Intergenerational interaction and change management in agricultural family businesses: An analysis from the rational, emotional, and contextual dimensions^{*}

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KEYWORDS

Agriculture, conflict, family business, family farm, innovation, succession

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This work is published under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International license. (CC BY-NC-ND 4.0) Abstract: Generational transition and change reflected in innovation are crucial for the continuity of family businesses. Most of the changes are made as the generational transition progresses, having at least two generations interacting. This study analyses change management in the context of intergenerational interaction to answer the question: How to drive change so that it takes place and generates positive results for family businesses? A multiple case study design was adopted to analyse three situations of change with a sharp contrast in their results in three agricultural enterprises. A framework that examines the rational, emotional, and contextual dimensions of change processes was used to explain the results. Change was found to be more easily accomplished when: i) a sense of psychological ownership encourages new generations to contribute new ideas; ii) change generates immediate and easily visible results; iii) the number of family members involved is low; and iv) the context provides funding opportunities. In turn, change produces positive results when it is preceded by open and cognitive conflict, and when the context offers opportunities to access knowledge networks. This work is a unique piece in the sense that it analyses the management of change during intergenerational interaction, an almost permanent situation that is little studied in innovation processes in the context of family businesses.

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INTERACCIÓN INTERGENERACIONAL Y GESTIÓN DEL CAMBIO EN EMPRESAS FAMILIARES AGRÍCOLAS: UN ANÁLISIS DESDE LAS DIMENSIONES RACIONAL, EMOCIONAL Y CONTEXTUAL

Resumen: El cambio y la transición generacional reflejados en la innovación son cruciales para la continuidad de las empresas familiares. La mayor parte de los cambios en este tipo de empresas se dan a medida que avanza la transición generacional, con al menos dos generaciones interactuando. Este estudio analiza la gestión del

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cambio en el contexto de la interacción intergeneracional con el objetivo de responder a la siguiente pregunta: ¿Cómo promover la ocurrencia del cambio y la generación de resultados positivos en las empresas familiares? Para ello, se adoptó un diseño de estudio de caso múltiple orientado a analizar tres situaciones de cambio en igual número de empresas del sector agrícola, las cuales presentan un marcado contraste en términos de resultados derivados de sus procesos de cambio. Para explicar los resultados obtenidos, se utilizó un marco de análisis que examina las dimensiones racional, emocional y contextual de los procesos de cambio estudiados. Así, se identificó que el cambio se logra más fácilmente cuando: i) un sentido de pertenencia psicológica anima a las nuevas generaciones a contribuir con nuevas ideas; ii) el cambio implementado genera resultados inmediatos y fácilmente visibles; iii) el número de miembros de la familia involucrados es bajo; y iv) el contexto brinda oportunidades de financiamiento. A su vez, el cambio produce resultados positivos al estar precedido por conflictos abiertos y cognitivos, y cuando el contexto permite acceder a redes de conocimiento. Este trabajo es una propuesta novedosa que analiza la gestión del cambio durante una etapa de interacción intergeneracional, una realidad permanente que es poco abordada en los procesos de innovación en el contexto de las empresas familiares.

Keywords: Agriculture, conflict, family business, family farm, innovation, succession.

INTERAÇÃO INTERGERACIONAL E GESTÃO DE MUDANÇAS EM EMPRESAS FAMILIARES AGRÍCOLAS: UMA ANÁLISE DAS DIMENSÕES RACIONAL, EMOCIONAL E CONTEXTUAL

Resumo: a mudança e a transição geracional refletidas na inovação são cruciais para a continuidade das empresas familiares. A maioria das mudanças nesse tipo de empresa ocorre à medida que a transição geracional avança, com a interação de pelo menos duas gerações. Este estudo analisa a gestão de mudanças no contexto da interação intergeracional com o objetivo de responder à seguinte pergunta: como promover a ocorrência de mudanças e a geração de resultados positivos em empresas familiares? Para isso, foi adotado um projeto de estudo de casos múltiplos para analisar três situações de mudança em um número igual de empresas do setor agrícola, que apresentam um contraste marcante em termos dos resultados derivados de seus processos de mudança. Para explicar os resultados obtidos, foi utilizada uma estrutura de análise que examina as dimensões racional, emocional e contextual dos processos de mudança estudados. Assim, identificou-se que a mudança é mais facilmente alcançada quando 1) um senso de propriedade psicológica incentiva as novas gerações a contribuir com novas ideias; 2) a mudança implementada gera resultados imediatos e facilmente visíveis; 3) o número de membros da família envolvidos é baixo; e 4) o contexto oferece oportunidades de financiamento. Por sua vez, a mudança produz resultados positivos quando é precedida por conflitos abertos e cognitivos, e quando o contexto oferece acesso a redes de conhecimento. Este artigo é uma proposta inovadora que analisa a gestão da mudança durante um estágio de interação intergeracional, uma realidade permanente que é pouco abordada nos processos de inovação no contexto de empresas familiares.

Palavras-chave: agricultura, conflito, empresa familiar, fazenda familiar, inovação, sucessão.

INTRODUCTION

Despite some individual success cases, change is still difficult to achieve and few enterprises manage it as well as they would like. Beer and Nohria (2000) studied business change initiatives for 40 years, pointing out that 70% of them failed. In family businesses, the threat of failure in the generational transition is increased, since it has been found that only about 30% are continued by the second generation, 12% remain in the third, and only 3% operate in the fourth generation or beyond (Fernandez-Araoz et al., 2015).

In the literature, it has been identified that the transfer of leadership and the change reflected in innovative initiatives are crucial for the continuity of the family business (Hillen & Facin, 2020; Steier &

Miller, 2010). In addition, it is known that they are processes that co-evolve, since changes develop as the transfer of leadership advances, having at least two generations permanently influencing decision-making (Hauck & Prügl, 2015; Leonard *et al.*, 2020). The coexistence of two generations can be problematic for change processes but also fruitful depending on how relationships are managed (Woodfield & Husted, 2017). The effective activation of change requires the simultaneous management of family and business systems and, therefore, the management of rational and emotional processes, which is the greatest challenge for family businesses (Basco *et al.*, 2019; Rondi *et al.*, 2019). Specifically, minimizing the importance of emotional processes has been pointed out as a frequent mistake in change management literature (Graamans *et al.*, 2020). Similarly, it is known that the outcomes of innovation processes not only depend on the internal management of a family business, but also on the context to which it is linked (Hillen & Facin, 2020).



