Resilience in businesses and societies around the world: Enhancing innovation in businesses based on family tradition

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Abstract

Purpose. – Resilience is a property of a business, a society, a person, and other actors. A business may be resilient in that it is able to resist disruption. Likewise, a society may be resilient by being able to resist and overcome a crisis in the society. Resilience in a society is an external enabler, enabling businesses to operate despite disruption and crisis. Resilience in a business is an internal enabler, a capability enabling the business to bounce back from adversity. We argue that a business gains resilience when the business is guided by an entrepreneurial tradition in the owner's family, and that this resilience promotes performance in the business. Furthermore, we argue that resilience in society will reinforce resilience in a business based on family tradition, and thereby enhance performance-related outputs such as innovation in the business.

Research method. – We test effect of family tradition upon innovation, using a globally representative sample of __ businesses, with measures of their innovation and family tradition, surveyed in __ countries between 2019 and 2021 by the Global Entrepreneurship Monitor. We combine the business data with national-level data, also on resilience in society. The data on businesses nested in societies are analyzed by hierarchical linear models, testing whether time and resilience in society moderates the effect of family tradition upon innovation.

Findings. – Innovation is found to be especially high in businesses with an entrepreneurial tradition in the owner's family. The benefit of family tradition for innovation was particularly high during the recovery after the pandemic disruption. The higher innovation in businesses based on family tradition is further enhanced in societies with high resilience.

Contribution. – Findings contribute to an evidence-based theoretical account of society-level and business-level resilience promoting innovation. An entrepreneurial tradition in the family of the owner of a business increases resilience in the business which increases innovation, particularly during a crisis. Additionally, resilience in society enhances the effect of family tradition upon innovation.

Keywords. Resilience in society. Resilience in business. Pandemic. Disruption. Recovery. Family business. Family tradition. Innovation. Cross-national. Global.

1 Introduction

Resilience denotes the ability to resist and overcome disruption and crisis. Scholarship considers resilience as an ability an actor such as a person, a family, an organization, a region, a society, and the world, and examines resilience based on various resources, notably a person's mindset, a family's cohesion, an organization's capabilities, a region's infrastructure, and a society's quality of institutions. Resilience of each actor may enable bouncing back from adverse situations. But resilience of various actors may also jointly enable outputs. We argue that resilience of society may enhance an effect of resilience of businesses upon a performance-related output. We test whether resilience of a society enhances innovation in a business guided by an entrepreneurial tradition in the owner's family.

Resilience of a society became an obvious property during the covid-19 pandemic. Some governments adopted interventions that were effective, while others adopted a laissez-faire stance resulting in a high rate of mortality. Interventions around the world have often included loans to businesses, deferral of taxes, and subsidies for salaries in businesses. Thereby resilience of society has been enabling survival and operations of businesses facing adversity.

Resilience of a business, likewise, became an obvious capability when many businesses were incapable of surviving the pandemic. Resilience of a business has frequently been attributed to tangible resources, especially having capital or access to capital when markets were shrinking. Resilience may also be based on less tangible resources in form of organizational capabilities, e.g., dynamic capability that enables the business to quickly switch to other supply chains, other modes and kinds of production, other products, and other markets. Recent studies indicate that family businesses have performed better than their nonfamily counterparts, especially during the pandemic (Miroshnychenko et al., 2023). A plausible explanation is that a family has greater resources, 'familiness', such as cohesion, mutual support, experience accumulated through generations, and willingness to sacrifice compensation and to defer gratification. These qualities are part of the tradition in the family. Indeed, scholars of family business have proposed that successful performance of a family business is contingent on the tradition of enterprising in the family (Suddaby and Jaskiewicz, 2020).

These considerations frame our research question, *in a business, is an entrepreneurial tradition in the owner's family a source of resilience that benefits innovation in the business, especially in time of crisis; and is resilience in society enhancing the benefit of resilience in the business for its innovation?*

We test effect of family tradition upon innovation, using a globally representative sample of businesses, with measures of their innovation and family tradition, surveyed between 2019 and 2021 by the Global Entrepreneurship Monitor (2021, 2022). We combine the business data with a measure of resilience in each society, as assessed by experts. The data on businesses nested in societies are analyzed by hierarchical linear models, testing whether family tradition in a business is a source of resilience, especially during the pandemic, and whether resilience in society moderates the effect of family tradition upon innovation.

