004) that build around economic and social needs, creating family network systems (Benedict, 1991). This family network systems are based on trust, therefore creating a fertile ground for a long-term perspective and wealth transfer to future generations.

Entrepreneurial family business are the forefront of socio-economic development in virtually all economies today including transition economies. When we talk about transition economies, we are talking about economies that are (or where) Communist countries such as the former Soviet Union, Eastern Europe, China and Cuba, to name a few. SMEs in transition economies (including family business) face unique challenges associated with the lack of transparency, increased foreign competition in their domestic markets, and the legacy of centrally planned economic systems dominated by state-owned enterprises (Bohata & Mladek, 1999; Musteen, et al. 2014). Recently, the Republic of Cuba, which has been under US embargo since the early 1960's, has experimented many changes since the collapse of the Soviet Union, and now is embarking into new waters in which we can see the development of private business activities which were non-existent under the centrally planned economic system. Under this new arrangement, we can find government enterprises competing to provide services with independent entrepreneurs, often called 'cuentapropistas', cooperatives of farmers and taxi providers (among others). Under this new economic scenario, we find family groups organized to provide services in the hospitality and food industry. Under hospitality, there are the 'casa propia' or 'own house' where people rent a room (or house) to tourists. Interesting enough, there is a wide adoption of new platforms such as Airbnb that help in the process of renting, mostly with the help of families outside the island due to the inefficient internet service. Another example under food services are the 'paladares', which is a restaurant, often opened in a private home, and its run by a family or part of it. Another example in the region of a different economic arrangement

can be found in Venezuela. In this mixed economy, the government intervenes with private business and capital accumulation, while focusing on social programs. Entrepreneurs and family business have to adapt to changing government policies toward private business in order to expand and start new business.

In this paper, we explore how family business navigate in transitioning economies. First, we discuss salient elements from other economies that were in transition. Second, we outline key elements family business in Latin America. Third, we provide an outline of private enterprises in transition economies using the examples of Cuba and Venezuela; and fourth, we provide propositions on franchising research on transition economies.

Economies in Transition

It could be said that economic transition for most of the former communism economies has not been an easy process because of the high dependence of social welfare they had previously provided. Orenstein (2008) denotes three major changes that shook these transition economies: the elimination of most of price subsidies, the end of full employment, and the transformation of state-owned enterprises into profit-making entities. Similarly, other issues affected these economies during this process. For example, in Russia, transactions are characterized by low trust between actors and there is a high dependence on strategic alliances and informal agreements (Kuznetsov, et al. 2000). In the Balkans, SME are affected by limited financing, trained management, motivated skilled labour, supply chain and subcontracting networks (Poutziouris, et al., 1997).

Governments and policy makers have become aware of the social and economic development benefits associated with entrepreneurship and SME development (Pistrui et al., 2000). In China, the government developed in 1986 the "Spark Program". This program established several hundred pilot township and village enterprises that promoted science and technologies appropriate to rural industry (Paul-Dana, 1999). It had the effect of innovation creation that influenced other industries in the rural area. Value creation and innovation through local business development are essential for the alleviation of poverty and preservation of the natural environment (Peredo & Chrisman, 2006). In East Germany, entrepreneurship and new venture creation has been crucial to rebuild this region (Pistrui, et al. 2000). Despite this, not all initiatives found on transitions economies are started by their governments and policy makers. In Romania, family plays an important role in transforming its economy. This has been accomplished in two aspects, First with a direct

support of the business, and second by the development of social, community, and economic networks (Pistrui, et al., 1997). By this resilient effort, families have been the engine driving the economic transition in Romania (Cobianu-Bacanu, 1992).

The family unit represents the only societal institution that emerged from communism intact and functional. Lank (1993) indicated that family firms are a necessity to rebuild these long-deprived and neglected nations. Out of necessity, families (and their extended families) had learned to work together and trust each other, thus forming a strong network. The family network is viewed as a vital resource for community influence, representing an insurance against social and economic uncertainty (Pistrui et al., 1997). Families in Bulgaria and Romania provide funds, labor, and management for the development of the small-family-business sector (Poutziouris et al., 1997). Therefore, SME and family business are vital resources for transition economies. Family business provide the support that is difficult to attain such as scarce resources, lack of experience, supply-chain issues, prohibitive taxation, under a weak political leadership that fosters the abuse of power due to an increase of corruption. We can say that family business provides trust and resource sharing which is very difficult to have access in transition economies.

Family Enterprise in Latin America

Family business are the most prevalent form of business thru out Latin America and have played an important role in the development of a strong entrepreneurial class in the region reaching companies in overseas markets (Rosado-Serrano, 2016) as they represent 98% of the developing countries economic drivers (Becker, 2004; Poza, 2010). Albeit their relevance in the region, their development varies depending on each country's history, resources and integration into the world economy.

Family business, similarly, have strengthened international relationships between their nation of origin and the host country were part of their extended family has relocated. Family business (often minority- ethnic owned) play a leading role in international trade because of their access to foreign capital and a geographically disperse network (Carney, 2007). This strong network provides access to capital and tangible resources. Family enterprises contribute in the creation and transfer of knowledge, by which competitive advantage is created (Barroso-Martínez, et al., 2012). We could say family enterprises are the most influential force to underpin institutions in Latin America as they provide entrepreneurial spirit, wealth transfer and support to their

communities. Therefore policy-makers need to implement legislation to promote a longer life span for SME and family business succession on the region (O'Neal, 2014).

Private enterprise & 'los cuenta propia' in Cuba

On April, 2011 the Cuban Communist Party during its VI Congress approved a new platform of changes called "process of the actualization of the economic Cuban model" This platform had the purpose of reorienting their economy toward a participative multi-player transition, to help expand market participation over the distribution of goods and services with a goal of promoting the wellbeing of society and personal and family income (Partido Comunista de Cuba, 2011). Under this focalized scope, the Communist Party expect to reduce poverty, promote more equality, and expand social development (Espina-Prieto, 2012). Under this strategy, there will be a development of non-governmental economic activity on hospitality, food and other services based around tourism. The government will recognize and stimulate mix-capital enterprises, cooperatives, property leasing, self-employment (cuenta propia) and other forms of economic initiatives (Partido Comunista de Cuba, 2011).

This initiative has started to shape the economic landscape in Cuba. Per the National Statistics Office in Cuba (ONE) in 2010 there were 442,000 registered private employees (no cuentapropistas) (8.7% of total employment), 217,000 cooperativists (cooperativistas) (4.2%) and 147,000 self-employed (cuenta propia) (2.9%) (Oficina Nacional de Estadísticas, 2010). These changes have brought an expansion of the economic activity and supply of services and products the government is unable to provide as before. Yet these changes are not accepted by everybody in Cuba. Some argue these initiatives are not contradictory with the socialist Cuban project, because it elevates the efficiency of social work; yet others indicate these private enterprises, can grow and become 'capitalists', which is contrary to Marxist theory (Piñeiro-Harneck, 2011). Albeit the current efforts, one of the underlying challenges is the effectiveness of the government policies in promoting a higher response from the private sector toward social wellbeing. Different from other Latin American countries, wealth transfer in Cuba is a challenge. This is a burden as inheritance is one of the cornerstones that underpin family enterprises. In Cuba, there is a complexity and shady interpretation in respect of the indivisibility of the entrepreneur assets and patrimony. Individual business owners must divide their assets in two parts, one that will respond to their business, and the rest is their civil patrimony (Garcés-Guerra, 2017). Contrary to

other economies, these entrepreneurial patrimony (licenses and other permits granted by the state to operate) cannot be transferred to the civil heirs, which in turn, contradicts the going concern. In any business it is expected that ownership is transferred or there is a plan to secure the continuance of the services or products provided. At the current state, there is an immense work to be done in regards of the legal institutions that foster private enterprise development and wealth transfer.

Albeit these challenges small business face in Cuba, there are other economies in the region where there is a governmental social platform and had shown results in the development of private enterprise and franchising, such as the case of Venezuela.

Franchising and Venezuela

Franchising in Venezuela has been a growing phenomenon where there are several domestic franchise brands expanding through the country and in the Latin American region as well as being a host for international brands from Spain, United States among other countries. United States brands like McDonalds, BK, KFC, and Domino's Pizza (among others) are operating in Venezuela (Export.gov, 2017). Highlighting this expansion, there are institutions such as the Venezuelan Chamber of Franchises - Profranquicias that organize, represent and educate franchisors and franchisees. The success of this effort in Venezuela lies on positioning franchising as a successful, inclusive, ethical, socially responsible entrepreneurial model that can provide sustainable growth to the country (Profranquicias, 2018a). Part of this success can be attributed to education such as an offering of a Diploma of Integral Management of Franchises (Profranquicias, 2018b). Even as the economy of Venezuela is highly dependent on oil revenues and there is a tight government control (Franchising.org, 2018), there are successful examples of franchising as means of creating sustainable growth.

Franchising, a solution to the lack of entrepreneurship in family enterprises.

