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Who are those new entrants? Dissecting types of foreign capital entrance in traditional industrial districts

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ABSTRACT

This paper explains the effects originated by the massive entrance of foreign capital in the ceramic tile district of Castellon (Spain). Cross-fertilizing multinational acquisitions and industrial districts' literature, and using mix-methods on a focal case study, our article explores the effects that those multinationals have on districts, and whether the *type* of multinationals (financially-oriented vs industrial) presents different impacts on a focal industrial district. Our results point out that the massive entrance of foreign capital alters the local system. Overall, positive perceived attitudes are evidenced, along with negative attitudes associated with potential risks of lack of local-embedded ownership and the reduction of local cooperative ties.

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Industrial districts; innovation; private equity; multinationals; acquisitions

1. Introduction

ID literature has extensively shown socially-thick IDs, based on social aspects (local rules of the game, tacit norms, social ties, reciprocity or trust, among many others; see Becattini 1990; Bellandi 2011; Brusco 1982, 1999), as one of the main facilitators of local production and innovation. Theorizing on the intersection of multinationals (Belussi and Hervas-Oliver 2016; Hervas-Oliver and Albors-Garrigos 2008; De Marchi, Di Maria, and Gereffi 2017; Belussi et al. 2020) and IDs, however, less research efforts are devoted to understanding how foreign capital entry potentially impacts socially-thick IDs. Thus, this article analyzes the effects on IDs exerted by multinationals accessing IDs through acquisitions, either positive or negative.

By intersecting these different strands, novel yet related sub-lines of inquiry are unfolded in ID literature: How does a massive entrance of foreign capital impact an innovative and mature socially-thick district in a developed country? Is all foreign capital producing the same effects on IDs? We theorize that the specific nature, goals and purposes of entities entering into IDs differ and, therefore, impacts are heterogeneous. By *types* of multinationals we mean whether multinationals are those expanding business and operations (e.g. seeking product specialization, diversification, cost- or assets-seekers, etc.) vs

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those that are just expanding *private equity funds* (PEFs). The latter might be *venture capital*, typically more active in startups, or *buy out*, those based on acquisition of portfolio (targeted) companies to gain some percentage of ownership and control. In this study, we refer particularly to the *buyout* types. According to theory, it seems that those financially-oriented companies (PEFs), rather than conventional non-financially-oriented multinationals, are following a *buy-and-sell* strategy (Jenkinson and Sousa 2015), focusing only on the type of exit through initial public offering, sell to another fund or sell to a corporation, for the sake of maximizing profits in the short term (Tykvová 2018, 341). Therefore, we posit that this different rationale of the investment oriented to just returns might also present different effects on IDs. How does this different rationale impact the district assumption of *sense of belonging* and the local institutions *à la* Becattini? In the same line of thought, therefore, how are other district features, such as cooperation, going to be developed by these new actors? Thus, we argue that impacts on a focal industrial district might be related to the specific nature and objectives of the acquiring multinational. Put differently, we posit that whether the multinational entering is a PEF (*buyout*, in this particular case) or a company in the same or a related sector of the focal district can really make a difference to the local territory.

This present study is positioned in the Marshallian literature (Becattini 1990; Becattini, Bellandi, and De Propris 2009; Hervas-Oliver et al. 2023), intersecting two sublines of inquiry: the topic of group formation in districts through mergers and acquisitions (e.g. Cainelli, Giannini, and Iacobucci 2020; Randelli and Boschma 2012) and the topic of multinationals in districts (e.g. Belussi 2018). Our novel approach is based on exploring, cross-fertilizing these sub-lines of inquiry, the effects that acquiring multinationals have on districts, depending whether they are financial or non-financially-oriented. In doing so, we attempt to contribute to a much better understanding of the role of foreign capital in districts.

The setting for this study is the ceramic tile district of Castellon, because it underwent a massive entrance of foreign capital during the last decade (PEIV 2018; Molina-Morales et al. 2021; Belussi et al. 2020; Hervas-Oliver, Belso-Martínez, and Díez-Vial 2022). Using case study to build theory, the focal process is the effects that acquirers, whether are financially- or non-financially-oriented firms, of different nature and purposes exert on the territory and its firms. Our research goes a step further and, beyond the study of concentration and business groups formation, analyses the effects by different types of acquirers.