Analyses yield three important findings. First, motivation of businesses by an entrepreneurial tradition in the owner's family positively affects innovation in the businesses. Second, motivation of businesses by family tradition enhanced innovation especially during the pandemic, specifically during recovery between mid-2020 and mid-2021, indicating that family tradition in a business is a source of resilience of the business. Third, during the pandemic, societies with high resilience further enhanced the effect of family tradition in a business upon its innovation.

The findings contribute to an evidence-based theoretical account of innovation in a business shaped by resilience in the business and resilience in the society. An entrepreneurial tradition in the family of the owner of a business increases resilience in the business which increases innovation. Additionally, resilience in society enhances the effect of family tradition upon innovation.

2 Theoretical perspective and hypotheses

First, we theorize about a business and argue that an entrepreneurial tradition in the owner's family promotes innovation in the business. Second, we theorize that the entrepreneurial tradition in a business is a source of resilience of the business that enhances innovation during crisis. Third, we theorize about a society and argue that resilience in the society will enhance the effect of family tradition in a business upon innovation in the business.

2.1 Innovation in a business: Promoted by entrepreneurial tradition in owner's family

Recent research indicates that family businesses innovate more than nonfamily businesses (De Massis …./ Miro…). This suggests that businesses based on an entrepreneurial tradition in the owner's family innovate more than businesses that are not based on tradition. We specify this as our first hypothesis,

Hypothesis 1. In a business, strength of the entrepreneurial tradition in the owner's family increases innovation.

Hypothesis 1 is tested on the sample of all businesses surveyed in all countries covered in 2019, 2020 or 2021.

2.2 Resilience based on family tradition: Moderating effects of pandemic

Recent research in family business has concluded that family businesses, compared to nonfamily businesses, were especially innovative during the pandemic (Miroshnychenko et al., 2023). This suggests that a business anchored on a family is more resilient than a nonfamily business. Traditions are well-known to be a source of moral and emotional support in crises, in that people who during crisis seek support from their shared traditions will develop bonds through which they become mutually supportive. This intensified bonding also strengthens bonds within a family and gives it added capacity, e.g. for running a business. Accordingly, we theorize that an entrepreneurial tradition in the owner's family is a source of resilience. This resilience will increase innovation, we expect. This theoretical line of argument thus posits that family tradition, through resilience,

will increase innovation. Thus, expectedly, family tradition promoted resistance to the disruption that occurred in early 2020 (i.e. between 2019 and mid-2020). Likewise, expectedly, family tradition promoted recovery during the year from mid-2020 to mid-2021. We state this as our second hypothesis,

Hypothesis 2. Time moderated the effect of family tradition in a business upon its innovation.

Specifically,

from 2019 to mid-2020 there was a boost in effect of tradition on innovation (H2a);

from mid-2020 to 2021 there was a boost in effect of tradition on innovation (H2b).

Hypothesis 2 is tested on the sample of all businesses surveyed in the countries covered in each of the years 2019, 2020 or 2021.

2.3 Resilience in society: Moderating effect of family tradition upon innovation

A resilient society, compared to a less resilient society, offers more support for businesses. Businesses, however, vary in their ability to acquire and utilize such support. Businesses anchored on a family tradition are expectedly more resilient than others and are therefore better able to take advantage of support offered in society. Accordingly, we hypothesize that resilience in society will give a boost to the effect of resilience based on family tradition in a business. We specify this as our third hypothesis,

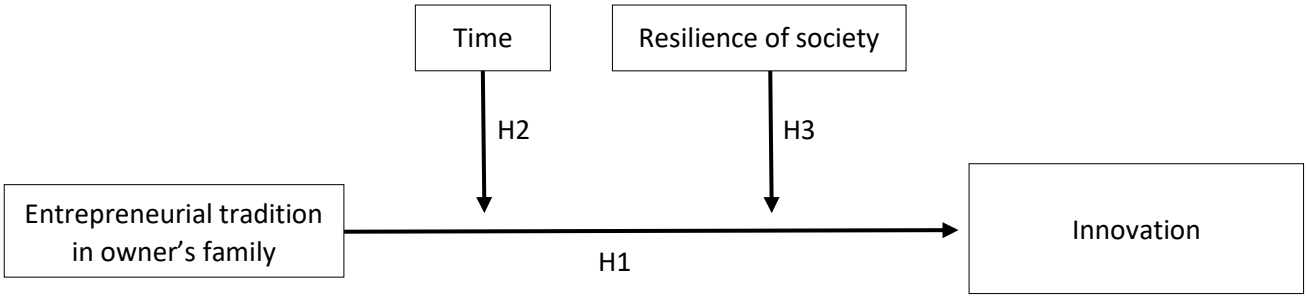
Hypothesis 3. Resilience in society enhances effect, in a business, of family tradition upon innovation.