Family business in transition Latin-American economies are faced with tremendous challenges, which could be different from the ones experienced by other family business in the region. When we look at Cuba, the lack of clarity in the interpretations of law, the limited access to financing, the possibility of the abuse of power and corruption are part of the undelaying elements that can interfere with the growth of the private enterprise and the possibility of wealth accumulation and transfer, which is one of the basis that guide entrepreneurial family

business. Albeit these challenges, Cubans continuously try to find innovative and creative solutions, demonstrating their ability to seek opportunities under an uncertain environment. Rosado-Serrano, Paul and Dikova (2018) believed that entrepreneurial orientation is a viable moderator of the relationship between micro and macro level factors, and the propensity to engage in international franchising. As we can see from the success stories in Venezuela, franchising has shown to be a successful strategy in economies with low government support to private enterprises. This position franchising as means for closing the gap for the lack of entrepreneurial knowledge vs. a high entrepreneurial orientation. If franchisors have a strong entrepreneurial orientation, they can easily commit in developing franchise opportunities in foreign markets (Rosado-Serrano et al, 2018). When there is a lack of government support, the strength of the franchisor network and knowledge transfer helps close external gaps. We think the gap between the lack of managerial skills and a highly trained pool of managers can be filled with a high entrepreneurial orientation.

Future attempts must be shown to understand the characteristics and antecedents that are evolving in the different regions in transition economies to provide best practices, and the most appropriate method should be case analysis to understand these antecedents (Rosado-Serrano, 2016). Considering Cuba as a focus of future research, it is important to notice that most of the financing used in the island comes from transfers from expatriates in the USA and abroad. Future studies should explore the impact of these networks in the reshaping of the Cuban economic scenario and the changes into the economic embargo from the USA to this country. The transition of the Cuban economy cannot be compared with other transition economies; researchers must treat this economy different because even the Cuban government does not want to follow the steps of economic transition that was used by other former central-planned economies.

Another research agenda can be targeted toward transition economies that have tight governmental control, yet there are more dynamic financial institutions. Future scholars should explore institutional distance from the scope of international franchising (Rosado-Serrano, et al. 2018). In addition, transition economies with a more structured and dynamic franchising network, should explore these dynamics thru relational contracting theory (Rosado-Serrano & Paul, 2018). Relational contracts are constructed to be 'incomplete' to allow more maneuvering (Rosado-Serrano & Paul, 2018), which in turn can be a real scenario operating in transition economies.

In general, we can say franchising is a powerful tool that can be used by entrepreneurs in developed and developing economies. Franchising can bring together resources, know-how and structure to business concepts that otherwise would require more time and effort. The successful application of this strategy can increase the likelihood of wealth creation and enhance the overall wellbeing of family business in transition economies.

References

- Barroso-Martínez, A.; Sanguino-Galván, R.; Bañegil-Palacios, T. M. (2012). El enfoque basado en el conocimiento en las empresas familiares. *Investigación Administrativa*, 109:62-69.
- Becker, T. H. (2004). *Doing Business in the New Latin America - A guide to Cultures, Practices and Opportunities*. Westport: Praeger Publishers.
- Bohata, M. & Mladek, J. (1999). The development of the Czech SME sector. *Journal of Business Venturing*, 14(5/6): 461-474
- Carney, M. (2007). Minority Family Business in Emerging Markets: Organization Forms and Competitive Advantage. *Family Business Review*, 20(4): 289-300.
- Garcés, H. (2017) La responsabilidad de los titulares de empresas individuales en Cuba. (tesis).
- García, I. (2017). Precios prohibitivos impiden a cubanos acceder a los mejores "paladares". *Diario Las Américas*. Enero 22 2017. Recopilado de: <http://www.diariolasamericas.com/americas-latina/precios-prohibitivos-impiden-cubanos-acceder-los-mejores-paladares-n4113033>
- Gundry, L., & Ben-Yoseph, M. (1998). Women entrepreneurs in Romania, Poland, and the United States: Cultural and family influences on strategy and growth. *Family Business Review*, 11(1): 61-74.
- Espina, M. P. (2012). La política social en Cuba: nueva reforma económica. *Revista de Ciencias Sociales*. I-II(135-136): 227-236. Export.gov (2017). Venezuela-Franchising. Retrieved from : <https://www.export.gov/article?id=Venezuela-Franchising>
- Ferran-Oliva, J. M. (2015). *Cuba año 2025*. Fondo Editorial Casa de las Américas: Habana
- International Franchise Association(2018). Venezuela. Retrieved from: <https://www.franchise.org/venezuela>
- Kuznetsov, A., McDonald, F., & Kuznetsova, O. (2000). Entrepreneurial qualities: A Case from Russia. *Journal of Small Business Management*, 38(1):108-114.
- Musteen, M.; Datta, D. K. ; & Butts, M. M. (2014). Do International Networks and Foreign Market Knowledge Facilitate SME Internationalization?. *Entrepreneurship, Theory & Practice*, 38(4): 749-774
- Núñez-Moreno, L. (1997). Más allá del cuentapropismo en Cuba. *Temas*, 11: 41-50
- Orenstein, Mitchell A. (2008). Postcommunist welfare states. *Journal of Democracy*, 19(4):80-93.
- Oficina Nacional de Estadísticas (Cuba)(2010). *Anuario Estadístico de Cuba 2009*. Cuba: Ministerio de Economía y Planificación.
- O'Neal, M.E. (2014). The Evolving Context of Family Enterprise Consulting in the Caribbean. Retrieved from <https://ffipractitioner.org/2014/09/17/the-evolving-context-of-family-enterprise-consulting-in-the-caribbean/>
- Partido Comunista de Cuba (2011). *Lineamientos económicos y de la política social*. Cuba: Editora Política.
- Paul-Dana, L. (1999). Small business as a supplement in the People's Republic of China (PRC). *Journal of Small Business Management*, 37(3): 76-80.
- Peredo, A.M., & Chrisman, J. J. (2006). Toward a theory of community-based Enterprise. *Academy of Management Review*, 31(2):309-328.
- Piñeiro Harnecker, C. (2011). Empresas no estatales en la economía cubana: ¿construyendo el socialismo? *Temas*, 67:68-77.
- Pistruí, D.; Welsch, H P. & Roberts, J.S. (1997). The [Re]-Emergence of Family Business in the Transforming Soviet Bloc: Family Contributions to Entrepreneurship Development in Romania. *Family Business Review*, 10(3): 221-237.
- Pistruí, D.; Wesch, H. P.; Wintermantel, O.; Liao, J.; Pohl, H.J. (2000). Entrepreneurial Orientation and Family Forces in the New Germany: Similarities and Differences Between East and West German Entrepreneurs. *Family Business Review*, 13(3):251-264
- Poza, E. (2010). *Family Business*. South-Western College: Cengage.
- Poutziouris, P.; O'Sullivan, K.; Nicolescu, L.(1997). The [re]-generation of family business entrepreneurship in the Balkans. *Family Business Review*, 10(3): 239-261
- Profranquicias (2018a). Nosotros. Retrieved from: <https://profranquicias.com/nosotros>
- Profranquicias (2018). Profranquicias y Cendeco abren inscripciones para el Diplomado en Gerencia Integral de Franquicias. Retrieved from: <http://profranquicias.com/2018/10/24/profranquicias-y-cendeco-abren-inscripciones-para-el-diplomado-en-gerencia-integral-de-franquicias-2/>
- Rosado-Serrano, A. (2017). Franchising as Strategy for Internationalization of Family Firms: An exploratory study. *Newmann Business Review*, 3(1):145-165.
- Rosado-Serrano, A. (2016). Store in Store Franchising Strategy: The Trend in Franchising Negotiation. *Newmann Business Review*, 2(1): 20-37.
- Rosado-Serrano, A. & Paul, J. (2018). A new conceptual model for international Franchising. *International Journal of Hospitality Management*, 75: 179-188
- Rosado-Serrano, A., Paul, J., & Dikova, D. (2018). International Franchising: A Review and Research Agenda. *Journal of Business Research*, 85: 238-257.



Innovation in Family Business and Cooperation: a literature review

Mariano Soler-Porta ^{a,b *}, Antonio Padilla-Meléndez ^c, Beatriz Rodríguez-Díaz ^{d,e}

^a *Programa de Doctorado en Economía y Empresa Universidad de Málaga (Economics and Business Administration Phd. Programme at University of Málaga, Spain)*

^b *Departamento de Contabilidad y Gestión. Universidad de Málaga, España*

^c *Departamento de Economía y Administración de Empresas, Universidad de Málaga, España*

^d *University Institute of Tourist Investigation, Intelligence and Innovation Universidad de Málaga, España*

^e *Departamento de Economía Aplicada (Matemáticas), Universidad de Málaga, España*

Received 07 June 2019; accepted 7 July 2019

**JEL
CLASSIFICATION**
M10; M14; O31

KEYWORDS
Family business;
Innovation;
Environment;
Cooperation;
Strategy

Abstract In this paper, after some clarifications about the definition and characteristics of Family Business (FB), a literature review on innovation and cooperation in FB has been conducted. As a consequence, a research gap regarding how FB develops innovation when cooperating with external factors has been identified. In particular, specific characteristics of FB have been analysed regarding innovation and cooperation, such as longer-term vision, risk aversion, and relatively lack of professionalism of FB workers.