For the aforementioned, it is not surprising that recent studies recommend investigating the effectiveness of different strategies for managing family conflicts in business (Kubíček & Machek, 2020) and nourishing with evidence for the formulation of consulting processes on generational transition, with an emphasis on family and business strategy (Flynn & Duesing, 2018). In response to this demand, this research is supported by the theory of change and the framework proposed by Heath and Heath (2018), which allows us to examine the rational, emotional, and contextual dimensions of change processes in order to respond to the question: How to drive change so that it takes place and generates positive results for family businesses?

The analysis units are enterprises in the agricultural sector, an economic field in which family businesses are particularly important. In the United States they constitute 99% of farms and contribute more than 89% of agricultural production (USDA-ERS, 2015). In the European Union, 97% of farms are in the hands of families, who manage and operate them (EC, 2013). In Latin America and the Caribbean, 80% of the productive units are family-based, and around 60 million people participate in them (IICA, 2016). In the case of Mexico, more than 90% of rural economic units are family businesses, regardless of their scale and income level (Muñoz-Rodríguez et al., 2018). Based on the analysis of three situations of change (with strong contrast in their outcomes) in three different agricultural enterprises, the study finds that there are different mediating factors between the intergenerational interaction and the realization of a change with favourable results.

This research article is structured in six sections, of which the first is the present introduction. The second section presents a review of the literature on the construct of intergenerational interaction and the drivers and obstacles to change management; the third describes the methodology used; the fourth shows the results; in the fifth the discussion of these findings is developed; finally, in the sixth section, the contribution of this study to the field of change management in the family business is delimited.

LITERATURE REVIEW

Intergenerational interaction and change management in family businesses

Intra-family transfer of management and ownership from one generation to another is a trait that distinguishes family businesses from non-family businesses. At the same time, this characteristic represents the greatest challenge for family-owned companies, as it has been seen that enterprises reduce their performance once the transfer occurs (Watkins-Fassler & Briano-Turrent, 2019). The transfer of the family business involves three processes: the succession that refers to the transfer of managerial control, the inheritance that consists of the legal transfer of assets, and the retirement that marks the end of the involvement of the predecessor generation on the ownership and administration of the enterprise (Leonard et al., 2020). Successful transfer requires identifying the successor or successors (Inwood & Sharp, 2012), ensuring that they have the will and competencies to assume leadership (Bertolozzi et al., 2020), and planning the transition gradually with the successor generation increasing their influence and the older generation retiring (Aguilera & Crespi, 2012). Consequently, families who wish to continue their businesses must achieve and maintain solid business performance, as this keeps subsequent generations motivated and committed to assuming leadership of the family business (Kaur & Singh, 2018).

To achieve and maintain strong performance, family businesses must introduce innovative changes, and the intra-family leadership transfer period is particularly powerful in this regard (Hauck & Prügl, 2015). Change and innovation literature recognize that family businesses suffer from the paradox of ability and will. Compared to non-family businesses, they have a greater capacity to innovate due to their long-term vision, intimate knowledge and close ties, but are also less willing to innovate due to their aversion to risk, rigidity, and the reluctance of their leaders to share decision-making (Dieleman, 2019). However, the intra-family transfer period represents an opportunity to coordinate the forces in favour of change and innovation (Rondi et al., 2019).

In the family business, it is common for the founders to maintain their involvement even at 80 or 90 years of age (Hauck & Prügl, 2015). In the case of farmers, previous generations are not completely willing to make an early transfer of farms because they perceive high economic risks when they are left without their assets and source of income; even when economic risks were abated, identity with the place and attachment to agricultural activity are strong reasons to resist completing a full transfer (Leonard *et al.*, 2020). Some entrepreneurs parents extend their period at the helm of the enterprise by selecting their younger children as their successors, and extend it even further by promoting specialization studies and experiences in other organizations for them; thus, successors return at a time that parents consider most appropriate for retirement (Keating & Little, 1997). Farmers often do not retire, only critical events such as death, marriage, and illness take them away from their farms (Leonard *et al.*, 2020). Even when the succession, inheritance and retirement processes are assumed complete, the influence of the older generations in business decisions can be preserved regardless of their formal roles (Hauck & Prügl, 2015). Therefore, most changes in family farms and family businesses are made jointly by at least two generations.

Successful family businesses are capable of generating synergies and complementarities through intergenerational interaction to strengthen and maintain their competitiveness in the long term. The involvement of different family generations in decision-making has a positive effect on entrepreneurial orientation; that is, greater proactivity and propensity to innovate and less aversion to risk (Arzubiaga, 2018). On the other hand, the difference in the leadership styles of founders and successors and the two-way exchange of knowledge are constructive and fruitful, as they provide a more solid platform of perspectives (Woodfield & Husted, 2017). Also, the participation of different generations enriches social capital with access to different networks (Basco et al., 2019). In agricultural enterprises, young farmers learn norms, values, and agricultural practices from experienced farmers. However, both coexist, reinterpret and adapt their practices according to new conditions (Joosse & Grubbström, 2017; Wairegi et al., 2018).

Moreover, change and innovation produce instability in the family business (Herriau & Touchais, 2014). The flow of knowledge from the later generation to the previous one can be problematic because it goes against the traditional hierarchical view (Woodfield & Husted, 2017). Furthermore, with the increasing participation of the later generation, different thoughts may collide; for example, one based on knowledge gained from experience on the family farm versus one based on knowledge gained from vocational training and experience on other farms (Woodfield & Husted, 2017). Conflicts also arise when the older generation concentrates power in decision-making and the later generation feels ignored (Davis & Harveston, 1999; Kaur & Singh, 2018). Ward (2004) concludes that most of the critical problems facing business families are family-based, and when these are corrected, business problems are smoothed out. The family is very important to the enterprise, but in order to unlock its innovative potential it is necessary to simultaneously manage the family and business systems (Basco et al., 2019; Rondi et al., 2019). Thus, managing change and innovation in the context of permanent intergenerational interaction, represents the greatest challenge for family businesses.