Hypothesis 3 is tested on the sample of businesses surveyed in the countries covered in 2020 or 2021.

Our hypotheses form the causal model in Figure 1.

Figure 1

Hypothesized effects.



3 Research design

The research questions are here addressed by analyzing a globally representative sample of the 92,512 businesses surveyed in the 65 countries covered by the Global Entrepreneurship Monitor, GEM (2020; 2021; 2022). GEM makes its surveys freely and publicly available a few years after collection, on its website

www.gemconsortium.org. The business-level data are here combined with country-level data on GDP per capita, and during the pandemic also society-level measures of resilience and mortality.

3.1 Sampling of societies and businesses

The annual GEM survey sampled in two stages. In the first stage, GEM sampled countries, essentially by self-selection. During 2019 to 2021 the GEM survey was conducted in 65 countries, Arab Emirates, Armenia, Angola, Austria, Australia, Burkina Faso, Brazil, Belarus, Canada, Chile, China, Colombia, Croatia, Cyprus, Dominican Republic, Ecuador, Egypt, Finland, France, Germany, Greece, Guatemala, Hungary, India, Indonesia, Iran, Ireland, Israel, Italy, Japan, Jordan, Kazakhstan, Korea, Kuwait, Latvia, Luxemburg, Macedonia, Madagascar, Mexico, Morocco, Netherlands, Norway, Oman, Pakistan, Panama, Poland, Portugal, Puerto Rico, Qatar, Romania, Russia, Saudi Arabia, Slovakia, Slovenia, South Africa, Spain, Sudan, Sweden, Switzerland, Taiwan, Togo, Turkey, United Kingdom, United States, and Uruguay. In the second stage, GEM randomly samples adults, age 18 to 64 years old. GEM administers a structured questionnaire containing the same set of questions in every country. Each adult is asked whether they own and manage a starting or operating business. Representativeness of sampling in both stages implies that findings can be generalized, with usual statistical uncertainty, to the businesses in the societies around the world in recent years.

The sample of 65 countries is diverse in region, economy and culture and is fairly, although far from perfectly, representative of the societies around the world. We analyze the huge sample of all 92,512 businesses surveyed between 2019 and 2021 in the 65 countries for testing Hypothesis 1 on effect of family tradition on innovation.

For testing Hypothesis 2 on effects of time, we analyze the subsample of 70,976 businesses surveyed in 2019, 2020 or 2021 in the 34 countries that were covered in all three years.

For testing Hypothesis 3 on effect of resilience of society during crisis, we analyze the subsample of 59,176 businesses surveyed in 2020 or 2021 in the _ countries that were covered in this period.

Representativeness of sampling in both the first and the second stages implies that findings can be generalized, with usual statistical uncertainty, to the businesses in the societies around the world in recent years.

3.2 Measurements

3.2.1 Innovation

Innovation in a business was measured in the GEM survey by asking each entrepreneur about process innovation and product innovation,

Are any of the technologies or procedures used for your products or services new to people

in the area where you live, or new to people in your country, or new to the world?

Are any of your products or services new to people in the area where you live, or new to people in your country, or new to the world?

To each question, the entrepreneur responded on a 4-point scale, going from 'not new', through 'new to people in the area where you live' and 'new to people in your country', up to 'new to the world', coded 1 to 4. The two variables are averaged for an index of innovation.

3.2.2 Family tradition

For a business, the motive of the entrepreneurial tradition in the owner's family was measured by asking,

Please tell me the extent to which the following statements reflect the reasons you are trying to start a business,

to continue a family tradition. ... ...

The owner answered on a 5-point Likert scale, going from 'strongly disagree' to 'strongly agree' coded 1 to 5.