CÓDIGOS JEL
M10; M14; O31

PALABRAS CLAVE
Empresa Familiar;
Innovación;
Entorno;
Cooperación;
Estrategia

Innovación y cooperación en la Empresa Familiar: una revisión de la literatura.

Resumen En este artículo, después de exponer algunas aclaraciones sobre la definición y las características de las Empresas Familiares (FB), se realiza una revisión de literatura sobre innovación y cooperación en las FBs. Como consecuencia de esta revisión, se ha detectado un gap de investigación sobre cómo las FBs desarrollan la innovación cuando se realiza en cooperación con factores externos. Se han analizado, de forma específica, algunas características de FBs con respecto a la innovación y la cooperación, en concreto, la visión más a largo plazo, la aversión al riesgo y la falta de profesionalización de los trabajadores de las FB.

<http://dx.doi.org/10.24310/ejfbefb.v9i1.6609>

Copyright 2019: Mariano Soler-Porta, Antonio Padilla-Meléndez, Beatriz Rodríguez-Díaz.

European Journal of Family Business is an open access journal published in Malaga by UMA Editorial. ISSN 2444-8788 ISSN-e 2444-877X

This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License (CC BY-NC-SA 4.0).

Introduction

According to the Family Business Institute of Spain (2015), Family Businesses (FBs) represent 17 million companies in Europe, with a job creation of 100 million people.

Outside the European region, in the United States, the first world economy, family businesses are 80% of the businesses and generate 50% of employment in that country, according to this study. In Latin America, 85% of the businesses are FBs and they employ 30% of the population (Ernst & Young, 2016).

In Spain, in accordance with one pilot study on family businesses of the Statistic National Institute, conducted in 2015, FBs companies accounted for 82.8% of all companies in Spain, occupying 49.9% of the working population and 38.0% of turnover.

In view of the economic importance of the FBs, in Spain and at worldwide level, their characteristics and composition should be studied, as knowing them in an exhaustive way would mean knowing a good part of the economy, being able to predict more adequately their behaviour. However, there is no unanimity in the literature on the features that will make up the boundaries of what is meant by FBs (Chua, Chrisman, Steier & Rau, 2012). There is a tendency to minimize the heterogeneity of definitions of the FBs (Nordqvist, Sharma & Chirico, 2014), creating a basic framework to establish some basic difference between the FBs and noFBs (Chrisman, Chua, Pearson & Barnett, 2012), opening a field devoted to investigate and compare the behaviour and results of both types of business (Astrachan, Klein & Smyrniotis, 2002; Dyer, 2006; Hernández-Linares, Sarkar & López-Fernández, 2017; Massis, Kotlar, Chua & Chrisman, 2014; Shanker & Astrachan, 1996; Westhead & Howorth, 2007).

Despite this heterogeneity in the definitions that try to limit the perimeter of what is considered a FB, there is a list of factors that can be used to define what a FB is, especially related to the degree of control of the activity and participation in the ownership of these companies (Choi, Zahra, Yoshikawa & Han, 2015; Rojo, Diéguez & López, 2011).

Firstly, FBs can be defined as those companies whose decisions are influenced by a family (Astrachan & Shanker 2003; Green & Pryde 1990; Litz 1995), with ownership or administration composed by family members, varying degrees of family involvement, and the potential for generational transfer. Secondly, FBs vary in the nature and extent of family participation, there is a general agreement that they have a structural difference with noFBs due to the vision of family members participating in the organization and control (Chrisman, Chua & Litz,

2003; Habbershon, Williams & MacMillan, 2003; Niehm, Tyner, Shelley & Fitzgerald, 2010).

On the basis of these two variables, numerous theories that define the FBs are developed, based on two types of data. On the one hand, quantitative data related to participation percentages, number of positions and executives within the company that belong to the same family, etc. On the other hand, qualitative data, which is more difficult to detect, such as the real influence on business decisions of family nuclei, without necessarily being part of their executive bodies (Astrachan & Shanker, 2003; Chrisman et al., 2003; Chrisman, Chua & Sharma, 2005).

The European Union institutions have also focused on achieving a homogeneous and consensus definition of what a FB should be considered. Thus, in a Report approved on September 8, 2015 (European Parliament, 2015), it is indicated that “a common European definition of ‘family business’ is necessary not only to improve the quality of statistical data collection on the sector’s performance, but also as a means for policy-makers to better address the needs of family businesses and society”.

Consequently, it is clear that, in order to carry out an investigation on a specific subject, in this case, a review of the literature on FBs, it is essential to limit the boundaries of what exactly the companies under study will be, as indicated in this document of the European Parliament.

In this sense, the European Family Businesses (2019), European federation of national associations, established in 1997, defines the FB with the following characteristics:

- The majority of decision-making rights are in the possession of the natural person(s) who established the firm, or in the possession of the natural person(s) who has/have acquired the share capital of the firm, or in the possession of their spouses, parents, child or children's direct heirs.

- The majority of decision-making rights are indirect or direct.

- At least one representative of the family or kin is formally involved in the governance of the firm.

- Listed companies meet the definition of family enterprise if the person who established or acquired the firm (share capital) or their families or descendants possess 25% of the decision-making rights mandated by their share capital.

For this research, the FBs are defined as those that belong and/or are administered by one or more families, understanding these as a group related by blood, marriage or adoption, which shares a common dwelling (Hollander & Elman 1988, Winter et al. 1998).

As methods of this paper, in order to conduct the literature review, a systematic search has been followed. First, the terms Innovation, Family

Business and Cooperation have been search in different academic databases, such as Web of Knowledge, ProQuest, and Google Scholar. Second, from the results obtained and their extracts, the papers that were considered most relevant were selected, due to their research-related theme. Third, following this selection, new searches of cited articles were made to know a first-hand of the citations included therein, in addition to finding information on the context in which the cited conclusions were found. Fourth, the obtained paper were analysed. The main findings arising from the analysis of the papers are summarised next.

Innovation and its delimitation

An important stream of research on innovation, from the point of view of the benefits it entails for the operation of Small to Medium sized enterprises (SMEs), can be found in the literature (Rosenbusch, Brinckmann & Bausch, 2011).

There is a general agreement that innovation is a fundamental element of entrepreneurship (Davidsson, 2016; Lumpkin & Dess, 1996; Schumpeter, 1982). This is even more true for SMEs, which can benefit from adapting to their environment better than large ones, with much faster decision making (Nootboom, 1994; Vossen, 1998). Therefore, it is clear that the innovation factor is essential to understand the survival of companies, especially these SMEs, which is justified, in part, by the need to adapt to the changing environments in which they operate.

Even in the simplest form of innovation, which can be an investment in technology, it is generally assumed that it will result in productivity and efficiency gains for most companies (Gordon, 2000; Jorgenson & Stiroh, 2000; Oliner & Sichel, 2000; Niehm et al., 2010). However, it should not be forgotten that not all literature is in a clear position to praise the advantages of innovation. It is found that, to develop a change in business structures, resources are needed, and small businesses do not always have this resources. Furthermore, in case of having such resources, innovation may pose a greater risk for SMEs, since they have fewer resources to support a failure (Acs & Audretsch, 1988, Eisenhardt & Martin, 2000; Nootboom, 1994; Van de Ven, 1986; Vossen, 1998). Besides this, some literature has been found that indicates that innovation does not always improve the performance of organizations (Birley & Westhead, 1990; Heunks, 1998) or even that they perceive negative influences on them (McGee, Dowling & Megginson, 1995; Vermeulen, De Jong & O'Shaughnessy, 2005).

After reviewing all these advantages and disadvantages of innovation, it is found that,

even considering the existence of disadvantages, there is a general consensus of the benefits and the need for innovation to, at least, maintain income, benefits and market relevance for companies.

Once the importance of innovation is highlighted, it is also necessary to define what can be considered an innovation, in order to establish the framework of the research.

Starting from a general definition, according to Schumpeter (1982), innovation is considered when the company introduces a new good, which the public does not know; when a new form of production is carried out in the industrial sector in which the company has its market; when the expansion to a new country is achieved by opening new markets; when new resources are acquired for the manufacture or production of the company; or when changes are made in the market structure.

In addition to the literature that is dedicated to making a delimitation on what is considered an innovation, there are also extensions on the types of innovation, such as that an innovation can be considered radical, when there is a substantial change in technology or over a new technology and also provides a significant improvement for the client (Chandy & Tellis, 1998; Dewar & Dutton, 1986); or according to these same authors, an incremental innovation, when only one of the above conditions occurs.

Similarly, it is also interesting to look at the literature on innovation that treats, in a differentiated way, the innovation in services versus that of products. In this case, innovation in a service is defined when there is a change in some characteristics of the service or in the number of operations carried out in the service (Gallouj & Savona, 2011; Gallouj & Weinstein, 1997).