Drivers and obstacles to change during intergenerational interaction

The process of transferring the family business opens up new opportunities for innovation due to the effect of the successor; that is, by the ability of the new generations to introduce new ideas (Bertolozzi et al., 2020). Successors in the agricultural sector tend to have greater professional training and experience in

external organizations, even outside the agricultural sector (Mc Fadden & Gorman, 2016). However, the existence of a capable successor is not enough to drive change and innovation processes, but it is also required that the successor has the will and commitment to continue the enterprise. The legal transfer of ownership is often an important motivator, but not always sufficient (Rau *et al.*, 2019). The concept of psychological ownership explains how successors can feel part of the business, based on experiences in and with the enterprise. The psychological property is built from: i) an upbringing and education close to the enterprise (Rau *et al.*, 2019); ii) share family portraits, old business photographs, historical and corporate films, and commemorate business events (Bloemen *et al.*, 2019); iii) work on vacations and weekends (Kaur & Singh, 2018); iv) orientation in the choice of profession (Bloemen *et al.*, 2019); v) communicate financial and corporate information as mission, vision and fundamental values; and vi) request, or at least accept, the participation of successors in decision-making (Basly & Saunier, 2020). In this way, successors perceive the family business as a good place to work and develop their talent.

In the family business, decisions can be made easier and faster when power is concentrated by a single person; for example, at the beginning when the only relevant influence is that of the founder (Dana & Smyrnios, 2010). However, it is recognized that the quality of decision-making increases by integrating different generations and family members in the process, as a diverse team has a greater repertoire of knowledge, skills, networks and perspectives that enhance the launch of innovative initiatives (Arzubiaga, 2018). However, a very large team can make it difficult to take advantage of the benefits of diversity due to the excessive emergence of debates (Arzubiaga, 2018), differences in objectives (Rondi *et al.*, 2019), and diffuse responsibilities and roles (Dana & Smyrnios, 2010). Likewise, as more family members participate, family dynamics become more complex because there is a greater propensity to mix family emotions and business matters (Flynn & Duesing, 2018; Kaur & Singh, 2018). In this sense, shared values and an identity committed to change facilitate the innovation process (Elsbach & Pieper, 2019). In the absence of such attributes, the separation of discordant family members has been the alternative followed in some family businesses (Lambrecht & Lievens, 2008; Dana & Smyrnios, 2010).

Even when families share values and identities and a narrative is built around constant change, it is known that family businesses may have less capacity to incorporate radical innovations that go beyond the family knowledge base, and prefer to avoid innovations that, according to their perception, do not have guaranteed performance (Dieleman, 2019). Changes that go beyond family knowledge and violate their long-shared history, established psychology, and habitual ways of functioning require family members to change attitudes and behaviours (Dana & Smyrnios, 2010) and force leaders to modify their practices of follow-up (Dieleman, 2019), which, in turn, can hurt family relationships. For this reason, some enterprises may prefer not to innovate to maintain a sense of continuity and the usual family lifestyle (Mc Fadden & Gorman, 2016).

Conflict poses a threat to the family business and can impede its success. However, the understanding of conflict has evolved from a purely negative perspective to a vision that considers positive aspects. In relation to change, an open conflict —that is, visible, public and in which the parties communicate (Claßen & Schulte, 2017)— potentiates the emergence of cognitive conflicts that mobilize the resources of diversity and confronts the improvement alternatives for enterprises (Kubíček & Machek, 2020). However, the emotional bond between family members makes the border between cognitive and emotional conflicts very thin (Qiu & Freel, 2020). Emotional conflicts focus on personal differences and attacks, and can slow down and impede change (Claßen & Schulte, 2017). The incidence of emotional conflicts grows with the number

of generations and family members involved in the decisions of the enterprise (Davis & Harveston, 1999). It also increases if the founder extends his tenure in control and maintains an authority that prevents others from participating with their voice and vote (Goel et al., 2011; Hauck & Prügl, 2015). The damage of emotional conflicts in change proposals can be direct through the denial of technical, human or financial resources, or indirect by not sharing commitments and goals (Claßen & Schulte, 2017).

In addition to damaging change processes when they are real and visible, emotional conflicts affect when they are latent or are perceived as possible (Claßen & Schulte, 2017). For not incurring emotional damage, business families can desist from cognitive conflicts, with which the diversity of ideas and resources is wasted (Kubíček & Machek, 2020). In the same way, the altruistic attitude is a trait shared by many family business owners, which prevents them from enforcing agreements, mainly in front of their children, due to the effect that sanctions can have on family relationships (Schulze *et al.*, 2001). Avoiding conflict leads to costs in the medium and long term due to the lack of expression of different points of view, and it becomes tangible with the stagnation of an enterprise or the execution of less productive actions (Claßen & Schulte, 2017; Goel *et al.*, 2011). Change in family businesses is often preceded by cognitive and emotional conflicts between the parties involved. Depending on how they are detected, perceived, and managed, conflicts can be fruitful. Emotional conflicts are especially difficult to manage, which explains why separation and the intervention of third parties are popular strategies for conflict management in family businesses, since they cleanse emotions to the situations of change (Qiu & Freel, 2020).

The age of the owner of a family business and the level of progress in the succession and inheritance processes are positively related to the perceived need to innovate (Hauck & Prügl, 2015; Hillen & Facin, 2020). In the agricultural sector, the same co-evolutionary relationship is found between the transfer process of farms and the changes in them, as owners are more willing to innovate when they have identified potential successors willing to give continuity to the agricultural activity (Bertolozzi et al., 2020). The owners' willingness to innovate also grows in the presence of successors with training and experience outside the agricultural field (Hillen & Facin, 2020). In the study by Bertolozzi et al. (2020, p. 139), a testimony is reported that explains the succession effect on the attitude of an agricultural enterprise owner: "[...] if I do anything to expand the business, it is because I know that someone will follow in my footsteps and continue the operation." The succession effect shows that the fact that family businesses tend to innovate more in generations after the founder, is not exclusively due to the capacity of the successors, but also due to the accumulation of capacities through intergenerational interaction (Dieleman, 2019). During the process of transferring the family business, founders provide the basis for driving innovation, knowledge, experiences and skills (Kaur & Singh, 2018), on the one hand, and reputation, values and business culture (Hillen & Facin, 2020; Woodfield & Husted, 2017), on the other. Similarly, the presence of the previous generation favours the family business, as it reduces the financial uncertainty of risky initiatives (Leonard et al., 2020) and because of the trust it transmits and the loyalty it generates among employees, suppliers, and customers (Davis & Harveston, 1999; Kaur & Singh, 2018).