3.2.3 Resilience in society

Resilience in society refers to effectiveness of governments' measures to avoid a significant decline of new businesses and controlling health while harming economy as little as possible. This conception of resilience in a society is operationalized in a survey of a sample of experts in each country during the pandemic (also conducted by GEM) by asking the experts to rate truthfulness of two statements,

The measures adopted by the government during the first 12 months of the pandemic has helped avoid a significant decline in the number of new and growing firms and-associated jobs.

The government is making effective decisions to control the health crisis while harming the economy as little as possible.

The experts rated truthfulness vs falseness on an 11-point Likert scale. The two variables are positively correlated, and their mean is averaged across the experts in the country as our measurement of resilience in the country.

3.2.4 Control variables

The GEM survey enables us to include several business-level variables as control variables in the multivariate tests of effects on innovation (Table 3). We control for

- Sector, in four categories, extraction, transformation, business services, and consumer-oriented.
- Age of business, in years, logged to reduce skewness.
- Size of business in terms of employees, logged to reduce skewness.
- Gender of the entrepreneur, recorded in GEM as male and female, coded 0 and 1, respectively.
- Age of the entrepreneur, in years.

- Education of the entrepreneur, here coded as years of schooling to highest degree.
- Opportunity-assessment, as the respondent's assessment on a Likert scale from 1 to 5.
- Self-efficacy, as the respondent's self-assessment on a Likert scale from 1 to 5.
- Risk-willingness, as the respondent's assessment on a Likert scale from 1 to 5.
- Networking, as the respondent's self-report on a scale from 0 to 3.

The hierarchical modeling (Table 3) also control for a few characteristics of a country,

- GDP per capita, coded from the World Bank, logged to reduce skewness (World Bank, 2023).
- Mortality, cumulative to 2021, coded from the website of Johns Hopkins University (Johns Hopkins University, 2023).

3.2 Techniques for analyzing the data

The hypotheses about effects on innovation in a business from business characteristics and from national characteristics are tested by multivariate modeling (Table 3). The businesses are nested within countries, so the data form a two-level hierarchy. Such data are appropriately analyzed by two-level hierarchical modeling (Snijders and Bosker, 2011). Hierarchical modeling is similar to regression, but also takes into account that the data are at two levels.

4 Results

This section first describes the business and the societies, and then tests the hypotheses about innovation affected by family tradition and resilience.

4.1 Description of the businesses and societies

The sampled businesses and societies are described by frequencies and means (standard deviations), Table 1.

Table 1.

Frequencies and means (standard deviations) of characteristics of countries and businesses.

Sample of countries	65
Sample of years	3
Sample of businesses	92,512
Innovation	1.39 (.68)
Family tradition	2.58 (1.62)
Resilience of society	4.73 (1.65)
GDP per capita in society	32,033 (20,563)
Mortality in society	149 (84)
Sector: Extraction	6%
Sector: Transformation	24%
Sector: Business services	19%

Sector: Consumer oriented	51%
Age of business	6.0 (10.1)
Employees in business	4.7 (19.5)
Gender of entrepreneur: Female	41%
Age of entrepreneur	40.3 (12.2)
Education of entrepreneur	13.1 (5.7)
Opportunity-assessment	3.3 (1.4)
Self-efficacy of entrepreneur	4.2 (1.1)
Risk-willingness of entrepreneur	3.3 (1.5)
Networking of entrepreneur	1.5 (1.1)

The variables of interest are further described by their correlations, Table 2.

Table 2.

Correlations among variables of interest.

	Innovation	Family trad	Resilience	Year 2021	Year 2020	Year 2019
Innovation						
Family tradition	.04 ***					
Resilience in society	.09 ***	.09 ***				
Year 2021	.03 ***	.01 *	-.04 ***			
Year 2020	-.04 ***	-.04 ***	.02 ***	-.47 ***		
Year 2019	.01 *	.04 ***	.01 ***	-.51 ***	-.51 ***	

† p<.10 * p<.05 ** p<.01 *** p<.001

4.2 Innovation in a business promoted by an entrepreneurial tradition in the owner's family

The first substantive question is, in a business, what is the effect of an entrepreneurial tradition in the owner's family upon innovation? Effects upon innovation are ascertained in Table 3, for all businesses in all 65 countries covered between 2019 and 2021. Hypothesis 1 posits that, in a business, strength of the entrepreneurial tradition in the owner's family increases innovation. Hypothesis 1 is tested by the coefficient for family tradition. The coefficient is positive (β=.031; p<.001), supporting H1.