Another parameter found in the literature, regarding innovation, is speed. From an economic point of view, the speed of innovation refers to how long it takes to feel, in different organizations, sectors or countries, the patterns of that innovation, its effects, etc. (Dosi, 1988; Nelson & Winter, 1982; Rogers, 1983).

From a managerial point of view, this speed refers to how long it takes to obtain benefits from the investment of innovation, whether due to changes in the organizational structure, processes or competition (Eisenhardt, 1989; Kessler & Chakrabarti, 1996; Lawless & Anderson, 1996; Stalk & Hout, 1990).

Family Businesses and Innovation

According to the literature review, there is still a long way to go to complete the gap between management research and the practical reality of FBs (Ghoshal, 2005; Hambrick, 1994; Rynes, Bartunek, & Daft, 2001; Sharma, 2010; Vermeulen, 2007), what supposes an opportunity of investigation in many fields of the management in the familiar companies. As Holt, Pearson, Payne and Sharma (2018) indicated: "[there are] opportunities for family business research that crosses boundaries and contributes to the broader field of management (and beyond). To fulfil this promise, however, the prevailing mind-set that family business is a niche context to study management issues must change to reflect the reality that any management theory is incomplete if its assumptions and boundaries have not been tested in family firms."

Similarly, Decker and Günther (2017) stated that there is no clear evidence that FBs are more or less innovative than other companies, indicating that a key factor, to make a model on innovation in FBs, should be to consider the integration of family members in the management of the company, as a way of knowing differentiating character with respect to noFBs.

In addition, they suggest that the number of family generations of the company or how professionalized the decision making process is, should be taken into account in that model.

Moreover, when innovation in these types of companies has been studied, these have mostly been young companies focused on scientific innovations (Miller, Le Breton-Miller & Lester, 2010 & 2011), leaving out of the focus of research other types of companies with which to make the comparison.

Following the characteristics of the FBs that would make innovation in this type of company different from the rest, it is highlighted in the literature that the conjunction between family systems, businesses and other non-family members participating in it, makes them a genuine system and different from the rest (Chua, Chrisman & Sharma, 1999; Donckels & Fröhlich, 1991; Dunn, 1996; Hayward, S. 1989, 1990 & 1992; Olson, Zuiker, Danes, Stafford, Heck & Duncan, 2003; Welsch, 1991; Zahra, Hayton & Salvato, 2004).

In addition, the literature has highlighted that in the FBs special characteristics are given that filter from the family philosophy itself (Dyer, 1986; Fukuyama, 1995; Tagiuri & Davis, 1992), such as the interest in caring for the members of the family unit, seeking their development or serving as an affective, as opposed to noFBs, which focus more on obtaining benefits, efficiency and other economic objectives.

This fact makes, according to part of the literature, that the FBs start with a competitive advantage in terms of the resources and behaviour of the organization, both at the individual and organizational level, which must be taken into account when studying the management of this type of companies (Barney, 1991; Dyer, 2003; Habbershon et al., 2003; Habbershon & Williams, 1999; Prahalad & Hamel, 1990; Sirmon & Hitt, 2003)

Of all the possible variables that can influence the innovation of FBs, special attention will be given to the environment in which these types of companies move (Padilla-Meléndez, Dieguez-Soto & Garrido-Moreno, 2015). In a first review of the literature, it is needed to go deeper in this field of study, for two main reasons. First, in order to know if family-type businesses depend more or less on the environment than other companies (Donckels & Fröhlich, 1991). Second, to know if the environment is a determining variable for the decisions taken by the company's executives (Dess, Lumpkin & Covin, 1997).

According to this research, the intersection between the concepts of FB and Innovation is not sufficiently studied and developed and new knowledge can be drawn on how the characteristics of a FB influence the possibilities and attitudes towards innovation; or if there are differences or not in the way of innovating.

Among the literature found in this regard, it is suggested that FBs are less innovative, prone to creativity and change than noFBs (De Massis, Frattini & Lichtenthaler, 2013).

As reported by the literature, there is a research gap in relation to verifying the existence of a difference in environmental dependence between family or non-family businesses (Donckels & Fröhlich, 1991). Moreover, regarding what environmental variables can be decisive for the decisions taken by company executives (Dess, Lumpkin & Covin, 1997), being in family businesses the identification between executives and owners a factor of difference in their decision making.

Specifically, among the variables that influence innovation the following ones can be identified: concentration and density of the same type of companies in geographic area (Hausman, 2005); technological opportunities (Cruz & Nordqvist, 2012; Weismeier-Sammer, 2011); competition pressure (Battisti & Iona, 2009; Craig & Moores, 2006; Czarnitzki & Kraft, 2004); and existence of cooperation with environmental agents, such as customers, suppliers, competitors or universities (Ankrah & Al-Tabbaa, 2015; Bruneel, D'Este & Salter, 2010; Cruz & Nordqvist, 2012; George, Zahra & Wood, 2002; Gustafsson, Kristensson, & Witell, 2012; Markman, Gianiodis, Phan & Balkin, 2005; Pittino & Visintin, 2009; Teece, Pisano &

Shuen, 1997; Westhead, 1997; Wuyts, Dutta & Stremersch, 2004).

The environmental variables that influence innovation

With all the above, it was proposed, as the objective of this work, to analyse the variables of the environment, in which FB move, which are decisive for them to carry out innovation projects; and also to know how these innovations or their absence have influenced their results.

Consequently, the aim of this review is to collect the cooperation variables that have different influence on the FBs, due to the differential characteristics with the noFBs, which affect innovation.

The result of the research would help diagnose favourable and unfavourable environment variables and, as a consequence, there will be a tool to moderate, in part, the uncertainty that an innovation process implies for this type of companies, mainly in SMEs.

The scientific contribution intends to lay the foundations, through an exhaustive review of the literature, of possible future research, which has been pointed out, and that represent an opportunity for research, through qualitative and quantitative studies in knowing the influence of cooperation with the environment in the innovation of the FBs.

Undoubtedly, one of the most widespread theories and that shows how important the environment for business development is, is the theory of the five competitive forces of Porter. According to Porter (1982) "The essence of formulating competitive strategy is relating a company to its environment. Although the relevant environment is very broad, encompassing social as well as economic forces, the key aspect of the company's environment is the industry or industries in which it competes. Industry structure has a strong influence in defining the rules of the competitive game as well as the strategies potentially available to the company"

In the literature, the benefits that entail, for any type of innovation, when there is an entry of knowledge from outside the company and that partnerships with other external agents are promoted, are described, since these broaden the perspectives and knowledge of the company own organization (Cohen & Levinthal, 1990; Dewar & Dutton, 1986; Fichman & Kemerer, 1997). In addition, cooperation between companies and knowledge sharing for the creation of new products has become an important source of innovation (Rindfleisch & Moorman, 2001; Sivadas & Dwyer 2000).

To explain the innovation with cooperation, the literature has focused on why organizations choose to carry out an innovation with internal

R&D activities or look for these resources outside, often opposing the alternatives between "Making an innovation" or "Buying an innovation" (D'Aspremont & Jacquemin, 1988; Petit & Sanna-Randaccio, 2000; Sanna-Randaccio & Veugelers, 2003; Veugelers, 1997; Veugelers & Cassiman, 1999). However, the complementary and more frequent alternative is to combine the internal capabilities of the organization, with the use of external research and development resources. (Chesbrough, 2006; Cohen & Levinthal, 1990; Kamien & Zang, 2000; Mowery & Rosenberg, 1989; Radnor, 1991; Veugelers & Cassiman, 1999).

It has been indicated that frequent collaboration with the same partner can lead to the creation of unique positions in terms of new opportunities, which can result in the identification of innovation opportunities (Gulati, 1999). This is because innovations and discoveries have an unwritten component, a knowledge beyond what can be described (Iansiti & West 1997; Zucker, Darby & Armstrong 2002) and when the collaboration with the same partner is repeated, this type of knowledge begins to emerge and be shared and unwritten mental schemes and the assimilation of more complex knowledge are shared, making in the end the collaboration more fruitful (Hansen 1999; Madhavan & Grover, 1998; Polanyi, 1966; Uzzi, 1997).

Following this line, it was found in the literature the description of how to take advantage of cooperation to reduce or harness the strength of competition, through cooperation with the company's own competitors, through game theory (Brandenburger & Nalebuff, 1996). It would be, through cooperation, to eliminate the risks of mutual destruction and change the rules of the game, associated, above all, with the risk of competition.

With this strategy, it is possible to find new opportunities for both competitors, to implement innovations with less risk of destruction by the competition, among others. Consequently, it has been shown that cooperation with competition has a positive impact on innovation capacity, positioning this strategy as appropriate (Quintana-García & Benavides-Velasco, 2004).

From the economic-financial perspective of the company, the influence of its environment is relevant for decision-making, starting with its stakeholders, having pointed out the need to incorporate their perspective when studying the business management of the FBs (Manzanaque, López & Santos, 2018). This paper indicates the need to continue investigating these influences to know the relevance of these external agents in the different types of companies and in the contexts that can be established.