As the presences of previous and successor generations are valuable, a gradual transfer of the family business is desirable (Leonard et al., 2020). The best results of the transition are achieved by orchestrating the relationships between both generations in such a way that internal stability is preserved, roles and responsibilities are defined, and the space for innovation activities to emerge is generated (Davis &

Harveston, 1999; Hauck & Prügl, 2015). The balances of a family business are constantly attacked by situations that generate dilemmas between the rational and the emotional, and places decision makers in front of the question of whether to listen to the heart or the mind; for example, when deciding between selecting the most capable or committed successor (Richards *et al.*, 2019) or prioritizing business or family (Distelberg & Blow, 2010). Even when all the principles of change management have been applied, situations can escalate to an emotional level and lead to a counterproductive point, so a recurring mistake is to consider feelings and emotions as something simple and unimportant in the change processes (Graamans *et al.*, 2020).

Finally, the transfer of a family business and innovation are influenced by the context. To take over the farms, for example, successors weigh aspects such as profitability and quality of life (Bertolozzi et al., 2020), and to drive innovation processes, access to financial capital and knowledge networks are essential (Wairegi et al., 2018). Therefore, economic and institutional contexts with favourable conditions notably help to overcome the challenges associated with the processes of change and transfer of the family business (Herriau & Touchais, 2014). The literature mentions the importance of institutions acting as partners and sharing the risk with families willing to innovate, instead of only providing subsidies (Milone & Ventura, 2019).

METHODOLOGY

Design

Family businesses have traditionally been studied through scientific guidelines supported by quantitative methods, which are suitable for confirmatory purposes; that is, when the researchers already know how and why the phenomena occur and it is possible to quantify the variables of interest (De Massis & Kotlar, 2014). However, it is not known how change can be led to take place and generate positive results for the family business in the context of intergenerational interaction. Hence, the case study was chosen as the general strategy for this research, considering its effectiveness in answering questions related to the how and why of the phenomena studied (Yin, 1994).

The case study design was also selected because it allows capturing information on processes involving rational and emotional factors, which are frequently found in the study of family businesses (De Massis & Kotlar, 2014). In addition, the case study has the virtue of generating knowledge with high proximity to practical application for professionals and businesspeople (Gibbert et al., 2008; Villarreal-Larrinaga, 2017). Specifically, this research adopted a multiple case study design to analyse three situations of change within the same number of agricultural enterprises in Mexico.

Selection of cases

Among 154 situations of change studied in the trajectories of 15 enterprises in the Mexican agricultural sector, three situations were selected in three different enterprises. As a criterion to obtain the maximum profitability in learning (Stake, 1999), a sampling of extreme cases was employed; this is a technique widely used in the study of family businesses that allows generating broader theoretical contributions by finding a greater contrast in the data (De Massis & Kotlar, 2014). For this purpose, three situations of change with completely contrasting results were chosen. In the first case, the change produced satisfactory results for

the enterprise; in the second, the change generated negative results; in the third scenario, the change was reached after being truncated twice, and its results are not yet known.

The enterprises analysed are located in Jalisco, a federal Mexican entity that leads the contribution to the national agricultural and agri-food GDP, with shares of 12.2 and 15.5%, respectively (INEGI, 2020). In addition, Jalisco stands out for the dynamism of its agri-food exports, which grew 30% in value from 2018 to 2020 (INEGI, 2020).

Data collection

The data for each change situation was collected through interviews conducted from May 2019 to February 2020 with the leaders of the enterprises. In total, three interview sessions were held for each enterprise. In the first, the family history and the most important business events were addressed. Based on these events, the situations of change to be analysed were identified. During the second session, the background, context and way in which the changes were handled were addressed. Finally, the third session was held to validate results with interviewees. All interviews were audio-recorded to transcribe every detail.

Interviews are the most frequently used collection technique in research conducted through case studies and are highly effective when retrieving information that is highly relevant to the lives of interviewees (Eisenhardt & Graebner, 2007). Such is the case of the events recovered in this study, which are related to family and business life. The strongest disadvantages of interviews are that they can add impression management biases (Huber & Power 1985) and biases from poor hindsight due to lack of memory by interviewees (Golden, 1992). To reduce these biases, data triangulation measures were taken (Gibbert et al., 2008; Villarreal-Larrinaga, 2017) with different interview sessions, interview fragments with those involved separately, and confirmation with testimonials from other actors, such as technical advisers, public officials and other entrepreneurs.

Information analysis

The information provided was analysed from the perspective of the theory of change, which groups knowledge about the aspects that lead to behaviour modification (Reinholz & Andrews, 2020). As a conceptual model, the metaphor of the rider riding an elephant proposed by Haidt (2015) was adopted to represent the rational and emotional processes that influence the results of change. Specifically, the analysis of the situations of change was conducted based on the framework proposed by Heath and Heath (2018) in their work titled "Change the chip. How to face changes that seem impossible." According to this framework, three steps must be taken to produce successful changes: i) direct the rider, ii) motivate the elephant, and iii) pave the way. The resources used to deploy each step are presented in table 1. As Heath and Heath (2018) did, the analysis of the information is presented by first showing the situation of each change and then explaining the results through the framework with the three steps.

Table 1.Steps and resources leading to the successful completion of the change.