Table 3.

Innovation in businesses affected by an entrepreneurial tradition in the owner's family.

Family tradition	.031 *** H1
Sector: Extraction	-.123 ***
Sector: Transformation	-.008
Sector: Business services	.079 ***
Gender: Female	-.057 ***
Age of business	-.113 ***
Owners of business	.044 ***

Employees in business	.096 ***
Age of entrepreneur	-.021 ***
Education	.053 ***
Networking	.048 ***
Opportunity-assessment	.026 ***
Self-efficacy	.033 ***
Risk-willingness	.011 **
GDP per capita in society	.119 ***
Intercept	.016
Country	yes
Year	yes
N countries	65
N years	3

Hierarchical linear modeling, with random effects of country and year.
Sample is all 92,512 businesses surveyed in all 65 countries covered between 2019 and 2021.
For sector, the reference in the consumer-oriented sector that each other sector is compared to.
The dependent variable is standardized.
The national level independent variable is standardized.
The business level independent numerical variables are standardized and centered within country.
The dichotomous variables are 0 and 1 dummies.
† p<.10 * p<.05 ** p<.01 *** p<.001

In short, in a business, strength of an entrepreneurial tradition in the owner's family benefits innovation in the business.

4.3 Time of crisis: Enhancing benefit of family tradition for innovation

Our second question is, over time, what were the effects of an entrepreneurial tradition in the owner's family upon innovation? Effects upon innovation are ascertained in Table 4, for the businesses surveyed in the 34 countries covered in each of the years 2019, 2020, and 2021.

Hypothesis 2 states that time moderated the effect of family tradition in a business upon its innovation. Specifically, Hypothesis 2a states that, from 2019 to mid-2020, there was a boost in effect of tradition on innovation, and Hypothesis 2b states that from mid-2020 to 2021 there was a boost in effect of tradition on innovation. The change in effect of tradition on innovation is estimated by the interaction.

The interaction effect for 2019 (compared to 2020, as the reference) is insignificant, .009, so the effect of family tradition did not change discernibly from 2019 to 2020. Hyppothesis 2a is not supported.

The interaction effect for 2021 (compared to 2020, as the reference) is significant, ..034 (p<.001), so the effect of family tradition from 2020 to 2021. The interaction effect is positive, showing that innovation increased from 2020 to 2021 in businesses with a family tradition increased in innovation, relative to businesses with lesser tradition. This supports our Hypothesis H2b.

Table 4.

Innovation in businesses, affected by time and an entrepreneurial tradition in the owner's family.

	Main effects	Interactions included
Family tradition	.030 ***	.016 *
Year 2019	.000	.001
Year 2021	.019 *	.019 *
Family tradition * Year 2019		.009 H2a
Family tradition * Year 2021		.034 *** H2b
Sector: Extraction	-.100 ***	-.099 ***
Sector: Transformation	-.009	-.009
Sector: Business services	.066 ***	.066 ***
Gender: Female	-.063 ***	-.063 ***
Age of business	-.114 ***	-.114 ***
Owners of business	.046 ***	.046 ***
Employees in business	.094 ***	.093 ***
Age of entrepreneur	-.024 ***	-.024 ***
Education	.049 ***	.049 ***
Networking	.054 ***	.054 ***
Opportunity-assessment	.033 ***	.033 ***
Self-efficacy	.031 ***	.031 ***
Risk-willingness	.018 ***	.018 ***
GDP per capita in society	.131 ***	.131 ***
Country	Yes	Yes
Intercept	-.010	-.010
N countries	34	34

Hierarchical linear modeling, with random effects of country.
Sample is the 70,976 businesses surveyed in the 34 countries covered in every year 2019, 2020, and 2021.
For sector, the reference in the consumer-oriented sector that each other sector is compared to.
The dependent variable is standardized.
The national level independent variable is standardized.
The business level independent numerical variables are standardized and centered within country.
The dichotomous variables are 0 and 1 dummies.
† p<.10 * p<.05 ** p<.01 *** p<.001

In short, in a business, an entrepreneurial tradition in the owner's family is a source of resilience enabling the business to maintain high innovation in time of crisis.