Although R&D continue to be carried out, mostly within the companies themselves (Cantwell & Moleró, 2003; Narula, 2003), looking at market data, cooperation innovation has stood out as one of the fastest growing companies and has multiplied in the last half century (Hagedoorn, 2001). There are varied forms of cooperation that have been found, from agreements to enter the capital of companies to simpler agreements that are limited to individual transactions (Narula, 2003).

At European level, according to the Community Innovation Survey 2016 (Eurostat, 2016), 32.5% of the companies surveyed made an innovation in a process or product through cooperation with a partner, which shows the importance of studying this type of innovations.

One of the advantages described in the innovation by cooperation is the possibility of sharing the necessary investments to carry them out, allowing lower costs of the R&D activities for each cooperation and, in addition, expand the capacities of the organization itself (Feranita, Kotlar & De Massis, 2017; Hagedoorn, 2001; Narula, 2003; Veugelers, 1997).

Focusing the review on cooperation and how it influences the results of innovation, the literature describes that these results will depend on the characteristics of the companies and the type of cooperation and partner with which the cooperation has been carried out (Jaklič, Damijan, Rojec & Kunčič, 2014). Although there is no specific study on this subject, the literature suggests some clues to explain how it works (Jaklič et al, 2014).

This literature can be summarised in some main ideas. First, cooperation with suppliers and customers is more beneficial than cooperation with competitors (Arranz & Arroyabe, 2008; Fitjar & Rodríguez-Pose, 2011; Janz, Lööf, & Peters, 2003; Miotti & Sachwald, 2003). Second, cooperation with research institutions, such as universities, may be more beneficial than cooperation with other companies (Arvanitis & Bolli, 2009; Ayari, 2010; Belderbos, Carree, Diesderen, Lokshin & Veugelers, 2004; Bercovitz & Feldman, 2007; Blanco, 2014; Fabrizio, 2009; Fitjar & Rodríguez-Pose, 2011; Hernández, 2014). Third, cooperation is more effective when the geographical distance between the two is smaller, although at this point there is no clear position of the literature, and contrary findings have been described (Arvanitis & Bolli, 2009; Cantwell & Moleró, 2003; Miotti & Sachwald, 2003; Fitjar & Rodríguez-Pose, 2011; Lööf, 2009).

Cooperation, innovation and Family Business

For the aim of this research, it is interesting the intersection between the most common characteristics described in the literature on FBs and how those characteristics will influence

companies to be more prone to innovation in collaboration with the environment. For this, it is interesting the description made by Cassia, De Massis and Pizzurno (2012) of the more frequent characteristics found in the literature on FBs. In this section, the links between these characteristics and innovation in cooperation with the environment, are analysed.

According to the literature, the FBs have a longer-term vision than the rest, with a hope of less immediate results than the rest. (Dunn, 1996; Hayward, 1992 & 1993; Stein, 1989 & 1988). In terms of innovation, this may mean that FBs may be more patient when it comes to visualizing a return on the necessary investment in innovation and, therefore, not fearing innovation when its benefits will be obtained in the medium-long term. Regarding the impact on cooperation, this also represents a positive influence characteristic for innovation, since the visualization of the results of a cooperation can take some time to obtain and without a long-term vision, as in this case, they can assume a failure for cooperation that need maturation and adaptation time.

Another characteristic described on FBs is risk aversion, being described as the main distinguishing characteristic with the rest of companies by (Donckels & Frolich, 1991) and being one of the most prominent in literature (Dunn, 1996; Hayward, 1993). This could mean that it would affect the innovative attitude of these companies, making them less prone to innovation. However, it could be a greater advantage in innovation with cooperation for the FBs, since carrying out the innovation at the hands of an external agent could dispel doubts and dampen the sense of risk compared to doing so independently. Therefore, this characteristic can have a positive influence on innovation with cooperation compared to other companies.

In relation to FB workers, it is found that, in general, they may be less professionalized and with clear risks of inefficiency in the tasks entrusted (Donckels & Frolich, 1991; Dunn, 1996). In contrast, FBs workers tend to be more satisfied and better paid, in addition to aligning their objectives with those of the company itself (Donckels & Frolich, 1991; Dunn, 1996; Hayward, 1989; Fukuyama, 1995; Lyman, 1991). This can influence innovation in a contrasting way, since a little professionalization of workers can make it unfeasible to start an innovation due to the lack of intellectual resources. However, the lack of professionalization itself makes change and innovation more necessary, for example, in the company's internal processes. As for cooperation, it would be an appropriate way to carry out the innovations, to replace the lack of professionalization from the outside.

Conclusions

After reviewing the literature, firstly, a definition of FB was proposed. Although there is no consensus on what the exact definition of a FB should be, it can be established, at least, a relationship between ownership, management and the real decision-making, which falls mostly on a group of people among whom there is a family relationship.

In terms of innovation, the review has highlighted the importance of focusing on this concept as a column for the survival of companies in competitive environments.

In addition, it has been found evidence that innovation through collaboration has a special impact on how companies can carry out their innovation processes and how these relationships with the environment can be a determining factor in the success of business innovations.

Given all of the above, there is an opportunity to continue researching and developing further into this area, since, although there are already publications that have tried to explain the differentiating characteristics of the process between some companies and others, there is still a long way to go to know it in depth.

In addition, a new and unexplored research opportunity opens up in the incidence of cooperation in the innovation of FBs, because although innovation is described generically in FBs, it has not yet been investigated in other aspects of innovation that they could be even more differentiated according to the type of companies, such as those already mentioned for cooperation with customers, suppliers, competitors or institutions.

As limitations of this paper, the typical own characteristics of being a literature review and not including empiric data, should be pointed out. In addition, a deeper analysis of the found papers, for example, with a co-word analysis would help to better understand the relationships between the different findings.

References

- Acs, Z. J. & Audretsch, D. B. (1988). Innovation in large and small firms: An empirical analysis. *The American Economic Review*, 78(4), 678-690.
- Ankrah, S. & Al-Tabbaa, O. (2015). Universities-industry collaboration: A systematic review. *Scandinavian Journal of Management*, 31(3), 387-408.
- Arranz, N. & Arroyabe, J. C. F. (2008). The choice of partners in R&D cooperation. *Technovation*, 28(1/2), 88-100.
- Arvanitis, S. & Bolli, T. (2009). A comparison of firm-level innovation cooperation in five European countries (Working Papers no. 232). ETH zürich: KOF.
- Astrachan, J. H., Klein, S. B. & Smyrnios, K. X. (2002). The F-PEC scale of family influence: A proposal for solving the family business definition Problem. *Family Business Review*, 15(1), 45-58.
- Astrachan, J. H. & Shanker, M. C. (2003). Family businesses' contribution to the U.S. economy: A closer look. *Family Business Review*, 16(3), 211-219.
- Ayari, N. (2010). Internal capabilities, R&D cooperation with universities and firms' innovativeness level: Evidence from Spain. (Working Paper no. 07/2010). Pamplona: Universidad de Navarra.
- Barney, J. B. (1991). *Firm resources and sustained competitive advantage*. Rochester, NY.
- Battisti, G. & Iona, A. (2009). The intra-firm diffusion of complementary innovations: Evidence from the adoption of management practices by British establishments. *Research Policy*, 38(8), 1326-1339.
- Belderbos, R., A Carree, M., Diederer, B., Lokshin, B. & Veugelers, R. (2004). Heterogeneity in R&D cooperation strategies. *International Journal of Industrial Organization*, 22, issues 8-9 1237-1263
- Bercovitz, J. E. L. & Feldman, M. (2007). Fishing upstream: Firm innovation strategy and university research alliances. *Research Policy*, 36, 930-948.
- Birley, S. & Westhead, P. (1990). Growth and performance contrasts between 'types' of small firms. *Strategic Management Journal*, 11(7), 535-557.
- Blanco Hernández, M. T. (2014). Empresa familiar y formación universitaria: una combinación necesaria en situaciones de crisis. *Anuario jurídico y económico escurialense*, (47), 449-470.
- Brandenburger, A.M. & Nalebuff, B.J. (1996). *Co-optetition*. Doubleday, New York.
- Bruneel, J., D'Este, P. & Salter, A. (2010). Investigating the factors that diminish the barriers to university-industry collaboration. *Research Policy*, 39(7), 858-868.
- Cantwell, J. & Molero, J. (2003). *Multinational enterprises innovative strategies and systems of innovation* (pp. 1-14). Massachusetts, Cheltenham: Edward Elgar Publishing.
- Cassia, L., De Massis, A., & Pizzurno, E. (2012). Strategic innovation and new product development in family firms. *International Journal of Entrepreneurial Behavior & Research*, 18(2), 198-232.
- Chandy, R. K. & Tellis, G. J. (1998). Organizing for radical product innovation: The overlooked role of willingness to cannibalize. *Journal of Marketing Research*, 35(4), 474-487.
- Chesbrough, H. (2006). *Open innovation: A new paradigm for understanding industrial innovation*. (pp. 1-12). Oxford: Oxford university press.
- Choi, Y. R., Zahra, S. A., Yoshikawa, T., & Han, B. H. (2015). Family ownership and R&D investment: The role of growth opportunities and business group membership. *Journal of Business Research*, 68(5), 1053-1061.
- Chrisman, J. J., Chua, J. H., Pearson, A. W. & Barnett, T. (2012). Family involvement, family influence, and Family-Centered Non-Economic goals in small firms. *Entrepreneurship Theory and Practice*, 36(2), 267-293.
- Chrisman, J. J., Chua, J. H. & Litz, R. (2003). A unified systems perspective of family firm