Step	Resources		
Direct the rider	Identify exceptions, that is, detect cases or moments in which the desired result occurs		
	Describe critical movements, that is, remove ambiguity in objectives and translate them into concrete actions		
	Aiming for the destination, that is, setting a bold goal and an attractive destination to reach with the change		
Motivate the elephant	Identify the feeling, that is, present evidence that generates motivation and positive feelings		
	Reduce the dimension of change, that is, segment the objective into small goals, reward, and highlight the contribution of each goal to the objective		
	Strengthen pride, that is, generate a sense of identity, belonging and responsibility with the		
	change		
Pave the way	Modify the environment, that is, change situations so that unwanted behaviour is more		
	difficult or impossible to perform		
	Create habits, that is, establish time and place in which the new behaviour will be incorporated		
	Take advantage of the strength of the group, that is, make it known that the desired		
	behaviour is developed by a majority		

Source: authors based on Heath and Heath (2018).

The analysis was conducted based on the principles of constant comparison and theoretical sampling of the grounded theory (Glaser & Strauss, 1967). This means that data collection and analysis were carried out simultaneously and that data collection in the subsequent sessions depended on the analysis of the data gathered in the previous sessions. The data retrieved from the interview transcripts were processed using open coding and axial coding techniques (Strauss & Corbin, 1998). As part of the open coding, data was classified according to its content within the categories of steps and resources proposed by Heath and Heath (2018). Then, during axial coding, patterns were identified among the change situations analysed. To identify these patterns, a convergent analysis (De Massis & Kotlar, 2014) was conducted, through which the authors analysed the situations individually to later discuss and identify points of convergence.

RESULTS

For identification purposes, the three enterprises were assigned the AE nomenclature that refers to the term "Agricultural Enterprise" and a unique numeral (01, 02, and 03). Table 2 describes the situations of change analysed in the three agricultural family businesses. The similarity is that the three proposals for change were formulated by a member of the most recent generation. Regarding the differences, the proposers of change in AEO2 and AEO3 have specialized professional training in the management of agricultural business, and in AEO1 the proposer reported having only basic education; the number of people involved in the change is considerably higher in AEO3; and the outcome of the initiatives was completely different in the three cases.

Case	AE01	AE02	AE03
Productive chain	Bovine milk	Banana-coconut	Tomato-avocado
Proposed change	Adoption of a new diet for livestock	Conversion from conventional to organic farming system in banana	Incorporation of corporate governance
Proposer of the change	Eldest son (second generation)	Eldest son (third generation)	Younger son (second generation)
Educational level of the proposer	Basic education	Professional in international agricultural business	Professional in international agricultural business
People involved in the change	Two (father and son)	Three (father, mother, and son)	Ten (father, mother, and eight descendants)
Result	Change is made and produces positive results for the enterprise	Change is made and produces negative results for the enterprise	Change was made after being truncated twice and the results are not yet known

Table 2. Characteristics of the situations of change analysed.

Source: prepared by the authors with 2019-2020 information.

Presentation of the situations

Case AE01

In 2014, AE01 had 38 cows in production from which an average of 21 litres of milk was obtained per cow every day. In the same year, after discovering a high-productivity barn 48 kilometres from his own, the proposer of change returned sadly to his small barn, realizing that they had much to improve as milk producers. Specifically, he identified that the silo-based diet was a key issue in productivity. So, the proposer of the change suggested to his father, founder and owner of the barn, to supply silage in the diet of their cows. The father responds reluctantly to his son's proposal because he had been feeding the cows with stubble for years, however, he agrees to incorporate silage into the diet for three months. With this, they had an improvement in productivity, going from 21 to 27 litres per cow every day.

The proposer of the change proposed to supply more silage in the diet, his father disapproves this proposal as it required financial resources that they did not have, and he was not sure about the result. The proposer insisted, saying: "as long as we don't fill the cows with silage, we will never have money." Then, the enraged father replied: "if you are not comfortable here, go! Here we do what we can with what we have." The proposer took the situation with caution and suggested his father to think things over, and if after a few days he maintained his position, the promotor would withdraw from the barn. After a few days things returned to normal and they continued working together.

A year later, as the proposer repeatedly attended training and technical demonstrations, AEO1 had the opportunity to become a supplier of a transnational company within the framework of a public-private project. As part of the benefits, they receive the technical assistance of a veterinarian, in whom the proposer found the perfect accomplice to make his father notice that the change in diet he proposed was appropriate. In 2016, the same project granted them financing to purchase silage for the entire year and they increased their productivity from 27 to 31 litres of milk per cow every day. Likewise, they have added a series of practices and technologies with the support of the project, with which they have increased productivity to 35 litres per cow per day in 2019. In 2020, AEO1 is considered the most successful case among 300 dairy farms participating in the project as suppliers of the transnational company.

Case AE02

In 2006, AEO2 diversified its business portfolio with the establishment of a hotel, a business to which the second generation has focused its attention. As a result of this, the production of banana and coconut is almost entirely in the hands of the eldest son of the third generation, who wanted to differentiate his products in the market. He attended a course in organic agriculture in 2007 and as a result proposed the conversion of conventional to organic banana. Despite not having the full consent of his parents, the proposer of the change reconverted 36 hectares planted in banana property of the enterprise. According to the proposer, the fact that his father is a lawyer and, therefore, has no professional agronomic training, made it easy for him to be given complete freedom to decide on the banana business.

The proposer of change travelled to Costa Rica, although there was no organic banana in that country, and acquired greater knowledge in organic agriculture, established a gas chromatograph, and followed the recommendations made to him to the letter. However, three years passed without having production with sufficient commercial quality. In 2010, the proposer and two of his employees had an accident inside one of the containers where biofertilizer was prepared, and one of the employees died. The biofertilizer generated a highly dense and toxic gas that was trapped in the containers, a situation that was unknown prior to the accident. It was then that the proposer of the change reflected that he was ending the family business because of the ambition to become an organic producer. Something that reinforced his decision to desist is that he discovered that organic banana producers in the area eventually introduced agrochemicals to control pests, thus infringing the rules of organic agriculture, and so he was not willing to commit this fraud. Furthermore, the semi-organic banana had a short shelf life, which made it difficult to market this product.

AEO2 returned to producing bananas in the conventional way. The proposer of the change concludes from his experience: "if my parents had prevented me from making the complete conversion of the 36 hectares and had experimented with one, I would have realized that it does not work and would have generated fewer losses. Now, I am much more conservative in my decisions, I want to export bananas, but slowly. I want to make the change walking with leaden feet."