4.4 Resilience in society: Enhancing innovation in businesses with a family tradition.

Our third question is, has resilience in society impacted the benefit, in a business, of an entrepreneurial tradition in the owner's family upon innovation. Effects on innovation from tradition and from resilience in society are estimated in Table 5, for the businesses surveyed in 2020 or 2022 in the countries covered in 2020 or 2021 and where resilience was measured.

Hypothesis 3 claims that resilience in society enhances the effect of family tradition upon innovation. The hypothesized moderation of effect of tradition on innovation is estimated by the interaction. The interaction effect is significant, .009 (p=.014). The interaction is positive, meaning that resilience in society boosts the benefit of family tradition for innovation. This supports Hypothesis 3.

Table 5.

Innovation in businesses affected by entrepreneurial tradition in owner's family and resilience of society.

	Main effects	Interaction included
Family tradition	.030 ***	.032 ***
Resilience of society	-.005 n	-.005 n
Family tradition * Resilience		.009 * p=.014 H3
Sector: Extraction	-.118 ***	-.112 ***
Sector: Transformation	-.023 *	-.013
Sector: Business services	.091 ***	-073 ***
Gender: Female	-.057 ***	-.062 ***
Age of business	-.105 ***	-.111 ***
Owners of business	.047 ***	.044 ***
Employees in business	.087 ***	.093 ***
Age of entrepreneur	-.023 ***	-.023 ***
Education	.046 ***	.050 ***
Networking	.053 ***	.052 ***
Opportunity-assessment	.037 ***	.030 ***
Self-efficacy	.033 ***	.032 ***
Risk-willingness	.012 *	.014 ***
GDP per capita in society	.132 ***	.141 ***
Mortality in society	-.011 n	-.011 n
Intercept	-.012	-.002
Country	Yes	Yes
Year	Yes	Yes
N countries	47	47
N years	2	2

Hierarchical linear modeling, with random effects of country.
Sample is the 59,176 businesses surveyed in the 47 countries covered in the period 2020–2021, with measured resilience.
For sector, the reference in the consumer-oriented sector that each other sector is compared to.
The dependent variable is standardized.
The national level independent variable is standardized.
The business level independent numerical variables are standardized and centered within country.
The dichotomous variables are 0 and 1 dummies.
† p<.10 * p<.05 ** p<.01 *** p<.001

In short, resilience of society boosts the benefit for innovation in a business of an entrepreneurial tradition in the owner's family.

5 Discussion

The above analyses address the research questions, *in a business, is an entrepreneurial tradition in the owner's family a source of resilience that benefits innovation in the business, especially in time of crisis; and is resilience in society enhancing the benefit of resilience in the business for its innovation?* Here we discuss findings, contributions, relevance, limitations, and further research.