- performance: An extension and integration. *Journal of Business Venturing*, 18(4),
- Chrisman, J. J., Chua, J. H. & Sharma, P. (2005).** Trends and directions in the development of a strategic management theory of the family firm. *Entrepreneurship Theory and Practice*, 29(5), 555-576.
- Chua, J. H., Chrisman, J. J. & Sharma, P. (1999).** Defining the family business by behaviour. *Entrepreneurship Theory and Practice*, 23(4), 19-39.
- Chua, J. H., Chrisman, J. J., Steier, L. P. & Rau, S. B. (2012).** Sources of heterogeneity in family firms: An introduction. *Entrepreneurship Theory and Practice*, 36(6), 1103-1113.
- Cohen, W. M. & Levinthal, D. A. (1990).** Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, 35(1), 128-152.
- Craig, J. B. L. & Moores, K. (2006).** A 10-year longitudinal investigation of strategy, systems, and environment on innovation in family firms. *Family Business Review*, 19(1), 1-10.
- Cruz, C., & Nordqvist, M. (2012).** Entrepreneurial orientation in family firms: A generational perspective. *Small Business Economics*, 38(1), 33-49.
- Czarnitzki, D. & Kraft, K. (2004).** Firm leadership and innovative performance: Evidence from seven EU countries. *Small Business Economics*, 22(5), 325-332.
- D'Aspremont, C. & Jacquemin, A. (1988).** Cooperative and noncooperative R&D in duopoly with spillovers: Erratum. *American Economic Review*, 80, 641-42.
- Davidsson, P. (2016).** *Researching Entrepreneurship: Conceptualization and Design*. Jönköping, Sweden: Springer International Publishing.
- De Massis, A., Frattini, F. & Lichtenthaler, U. (2013).** Research on technological innovation in family firms: Present debates and future directions. *Family Business Review*, 26(1), 10-31.
- Decker, C. & Günther, C. (2017).** The impact of family ownership on innovation: Evidence from the German machine tool industry. *Small Business Economics*, 48(1), 199-212.
- Dess, G. G., Lumpkin, G. T. & Covin, J. G. (1997).** Entrepreneurial strategy making and firm performance: Tests of contingency and configurational models. *Strategic Management Journal*, 18(9), 677-695.
- Dewar, R. D. & Dutton, J. E. (1986).** The adoption of radical and incremental innovations: An empirical analysis. *Management Science*, 32(11), 1422-1433.
- Donckels, R. & Fröhlich, E. (1991).** Are family businesses really different? European experiences from STRATOS. *Family Business Review*, 4(2), 149-160.
- Dosi, G. (1988).** Sources, procedures, and microeconomic effects of innovation. *Journal of Economic Literature*, 26(3), 1120-71.
- Dunn, B. (1996).** Family enterprises in the UK: A special sector? *Family Business Review*, 9(2), 139-155.
- Dyer, W. G. (2003).** The family: The missing variable in organizational research. *Entrepreneurship theory and practice*, 27(4), 401-416.
- Dyer, W. G. (2006).** Examining the "Family effect" on firm performance. *Family Business Review*, 19(4), 253-273.
- Dyer, W.G. (1986),** Cultural change in family firms: Anticipating and managing business and family transitions. Jossey bass, San Francisco, CA.
- Eisenhardt, K. M. (1989).** Making fast strategic decisions in high-velocity environments. *Academy of Management Journal*, 32, 543-576.
- Eisenhardt, K. M. & Martin, J. A. (2000).** Dynamic capabilities: What are they? *Strategic Management Journal*, 21(10/11), 1105-1121.
- EUROSTAT (2016).** The Community Innovation Survey 2016 (CIS2016). EUROSTAT, Luxembourg.
- Ernst & Young. (2016).** Family business in Latin America: Facts and figures. Retrieved from [https://familybusiness.ey-vx.com/pdfs/latinamerica-facts\(1\).pdf](https://familybusiness.ey-vx.com/pdfs/latinamerica-facts(1).pdf)
- European Family businesses.** (9 de mayo de 2019). Definition. Retrieved from <http://europeanfamilybusinesses.eu/family-businesses/definition>
- European Parliament. (2015).** Report on Family Businesses in Europe. Retrieved from http://www.europarl.europa.eu/doceo/document/A-8-2015-0223_EN.pdf
- Fabrizio, K. (2009).** Absorptive capacity and the search for innovation. *Research Policy*, 38, 255-267
- Family Business Institute of Spain (2015).** *La empresa familiar en España* (ISBN: 978-84-608-2119-9). Retrieved from <http://www.iefamiliar.com/upload/documentos/ubhicx9o8nnzc7i.pdf>
- Feranita, F., Kotlar, J. & De Massis, A. (2017).** Collaborative innovation in family firms: Past research, current debates and agenda for future research. *Journal of Family Business Strategy*, 8(3), 137-156.
- Fichman, R. G., & Kemerer, C. F. (1997).** The assimilation of software process innovations: An organizational learning perspective. *Management Science*, 43(10), 1345-1363.
- Fitjar, R. D. & Rodríguez-Pose, A. (2011).** Firm collaboration and modes of innovation in Norway (Discussion paper no. DP8484). London: Centre for economic policy research.
- Fukuyama, F. (1995),** Trust. Free press, New York, NY.
- Gallouj, F., & Savona, M. (2011).** Towards a theory of innovation in services: A state of the art. The handbook of innovation and services. Northampton, MA: Edward Elgar Publishing.
- Gallouj, F., & Weinstein, O. (1997).** Innovation in services. *Research Policy*, 26(4), 537-556.
- George, G., Zahra, S. A. & Wood, D. R. (2002).** The effects of business-university alliances on innovative output and financial performance: A study of publicly traded biotechnology companies. *Journal of Business Venturing*, 17(6), 577-609.
- Ghoshal, S. (2005).** Bad management theories are destroying good management practices. *Academy of Management Learning & Education*, 4(1)
- Gordon, R. J. (2000).** Does the "new economy" measure up to the great inventions of the past? *Journal of Economic Perspectives*, 14(4), 49-74.