Our results show the different positive and negative effects, along with differences depending on the type of foreign investments, that is, whether they are financially- or non-financially-oriented. Our conclusions do contribute to the ID literature, especially to that line of inquiry studying multinationals in IDs (e.g. Belussi 2018; Belussi and Hervas-Oliver 2016; 2018).

2. Mergers & acquisitions in industrial districts: what do we know?

2.1. Effects from multinationals

ID literature on group formation and concentration of production in IDs (e.g. Cainelli, Giannini, and Iacobucci 2020; Hervas-Oliver, Belso-Martínez, and Díez-Vial 2022) points out that local acquirers' advantage, vis-à-vis non-local, is based on their understanding and knowledge of local social ties or informal relations that are pervasive in districts. Foreign capital or non-local acquirers, however, do not have access to that social knowledge, which becomes a relevant sought-after asset for gaining local knowledge. In addition, literature also points out spill overs brought by multinational companies, either foreign or home-grown ones (see Belussi 2018; De Marchi, Di Maria, and Gereffi 2017; Hervas-Oliver and Albors-Garrigos 2008), showing positive effects that strengthen local territories (Belussi 2018; De Propris and Driffield 2006; Hervas-Oliver, Belso-Martínez, and Díez-Vial 2022; Menghinello, de Propris, and Driffield 2010).

Beyond these assumed positive effects on IDs, however, literature on IDs also presents the argument that multinational investments create challenges. In fact, more competitive pressures are created for local firms that have to compete against larger corporations, presenting uncertainties and bringing an existential threat to those local firms that lag behind or present smaller sizes and resources. In this chain of thought, Hervas-Oliver, Belso-Martínez, and Díez-Vial (2022) report that the entrance of the multinational ZARA in the Vinalopo Footwear district in Alicante (Spain), with the aim of developing a fashion line of footwear to complement ZARA's clothing, impacted on the local leading firms by *employee poaching*, attracting those leading technicians. The latter facilitated learning about the local business and also entering into local social ties and networks. The cited study, however, also presented the positive effects of diffusing market knowledge and infusing better design and even R&D into the local system.

2.2. Financially-oriented capital and IDs

We posit that acquisitions in cluster/ID contexts present another key difference less researched in literature: the types of firms and their specific business goals, especially, whether these firms are financially- or non-financially-oriented. As stated by Hervas-Oliver, Belso-Martínez, and Díez-Vial (2022), local and non-local acquirers seek synergies that can be different in nature. Specifically, and complementing other cost- or market-based synergies, they seem to be more oriented to access *relational* synergies to access local tacit knowledge based on social, personal and inter-firm ties. Thus, we argue that multinational companies entering into clusters and industrial districts can be *industry-oriented* or *financially-oriented*. The former is the typical multinational that in the same or related business seeks synergies and expansion of business, regardless of the type of diversification (e.g. vertical, horizontal, etc.) or specialization sought. The latter, however, is based on a *buy-to-sell* approach (Folus and Boutron 2015) by which PEFs are managing local district companies in the short term in order to subsequently sell them off at a substantially higher price. Obviously, their goals and purpose really differ and the impact on the focal territory might follow suit. Thus, our argument is presented as follows.

As Folus and Boutron (2015) state, the typical cycle of a private equity (PEF or Venture Capital, VC) fund is looking for opportunities in the market, closing a good investment deal, helping/managing the companies to create more value and exiting the company with a profit. This strategy of buy-and-sell is supported by substantial evidence (Jenkinson and Sousa 2015), where only the type of exit or sell is highlighted (initial public offering, sell to another fund or sell to a corporation). In this chain of thought, '*the primary goal of VC and PE funds is to maximize their financial returns by selling the companies at exit because they are required to return money to the investors*' (Tykova, 2018:341). Usually, literature shows how the timing for the exit (selling the target firm acquired) is set at a very short term, usually no more than five years (Wright, Gilligan, and Amess 2009), to the extent that the life cycle of a specific investment vehicle (a PEF) is usually from 10 to 12 years (Jenkinson et al. 2022).