Case AE03

In 2008, the founder and corporate president of AEO3 appointed his youngest son, recently graduated as an agribusiness professional, as his successor and sole administrator of the enterprise. In 2009, AEO3 had 50 hectares of greenhouses for tomato production and 80 hectares with avocado plantations. In the same year, the new corporate president promoted the adoption of corporate governance, was listened to, and supported by his father. As evidence, the entire family attended governance courses in family businesses, hired the consulting services of a highly prestigious company in this area, and based on these established protocols of roles and responsibilities within the enterprise.

Regarding the protocols, the rest of the siblings (two men and five women) signed them, but in reality never agreed and were in violation of the new rules. The founder of the company always found it difficult to punish his descendants for disrespecting the new rules, although he did it and, as a result, had strong conflicts with his two oldest descendants (two men), to the extent of withdrawing them from the enterprise and disinheriting one of them. In 2011, the founder passed away. After the death of his father, the proposer of change established a new protocol of roles and responsibilities with his five sisters in 2015, but again the

attempt failed. According to the proposer: "what was signed in the agreements did not actually happen. Schedules, responsibilities, and salaries were not respected, and thus results were not achieved. I have never felt to have the authority to punish my sisters for their breach."

In addition, the objectives were different: "I, at 30 years of age, wanted to invest and grow the enterprise, but my older sisters (50 and 55) wanted money immediately." After arduous negotiations with his siblings, in 2019, with none of them operating in the enterprise, the proposer of change found the conditions to adopt corporate governance and the effects are yet to be seen. The opinion of this proposer of change regarding the two previous failures is: "my father's biggest mistake was wanting to have all his descendants in the enterprise and not allowing them to do what they really wanted with their lives, and on both parts, that we were not able to enforce the rules."

Determinants of change

Table 3 presents the determinants of the outcome of the change situations, based on the framework for driving defiant changes proposed by Heath and Heath (2018). According to this framework, the rational part, the rider, gives direction to change, while the emotional part, the elephant, provides the force to propel it. The rationality of the rider does not produce change without the will of the elephant, and the motivation of the elephant is insufficient to achieve satisfactory results without the direction of the rider (Haidt, 2015). Likewise, the environment can help or hinder the path to change. An oriented rider, a motivated elephant, and a paved road lead to satisfying change (Heath & Heath, 2018).

DISCUSSION

Boosting the change (motivating the elephant)

The integration of the new generation drives the process of change, as evidenced in the fact that the member of the younger generation was the one who proposed the change in the three situations analysed. The ideas of the proposers were influenced by their professional training in cases AEO2 and AEO3, and by experience in another dairy farm in AEO1. Both professional training and experience in other organizations are attributes that new generations take advantage of to introduce new ideas in the family business (Mc Fadden & Gorman, 2016). This highlights that, although in the situations analysed there was no progress in the transfer of legal ownership, the proposers of the change showed interest in improving the enterprises. An upbringing under the constant influence of dairy activity in AEO1, early involvement in the enterprise through work on vacations and weekends in AEO2, and being appointed as new corporate president in AEO3 produced a sense of psychological ownership in the proposers, and that, in turn, motivated them to propose the changes. Early incorporation into the enterprise (Bloemen et al., 2019; Rau et al., 2019) and inclusion in decision-making processes (Basly & Saunier, 2020) build psychological property in members of the new generation, as they feel part of the enterprise and future owners of it and find incentives to express their talent.

Table 3.Determinants in the outcome of three situations of change in agricultural enterprises.

Step	Resources	AE01	AE02	AE03
Direct the rider	Identify exceptions	✓ A nearby dairy barn was identified as having markedly higher productivity	X No organic banana producers were identified conducting the process fully and efficiently in the area	-
	Describe critical movements	✓ A specific action to be carried out was described: "feed the cows with silo"	-	The process was professionalized by attending courses and hiring expert consulting that led to the establishment of a protocol of roles and responsibilities within the family business
	Aiming for the destination	✓ The proposer of change set out to turn his dairy barn into something like the high- productivity barn he visited	X There was no reference farmer to illustrate the desired destination	✓ Both the founder and the proposer of change were convinced to adopt corporate governance
Motivate the elephant	Identify the feeling	Among the alternatives that could be suggested, a change that is quickly reflected in productivity per cow was proposed	The proposer of the change strongly wanted to differentiate his product in the market	-
	Reduce the dimension of change	✓ It began by supplying silo gradually	-	X Absence of rewards for compliance or penalties for violating the new rules X
	Strengthen pride	-	-	The siblings of the proposer of change did not feel comfortable in the enterprise and did not share objectives and commitment to change
Pave the way	Modify the environment	The entrance to the public-private project increased the willingness to change on the part of the founder; in addition, the advice and financing facilitated the change	-	-
	Take advantage of the strength of the group	An alliance was created with the technical advisor to convince the founder to make the change	X Despite not being in complete agreement, the parents did not exercise a real role as a counterweight in the decision	X Only two of the ten people involved were fully committed to the change

Source: prepared by the authors with 2019-2020 information.

The change was less difficult in the situations of AEO1 and AEO2, in which the number of people involved was considerably less. On the contrary, in AEO3 the change was blocked on two occasions by a greater number of family members involved with different interests who were not committed to the change. A position in favour of reinvestment against others in favour of delivery of benefits illustrates the misalignment of interests among those involved in the AEO3 situation. The construction of shared identities and values of the family with the business prevents the emergence of significant rivalries and divergences between siblings, and also prevents hindrance of necessary changes in the business (Elsbach & Pieper, 2019; Rondi *et al.*, 2019). In front of a large number of stakeholders with highly divergent views, family tree pruning is a drastic action that some family businesses have resorted to unlock their potential for innovation (Dana & Smyrnios, 2010; Lambrecht & Lievens, 2008). The situation in AEO3 supports this evidence since the change was only possible after the death of the founder, and after the discordant family members were separated from the business environment.