- Green, S. & Pryde, P. (1990). Black entrepreneurship in America. New Brunswick, NJ: Transaction Publishers.
- Gulati, R. (1995). Does familiarity breed trust? The implications of repeated ties for contractual choice in alliances. *Academy of management journal*, 38(1), 85-112.
- Gustafsson, A., Kristensson, P. & Witell, L. (2012). Customer co-creation in service innovation: A matter of communication? *Journal of Service Management*, 23(3), 311-327.
- Habbershon, T. G. & Williams, M. L. (1999). A resource-based framework for assessing the strategic advantages of family firms. *Family Business Review*, 12(1), 1-25.
- Habbershon, T. G., Williams, M. & MacMillan, I. C. (2003). A unified systems perspective of family firm performance. *Journal of Business Venturing*, 18(4), 451-465.
- Hagedoorn, J. (2001). Inter-firm R&D partnership - an overview of major trends and patterns since 1960. Strategic research partnerships: Proceedings from a national science foundation workshop, Arlington, VA.
- Hambrick, D. C. (1994). What if the academy actually mattered? *Academy of Management Review*, 19(1), 11-16.
- Hansen, M. T. (1999). The search-transfer problem: The role of weak ties in sharing knowledge across organization subunits. *Administrative Science Quarterly*, 44(1), 82-111.
- Hausman, A. (2005). Innovativeness among small businesses: Theory and propositions for future research. *Industrial Marketing Management*, 34(8), 773-782.
- Hayward, S. (1989). Staying the course. Survival characteristics of the family owned business. Stoy hayward, London.
- Hayward, S. (1990). Managing the family business in the UK. Stoy hayward, London.
- Hayward, S. (1992). The Stoy Hayward BBC Family Business Index. Stoy Hayward, London.
- Hayward, S. (1993). Index update. *Family Business Magazine*, 2(Autumn).
- Hernández, M. T. B. (2014). Empresa familiar y formación universitaria: una combinación necesaria en situaciones de crisis. *Anuario Jurídico y Económico Escurialense*; Madrid, (47), 449-469.
- Hernández-Linares, R., Sarkar, S. & López-Fernández, M. C. (2017). How has the family firm literature addressed its heterogeneity through classification systems? An integrated analysis. *European Journal of Family Business*, 7(1-2), 1-13.
- Heunks, F. J. (1998). Innovation, creativity and success. *Small Business Economics*, 10(3), 263-272.
- Holt, D. T., Pearson, A. W., Payne, G. T. & Sharma, P. (2018). Family business research as a boundary-spanning platform. *Family Business Review*, 31(1), 14-31.
- Iansiti, M. & West, J. (1997). Technology integration: Turning great research into great products. *Harvard business review*, 75 (3), 69-79.
- Jaklič, A., Damijan, J. P., Rojec, M. & Kunčič, A. (2014). Relevance of innovation cooperation for firms' innovation activity: The case of Slovenia. *Economic Research-Ekonomska Istraživanja*, 27(1), 645-661.
- Janz, N., Lööf, H., & Peters, B. (2003). Firm level innovation and productivity - is there a common story across countries? (Working paper 03-26). Mannheim: ZEW.
- Jorgenson, D. W. & Stiroh, K. J. (2000). Raising the speed limit: US economic growth in the information age. OECD Publishing.
- Kamien, M. I. & Zang, I. (2000). Meet me halfway: Research joint ventures and absorptive capacity. *International Journal of Industrial Organization*, 18, 995-1012.
- Kessler, E. H. & Chakrabarti, A. K. (1996). Innovation speed: A conceptual model of context, antecedents, and outcomes. *Academy of Management Review*, 21, 1143-1191.
- Lawless, M. W. & Anderson, P. W. (1996). Generational technological change: Effects of innovation and local rivalry on performance. *Academy of Management Journal*, 39, 1185-1217.
- Litz, R. A. (1995). The family business: Toward definitional clarity. *Family Business Review*, 8(2), 71-81.
- Lööf, H. (2009). Multinational enterprises and innovation: Firm level evidence on spillover via R&D collaboration. *Journal of Evolutionary Economics*, 19(1), 41-71.
- Lumpkin, G. T. & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *The Academy of Management Review*, 21(1), 135-172.
- Lyman, A. R. (1991). Customer service: Does family ownership make a difference? *Family Business Review*, 4(3), 303-324.
- Madhavan, R. & Grover, R. (1998). From embedded knowledge to embodied knowledge: New product development as knowledge management. *Journal of Marketing*, 62(4), 1.
- Manzanaque, M., López, M. & Santos, J. (2018). El impacto de los stakeholders internos y externos sobre el rendimiento empresarial. Influencia de la gestión familiar. VIII Jornadas AECA sobre Valoración, Financiación y Gestión de Riesgos. Toledo. Asociación Española de Contabilidad y Administración de Empresas (AECA). ISBN: 978-84-16286-50-8
- Markman, G. D., Gianiodis, P. T., Phan, P. H. & Balkin, D. B. (2005). Innovation speed: Transferring university technology to market. *Research Policy*, 34(7), 1058-1075.
- Massis, A. D., Kotlar, J., Chua, J. H. & Chrisman, J. J. (2014). Ability and willingness as sufficiency conditions for family-oriented particularistic behaviour: Implications for theory and empirical studies. *Journal of Small Business Management*, 52(2), 344-364.
- McGee, J. E., Dowling, M. J. & Megginson, W. L. (1995). Cooperative strategy and new venture performance: The role of business strategy and management experience. *Strategic Management Journal*, 16(7), 565-580.
- Miller, D., Le Breton-Miller, I. & Lester, R. H. (2010). Family ownership and acquisition behavior in publicly-traded companies. *Strategic Management Journal*, 31(2), 201-223.
- Miller, D., Le Breton-Miller, I. & Lester, R. H. (2011). Family and lone founder ownership and strategic behaviour: Social context, identity, and

- institutional logics. *Journal of Management Studies*, 48(1), 1-25.
- Miotti, E. & Sachwald, F. (2003). Co-operative R&D: Why and with whom?: An integrated framework of analysis. *Research Policy*, 32, 1481-1499.
- Mowery, D. & Rosenberg, N. (1989). *Technology and the pursuit of economic growth*. Cambridge: Cambridge university press.
- Narula, R. (2003). Understanding the growth of international R&D alliances. *Multinational enterprises, innovative strategies and systems of innovation* (pp. 129-152). Cheltenham: Edward Elgar Publishing.
- Nelson, R. & Winter, S. (1982) *An Evolutionary Theory of Economic Change*, Cambridge, Harvard University Press.
- Niehm, L. S., Tyner, K., Shelley, M. C. & Fitzgerald, M. A. (2010). Technology adoption in small family-owned businesses: Accessibility, perceived advantage, and information technology literacy. *Journal of Family and Economic Issues*, 31(4), 498-515.
- Nooteboom, B. (1994). Innovation and diffusion in small firms: theory and evidence. *Small Business Economics*, 6(5), 327-347.
- Nordqvist, M., Sharma, P. & Chirico, F. (2014). Family firm heterogeneity and governance: A configuration approach. *Journal of Small Business Management*, 52(2), 192-209.
- Oliner, S. D. & Sichel, D. E. (2000). The resurgence of growth in the late 1990s: Is information technology the story? *Journal of Economic Perspectives*, 14(4), 3-22.
- Olson, P. D., Zuiker, V. S., Danes, S. M., Stafford, K., Heck, R. K. Z. & Duncan, K. A. (2003). The impact of the family and the business on family business sustainability. *Journal of Business Venturing*, 18(5), 639-666.
- Padilla-Meléndez, A., Dieguez-Soto, J. & Garrido-Moreno, A. (2015). Empirical research on innovation in family business: Literature review and proposal of an integrative framework. *Revista Brasileira De Gestão De Negócios*, 17(56), 1064-1089.
- Petit, M. & Sanna-Randaccio, F. (2000). Endogenous R&D and foreign direct investment in international oligopolies. *International Journal of Industrial Organization*, 18(2), 339-367.
- Pittino, D. & Visintin, F. (2009). Innovation and strategic types of family SMEs: a test and extension of miles and snow's configurational model. *Journal of Enterprising Culture (JEC)*, 17(03), 257-295.
- Polanyi, M. (1966). *The tacit dimension*. New York: Anchor day books.
- Bel Durán, P., Martín López, S., Lejarriaga Pérez de las Vacas, G., Fernández Guadaño, J. & García-Gutiérrez Fernández, C. (2009). El emprendimiento y el empleo a través de la empresa individual: contraste de fuentes estadísticas. *REVESCO. Revista De Estudios Cooperativos*, 96, 16 - 48.
- Porter, M. E. (1982). *Estrategia competitiva: Técnicas para el análisis de los sectores industriales y de la competencia* (2a. ed.) Grupo Editorial Patria.
- Prahalad, C. K. & Hamel, G. (1990). The core competence of the corporation. *Harvard Business Review*.
- Quintana-Garcia, C. & Benavides-Velasco, C. A. (2004). Cooperation, competition, and innovative capability. *Technovation*, 24(12), 927-938.
- Radnor, M. (1991). Technology acquisition strategies and processes: A reconsideration of the make versus buy decision. *International journal of technology management*, 7, 113-135.
- Rindfleisch, A. & Moorman, C. (2001). The acquisition and utilization of information in new product alliances: A strength-of-ties perspective. *Journal of Marketing*, 65(2), 1-18.
- Rogers, E. (1983). *Diffusion of innovations*. New York: Free Press.
- Rojo Ramírez, A., Diéguez-Soto, J. & López-Delgado, P. (2011). Importancia del concepto de empresa familiar en investigación: Utilización de la base de datos SABI para su clasificación. *European Journal of Family Business*, 1(1), 53-67
- Rosenbusch, N., Brinckmann, J. & Bausch, A. (2011). Is innovation always beneficial? A meta-analysis of the relationship between innovation and performance in SMEs. *Journal of Business Venturing*, 26(4), 441-457.
- Rynes, S. L., Bartunek, J. M. & Daft, R. L. (2001). Across the great divide: Knowledge creation and transfer between practitioners and academics. *Academy of Management Journal*, 44(2), 340-355.
- Sanna-randaccio, F. & Veugelers, F. (2003). Global innovation strategies of MNEs: Implications for host economies. *Multinational enterprises, innovative strategies and systems of innovation* (pp. 14-46). Cheltenham: Edward Elgar Publishing.
- Shanker, M. C. & Astrachan, J. H. (1996). Myths and realities: Family businesses' contribution to the US economy - A framework for assessing family business statistics. *Family Business Review*, 9(2), 107-123.
- Sharma, P. (2010). Advancing the 3R. In *Entrepreneurship and Family Business* (pp. 383-400). Emerald Group Publishing Limited.
- Schumpeter, Y. A. (1982). *The theory of economic development: A study of business profits, capital, credit, interest and cycle conditions*. Moscow: Progress.
- Sirmon, D. G., & Hitt, M. A. (2003). Managing resources: Linking unique resources, management, and wealth creation in family firms. *Entrepreneurship theory and practice*, 27(4), 339-358.
- Sivadas, E. & Dwyer, F. R. (2000). An examination of organizational factors influencing new product success in internal and alliance-based processes. *Journal of Marketing*, 64, 31-49.
- Stalk, G. & Hout, T. (1990). *Competing against time: How Time-based competition is reshaping global markets*. New York: Free Press.
- Statistic National Institute. (2015). Estudio piloto sobre empresas familiares. Retrieved from https://www.ine.es/daco/daco42/ice/estudio_pilo_to_2015.pdf
- Stein, J. (1988). Takeover threats and managerial myopia. *Journal of Political Economy*, 96(1), 61-80.
- Stein, J. (1989). Efficient capital markets, inefficient firms: A model of myopic corporate behavior. *Quarterly Journal of Economics*, 104(Dec.), 655-669.