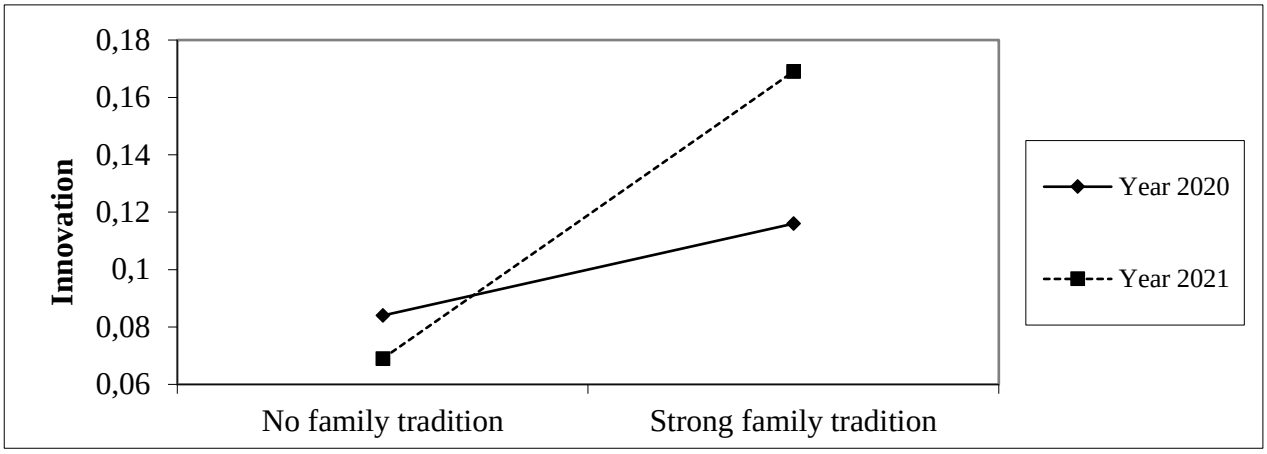
5.1 Findings

Analyses yield three important findings. First, motivation of businesses by an entrepreneurial tradition in the owner's family positively affects innovation in the businesses. Second, motivation of businesses by family tradition enhanced innovation especially during the pandemic, specifically during recovery between mid-2020 and mid-2021, indicating that family tradition in a business is a source of resilience of the business. Third, during the pandemic, societies with high resilience further enhanced the effect of family tradition in a business upon its innovation.

Graphs can be summarize findings. The effects on innovation from tradition and time – from mid-2020 to mid-2021 – were estimated in Table 4. Using these estimates, we graph the effects in Figure 2. The graph depicts conclusions made statistically from Table 4.

The graph in Figure 2 shows, first, the upward slopes depicting the positive effect of family tradition. Second, businesses without an entrepreneurial tradition in their owner's family had similar degrees of innovation in 2020 and 2021. However, Businesses with a strong entrepreneurial tradition had much higher innovation in 2021 than in 2020. This greater recovery for businesses with a strong entrepreneurial tradition indicates a resilience based on the tradition, a resilience enabling recovery during the pandemic.

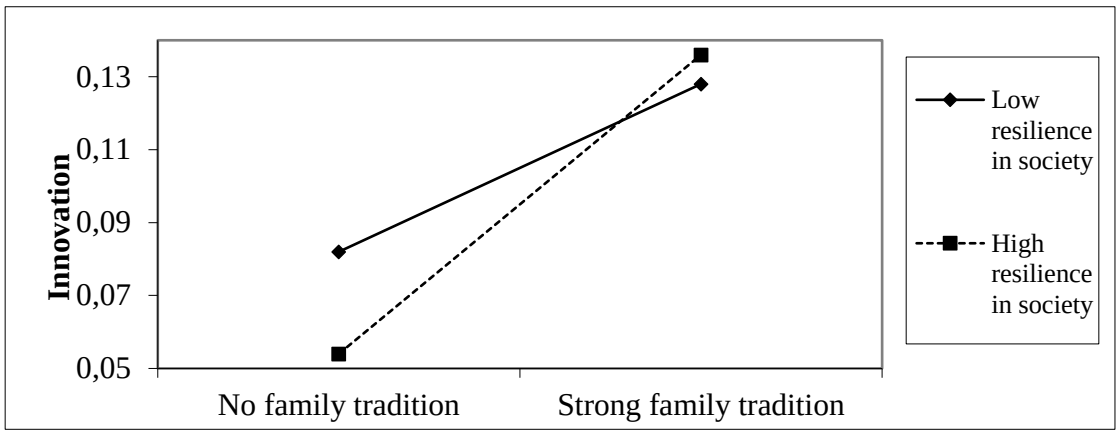
Figure 2. Effect on innovation in a business from the entrepreneurial tradition in the owner's family, moderated by time, mid-2021 versus mid-2020.



Likewise, the effects on innovation from tradition and resilience in society were estimated in Table 5. Using these estimates, we graph the effects in Figure 3. The graph illustrates conclusions reached statistically in Table 5.

The graph in Figure 3 shows, first, the upward slopes depicting the positive effect of family tradition (like seen in Figure 2). Second, where resilience is high, the effect of family tradition is steep as depicted by the dashed line; but where resilience is low the effect of family tradition is less steep as illustrated by the solid line.

Figure 3. Effect on innovation in a business from the entrepreneurial tradition in the owner's family, moderated by resilience in society.



5.2 Contribution

The findings contribute to an evidence-based theoretical account of innovation in a business shaped by resilience in the business and resilience in the society. An entrepreneurial tradition in the family of the owner

of a business increases resilience in the business which increases innovation. Additionally, resilience in society enhances the effect of family tradition upon innovation.

5.3 Relevance

5.4 Limitations

5.5 Further research

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