The adoption of corporate governance is a more defiant change than the agricultural conversion from a conventional to an organic system or the introduction of a new diet for the cattle herd. New management practices and new feeding systems are usually the first steps on the innovation ladder of livestock enterprises (Bertolozzi et al., 2020). Furthermore, in AE01, the perceived magnitude of the change was reduced by gradually introducing the new diet. For its part, organic production is recurrently one of the first alternatives chosen by farmers seeking to differentiate their product in the market (Bruce, 2019) and the proposer in AEO2 was strongly motivated to differentiate the banana produced. Instead, corporate governance is a system rarely found in family businesses (Arzubiaga, 2018; San Martin-Reyna & Duran-Encalada, 2012), even less in enterprises in the agricultural sector. The change in diet and organic production produce immediate improvements that are reflected in higher milk yields per cow and in access to better prices in marketing, respectively. As observed, corporate governance has its effects in the medium and long term (Melin & Nordqvist, 2007) and these do not materialize in aspects as easily visible as productivity and price, but in the formation of the bases that allow institutionalization and professionalization of the family business (Arzubiaga, 2018; Dana & Smyrnios, 2010; Kubíček & Machek, 2020). Adopting corporate governance implies adopting a discipline in which priorities are transferred from the family to the business in decision-making, and it is difficult for the family to accept the associated sacrifices (Schulze et al., 2001).

When conflicts related to change escalate to the emotional sphere, management can be hampered (Claßen & Schulte, 2017). This was the case in AE01 with the founder asking the proposer of change to leave the enterprise if he continued to insist on the intervention. However, the proposer managed the situation with temperance by asking the founder to meditate on his position, achieving a softened conflict. A hidden conflict also hinders change (Claßen & Schulte, 2017). In the AE03 situation, the discordant family members kept their disagreement hidden, even signed protocols to institutionalize the enterprise, but change was not completed in the first two attempts because the commitment was only on paper and not in reality. Finally, when it is perceived that strong emotional conflicts may arise, family businesses can choose to give up change in exchange for not damaging family relationships (Kubíček & Machek, 2020). In AE03, the inability of the founder and proposer of change to apply sanctions for the violation of the new rules reflects this facet of the conflict, and confirms the altruistic character that keeps many leaders of family businesses unable to make important decisions (Schulze *et al.*, 2001).

Guiding the change (directing the rider)

Not every type of conflict is detrimental to change processes, as cognitive conflicts mobilize the resources of diversity and confront the improvement alternatives for enterprises (Kubíček & Machek, 2020). In AEO2, the older generation expressed their disagreement with the idea of conversion to an organic system, but because their minds were on a new business not enough cognitive conflicts emerged to mediate the decision. The proposer of the change himself realized, after what happened, that it was very risky to completely reconvert his plantation, when there are no references in the area that produce organic bananas fully and efficiently. At the same time, the proposer recognizes that a greater counterweight on the part of his parents would have helped the change to be introduced on a trial basis on a smaller area, and with this the economic losses would have been significantly lower. This supports the idea that the absence of conflict and the insufficient expression of the different points of view can lead to decisions with negative results for the family business (Claßen & Schulte, 2017; Goel et al., 2011). It is confirmed that the presence of the experienced generation helps to reduce the financial perils of risky initiatives (Leonard et al., 2020).

In AEO1, an open conflict, that is, visible and in which the parties communicated (Claßen & Schulte, 2017), allowed the proposer of change to know the reasons why the founder refused to make the complete change in diet. These were issues related to financing and risk. The situation was not without emotional conflicts, since the emotional bond between family members makes the border between cognitive and emotional conflicts very thin (Qiu & Freel, 2020). However, by knowing the reasons why the founder was reluctant to change, the proposer was able to mobilize his social resources to access financing and training that gave the change greater guarantees of success.

The effective management of change is achieved by identifying exceptions and aiming for the destination, for example, through the identification of an enterprise that has already successfully executed the change and which they seek to emulate, as happened in AEO1, but not in AEO2. Likewise, a better management of change is achieved through the description of critical movements, that is, the description of the specific actions to be conducted as was done in AEO1 and AEO3. The fact that the change was more easily carried out in AEO1 may be because the proposal was related to the agrotechnological management. Instead, in AEO3 the change was proposed in the field of organizational management. As discussed in motivating the elephant, the immediacy and easy visibility of the results of changes related to agrotechnological management facilitate their insertion into the enterprise's regular activities.

Modifying the environment (paving the way)

The situation in AEO1 illustrates the relevance of the contextual dimension to "pave the way" in the processes of change and innovation, since in order to achieve improvement, in addition to adequate internal management, the technical and financial support provided by the public-private project was crucial. Even more so because unlike AEO2 and AEO3, AEO1 is an enterprise that lacked the technical and financial capital to drive the change they achieved. This supports the idea that institutional frameworks can establish conditions to unlock change in family businesses (Herriau & Touchais, 2014), and improve expectations of potential successors (Bertolozzi *et al.*, 2020). Likewise, the situation analysed in AEO1 highlights the importance of institutions acting as partners and accompanying the change process, and not only limiting themselves to the delivery of subsidies (Milone & Ventura, 2019).

Similarly, AE01 highlights how the proposer of change used the resources of the context to unlock the change. He did so by adding in his favour the veterinarian who gives them technical advice to convince his father that the change in diet would bring benefits for the enterprise. This management move avoided the family damage, for example, the separation of discordant family members conducted in AE03. However, both situations provide evidence of the complexity involved in handling emotional situations, and therefore it is not uncommon to implement strategies that purify emotions in processes of conflict and change, such as the intervention of third parties and the separation of discordant family members (Qiu & Freel, 2020).

CONTRIBUTION

This study analysed three situations of change with sharp contrast in their outcome, in a context of intergenerational interaction and in the presence of rational, emotional and contextual processes to answer the question: How to drive change so that it takes place and generates positive results for agricultural family businesses? Figure 1 (p.19) summarizes the theoretical contribution of this study. On the way between intergenerational interaction and the realization of a change with favourable results for the agricultural family business, there are different mediating factors.