- Tagiuri, R. & Davis, J. A. (1992).** On the goals of successful family companies. *Family Business Review*, 5, 43-62.
- Teece, D. J., Pisano, G. & Shuen, A. (1997).** Dynamic capabilities and strategic management. *Strategic Management Journal*; 18(7), 509-533.
- Uzzi, B. (1997).** Social structure and competition in interfirm networks: The paradox of embeddedness. *Administrative Science Quarterly*, 42(1), 35-67.
- Van de Ven, A. H. (1986).** Central problems in the management of innovation. *Management Science*, 32(5), 590-607.
- Vermeulen, F. (2007).** "I shall not remain insignificant": Adding a second loop to matter more. *The Academy of Management Journal*, 50(4), 754-761.
- Vermeulen, P. A. M., De Jong, Jeroen P J & O'shaughnessy, K. C. (2005).** Identifying key determinants for new product introductions and firm performance in small service firms. *The Service Industries Journal*, 25(5), 625-640.
- Veugelers, R. (1997).** Internal R&D expenditures and external technology sourcing. *Research Policy*, 26(3), 303-315.
- Veugelers, R., & Cassiman, B. (1999).** Make and buy in innovation strategies: evidence from Belgian manufacturing firms. *Research policy*, 28(1), 63-80.
- Vossen, R. W. (1998).** Relative strengths and weaknesses of small firms in innovation. *International Small Business Journal*, 16(3), 88-94.
- Weismeier-Sammer, D. (2011).** Entrepreneurial behavior in family firms: A replication study. *Journal of Family Business Strategy*, 2(3), 128-138.
- Welsch, J. (1991).** Family enterprises in the united kingdom, the federal republic of Germany, and Spain: A transnational comparison. *Family Business Review*, 4(2), 191-203.
- Westhead, P. (1997).** Ambitions, external environment and strategic factor differences between family and non-family companies. *Entrepreneurship & Regional Development*, 9(2), 127-158.
- Westhead, P. & Howorth, C. (2007).** 'Types' of private family firms: An exploratory conceptual and empirical analysis. *Entrepreneurship & Regional Development*, 19(5), 405-431.
- Wuyts, S., Dutta, S., & Stremersch, S. (2004).** Portfolios of interfirm agreements in technology-intensive markets: Consequences for innovation and profitability. *Journal of marketing*, 68(2), 88-100.
- Zahra, S. A., Hayton, J. C. & Salvato, C. (2004).** Entrepreneurship in family vs. Non-Family firms: A Resource-Based analysis of the effect of organizational culture. *Entrepreneurship Theory and Practice*, 28(4), 363-381.
- Zahra, S. A. & Sharma, P. (2004).** Family business research: A strategic reflection. *Family Business Review*, 17(4), 331-346.
- Zucker, L. G., Darby, M. R., & Armstrong, J. S. (2002).** Commercializing knowledge: University science, knowledge capture, and firm performance in biotechnology. *Management science*, 48(1), 138-153.

PUBLICATION ETHICS AND PUBLICATION MALPRACTICE STATEMENT

Our Ethic statements are based on COPE's (Committee On Publication Ethics) Best Practice Guidelines for Journal Editors (http://publicationethics.org/files/u2/New_Code.pdf)

1. Publication and authorship:

It is forbidden to publish the same research in more than one journal. Authors must not submit a manuscript to more than one journal simultaneously. The Authors should state that they have written an entirely original work and that the data are real and authentic.

Any sources of financial support must be mentioned or acknowledged in the paper.

It must be stated that there is not any plagiarism and fraudulent data in the work. If the Authors have used the work and/or words of others, this has been appropriately cited or quoted. Third party information and results cannot be used without explicit and authorized mention of the source.

In the paper, Authors should cite or quote previous publications, dealing with the same subject or related to the results presented. The list of references must contain all cited publications.

2. Author's responsibilities:

Authors must not submit a manuscript being under reviewed in another place for publication, nor submit the manuscript elsewhere while being under reviewed in *European Journal of Family Business*. The manuscript must not be previously published or accepted for publication in another place, either a portion of a paragraph or exhibits, or a manuscript in another language. If the manuscript contains information which overlap with the previously published works, in press, or under deliberation for publication elsewhere, the author must cite this work in the manuscript.

All Authors mentioned in the paper must have significantly contributed to the research. All co-authors of the research paper should have made significant contributions to the work and shared accountability for the results.

Authors need to ensure that all data in the submitted article are real and authentic.

The manuscript must be free from any kind of plagiarism, falsification, or fabrications. Also, Self-plagiarism is not acceptable in any case. Authors should minimize recycling their previous writings. If recycling is inevitable, the author should reference the previous writings in the manuscript. Authors must clearly cite their own works. Such self-referencing should be phrased discreetly to avoid compromising the double-blind review process.

Authors are required to provide a complete list of references cited in their paper. If authors received any financial support to conduct the research that is reported in the submitted paper, they should provide the information.

Authors should avoid any kind of conflicts of interest or the presence of conflicts of interest throughout the research process.

European Journal of Family Business imposes a double-blind review process, wherein authors do not recognize the reviewers and vice versa. Authors are obliged to participate in peer review process. Authors should respect the confidentiality of the review process and should not reveal themselves to reviewers and vice versa.

The corresponding author who submits a manuscript to *European Journal of Family Business* should keep all the co-authors of the submission process and the results of the reviewing.

European Journal of Family Business holds the copyright of all published articles. As such, authors should ask for consent to publish their article (or a selection from the article) elsewhere.

All authors are obliged to provide retractions or corrections of mistakes.

3. Peer review / responsibility for the reviewers:

Reviewers should have no conflict of interest with respect to the research, the authors and/or the research funders. Specifically, Referees should not review manuscripts authored or co-authored by a person with whom the referee has a close personal or professional relationship. Reviewers must alert the editor if a manuscript contains plagiarized material, falsified or manipulated data. They must inform the editor of any similarity between the submitted manuscript and another either published or under consideration by another journal.

Reviewed articles should be treated confidentially. Reviewers must ensure that all unpublished data, information, interpretation and discussion in a submitted article remain confidential. The manuscript should not be shown to, disclosed to, or discussed with others.

Reviewers' judgments should be objective and relevant, published work that is not yet cited should be point out, where appropriate.

When peer-review process is complete, reviewers must destroy/erase the manuscript and before starting the process they must inform the editor should they be unqualified to review the manuscript, or lack the time to review the manuscript, without undue

delay. Reviewers must not retain or copy the submitted manuscript in any form.

4. Editorial responsibilities:

The sole responsibility for acceptance or rejection of a manuscript rests with the editor. Responsible exercise of this duty requires that the editor seek advice from reviewers, chosen for their expertise and good judgment, as to the quality and reliability of manuscripts submitted for publication.

The editor and members of the editor's staff will have no conflict of interest with respect to articles they reject/accept. Editorial decisions are based on the relevance of a manuscript to the journal and on the manuscript's originality, quality, and contribution to evidence about relevant questions.

The editor and members of the editor's staff should not disclose any information about a manuscript under consideration to anyone other than those from whom professional advice is sought.

An editor should respect the intellectual independence of authors.

Unpublished information, arguments, or interpretations disclosed in a submitted manuscript should not be used in an editor's own research except with the consent of the author. When a manuscript is so closely related to the current or past research of an editor as to create a conflict of interest, the editor should arrange for some other qualified person to take editorial responsibility for that manuscript.

The editor and members of the editor's staff must preserve anonymity of reviewers.

If any error is discovered in a paper after publication, corrections will be published in the next issue or as soon as the publisher and author, both agree to the proposed changes.

5. Publishing ethics issues:

The editorial board vows to monitor/safeguard publishing ethics as stated in the Committee on Publication Ethics (COPE) guideline resources at <http://publicationethics.org/resources/guidelines> and the Publication Ethics Resource Kit (PERK) at <http://www.elsevier.com/editors/perk/about-perk>

Journal editors should consider retracting a publication if:

a) They have clear evidence that the findings are unreliable, either as a result of misconduct or honest error.

b) The findings have previously been published elsewhere without proper cross-referencing, permission or justification (i.e. cases of redundant publication)

c) It constitutes plagiarism or reports unethical research.

Editors have to take responsibility for every research they publish and should have procedures to ensure the quality of the material they publish and maintain the integrity of the published record.

Research funders and sponsors should not be able to veto publication of findings that do not favour their product or position. Researchers should not enter agreements that permit the research sponsor to veto or control the publication of the findings.

Editors should always be willing to publish corrections, clarifications, retractions and apologies when needed. If an author notices a significant error or inaccuracy in his/her own published work, it is the author's responsibility to promptly notify the journal editor and cooperate with the editor to retract or correct the paper. If the editor got notice from a third party that a published work contains a significant error, the author should collaborate accordingly in retracting or correcting the paper.

European Journal of Family Business is committed to only publishing manuscripts that are free from any plagiarism and that contain no fraudulent data.