In the first place, for there to be a change, new ideas must be incorporated. With respect to this, the construction of a sense of psychological ownership in the members of the new generation (a) generates the incentives for potential successors to contribute fresh ideas. The previous generation is more willing to appropriate innovative ideas if they are translated into changes with visible and immediate results (b), and if the context offers conditions of access to financing for their execution (c). Furthermore, the obstacles to change are considerably lower when decision and execution depend on a small number of family members (d). The conflict around change is positive for the family business when it develops openly and in the cognitive arena (e); that is, when the family members involved communicate and listen to opinions, they confront their alternatives and, on this basis, they decide on the adoption and direction of change. Similarly, a context that offers conditions of access to knowledge networks (f) is a relevant support for the family business to be oriented towards changes that produce satisfactory results.

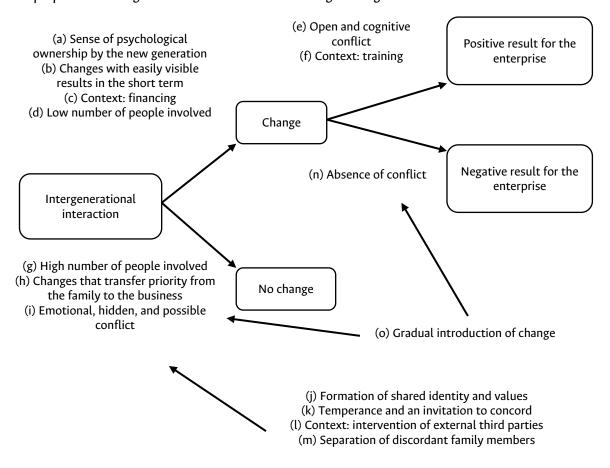
On the other hand, change can be hampered when the process involves many family members (g) and when the change involves transferring priorities from family to business (h) and thus reduces family-based privileges. The situation becomes even more complicated if the conflict moves beyond the cognitive arena and escalates into the emotional arena (i). Another facet of conflict, when the disagreement exists but is hidden (i), can completely block change by only settling in words, but without being reflected in the facts. Finally, when possible, conflicts (i) around change are perceived and they want to avoid, it is very probable that family business will end by giving up and maintaining the initial state in order not to damage family relationships. Obstacles like these are less in business families with shared identities and values (j) that reduce the polarization of ideas and the chances of conflict. However, when there is no such structure, conflicts around change can be managed with one part showing temperance and inviting concord (k), resorting to the intervention of external third parties (l), or in the most drastic cases separating discordant family members (m) from the business.

When change does not go through a conflict process (n) in which new ideas are scrutinized and counterpoised, change can mean significant losses for the enterprise. In this sense, the presence of the experienced generation is relevant as it brings wisdom and demands greater guarantees and parsimony to drive change. The gradual introduction of change (o) is advisable in situations with or without conflict, to compare the results obtained with those expected and decide whether to move forward or backward. In turn, segmenting a drastic change into small changes can reduce the incidence of undesirable conflicts and have a greater opportunity against reluctant stakeholders.

The existing literature recognizes that the continuity of the family business depends on two main constructs: intra-family transfer of leadership and change translated into innovations (Hillen & Facin, 2020; Steier & Miller, 2010). However, little has been studied regarding the interaction between these two important constructs. It is known that they are interdependent processes, since on the one hand family businesses must transfer leadership to innovate (Hauck & Prügl, 2015), and on the other, they must innovate to keep subsequent generations motivated and committed to assuming leadership (Kaur & Singh, 2018). Furthermore, they are processes that walk together, since changes develop as the transfer of leadership progresses, with at least two generations permanently influencing decision-making (Hauck & Prügl, 2015; Leonard *et al.*, 2020). Therefore, in the family business, change occurs repeatedly in a context of intergenerational interaction.

The participation of different generations in the family business is fruitful in terms of complementarity of leadership styles and access to different types of knowledge (Woodfield & Husted, 2017). In addition, intergenerational coexistence contributes to proactive succession management, which is achieved through early engagement of descendants, human development, and prolonged mentoring (Khoury *et al.*, in press). However, to activate the potential for innovation during intergenerational interaction, it is necessary to simultaneously manage family and business systems, which is the greatest challenge for family businesses (Basco *et al.*, 2019; Rondi *et al.*, 2019). Therefore, it is not uncommon for recent studies to recommend investigating the effectiveness of different family conflict management strategies in business (Kubíček & Machek, 2020) and nurturing with evidence to formulate consulting processes on generational transition, with an emphasis on family and business strategy (Flynn & Duesing, 2018). The effective activation of change processes in family business requires the management of the rational, emotional, and contextual dimensions (Hillen & Facin, 2020; Richards *et al.*, 2019). This study sheds light on the way in which distinct factors associated with these three dimensions interact to determine the outcome of change initiatives in family businesses.

Figure 1.Theoretical proposition: Intergenerational interaction and change management.



Source: authors.

LIMITATIONS AND FUTURE RESEARCH

This is a study based on a case study design. Therefore, it is not possible to infer that the results are statistically representative for a defined population of family businesses in the agricultural sector. However, the deep and multifactorial analysis of the situations of change analysed allowed the generation of knowledge with a high approximation to the real management situations in family farming enterprises. In addition, it is possible to conduct analytical transfers to other cases, as long as care is taken to consider the conditions under which the situations of change analysed here developed. The type of change proposed, the person proposing the change, the number of people involved in the decision and the physical, economic, and social conditions of the environment are the most relevant conditions to consider for the analytical transfer.

We encourage researchers to continue examining family business processes in a context of intergenerational interaction. Much has been studied about critical moments such as successions, retirement, or inheritance, but little attention has been paid to the almost permanent condition of interaction between two or more generations. This study paves the way for two types of research. On the

one hand, it is desirable that quantitative studies emerge with strong control over rival explanations to confirm specific aspects. For example, it is possible to study who and how many people should be involved in decision-making to take advantage of the diversity of ideas without overly hindering change initiatives. On the other hand, it is convenient to continue using qualitative methods such as case studies to examine how to effectively lead changes that transcend agrotechnological management and address aspects such as administration and governance systems, in the context of the agricultural sector. The professionalization of the agricultural business, especially family businesses, continues to be a pending matter. This is demonstrated by some studies carried out from the perspective of family business in this sector of the economy (for example, Islas-Moreno et al., 2021; Osornio-Macias, 2016).

DISCLOSURES

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