Therefore, literature assumes that the PEFs follow some basic principles (Barber and Goold 2008) like the fact that top operating managers from the portfolio companies (those targeted and acquired) are asked to stay, because usually PEFs don't intervene directly in the day-to-day operations of the portfolio companies. In this vein, we argue that PEFs are short-term profit oriented companies that would not present commitment to the local companies acquired, nor to the focal territory. This orientation, far from ID canonical ideas (sense of belonging, cooperation, social ties, trust, reduction of opportunistic behavior, etc., see Becattini 1990; Brusco 1982) are not supposed to be part of a focal PEF's purpose. However, as Hervas-Oliver, Belso-Martínez, and Díez-Vial (2022) show, other effects such as those from cost-based synergies or a more rational economic decision-making process, even better productivity (Harris, Siegel, and Wright 2005) and exports (Wilson, Uddin, and Wright 2022), can be positive for the target firms and the local territory, at least in the short term. In this chain of thought, we expect that the effects and consequences for a focal local territory or ID might present differences, depending on the type and purpose of acquirers.

Literature suggests that the dominance of multinationals in IDs might bring a new set of institutions that enhance contracts and sanctions over the traditional social capital-based informal rules of the game in districts (see Belso-Martínez 2015). By institutions, following the review by Bellandi, Chiara Cecchetti, and Santini (2023), we refer to all norms, regulations, cultural habits that define the local way of doing things. When addressing an ID local organization and the cognitive structure, the analysis focuses on those aspects related to the local value chain, the local know-how and the population of public (e.g. research organizations, trade associations, etc.) and private organizations (firms, both SMEs and leading ones) that coexist in the space. Then, the social-cultural dimension defines the importance of the social capital and the idea of embeddedness or sense of belonging (see the review by Bellandi, Chiara Cecchetti, and Santini (2023) for all references).

Intersecting multinationals and IDs, therefore, we expect that whether a company is a PEF or an industrially-based multinational might produce different effects and consequences on a given focal territory or ID.

3. Setting, method and sample

3.1. Setting

Following Hervas-Oliver, Lleo, and Cervello (2017) and others (Molina-Morales, López-Navarro, and Guía-Julve 2002; Hervas-Oliver and Albors-Garrigós 2007; Gabaldón-Estevan, Manjarrés-Henríquez, and Molina-Morales 2018; Gabaldón-Estevan and Hekkert 2013), the Castellon (Valencia Region, Spain) ceramic tile district is an example of one of the best world-class local innovation systems in ceramic tile innovation and production, presenting less volume than those districts in China or Brazil but developing cutting-edge innovations in the industry. The latter predominantly originate from the local (auxiliary industry) glazing (chemical) firms that supply knowledge to the ceramic tile manufacturers. The synergistic interaction between different parts of the local system makes Castellon a leading innovation center for ceramics. The symbiotic interaction between the ceramic tile sector and that of glazing, along with the local research and technology center (ITC), entirely devoted to ceramic tile innovation, makes the setting a true innovation engine. The local support of UJI University, offering world-class training of industrial engineers in ceramic chemistry in coalition with the ITC and the local industry, and also the strength of the local business association (ASCER) collective actions (e.g. joint purchasing of industrial gas; promotional efforts to diffuse the culture of ties among architects all over the world, lobbying for new sources of clean energy or the organization of world-class ceramic tile fair trade, CEVISAMA, among many more) contribute to reinforce Castellon as a leading global hub for ceramic tiles, along with its counterpart, Sassuolo (Emilia-Romagna, Italy) (see Table A1 for more information about the local district in the Appendix).

As we can read in Hervas-Oliver and Albors-Garrigós (2007), the chemistry sector for ceramics is a leading auxiliary industry for ceramic decoration (that is, applying color and roughness to the tile) that is well-known for world-class ceramic decoration. Most of the world's innovation in ceramics comes from the Castellon auxiliary (chemical) industry and the ceramic equipment and machinery industry from the Sassuolo district. In fact, both districts feed the world ceramic tile industry with cutting-edge knowledge and innovation. A major disruption occurred in the early 2000s, making the transition to digital ceramic tile decoration (through inkjet technologies), creating a new sub-industry of very high added-value (see Hervas-Oliver, Lleo, and Cervello (2017) and Hervas-Oliver et al. (2018)).

3.2. Method and sample

Methodologically, for the specific nuances and details explored, we use mix-methods, conducting analysis of secondary sources, interviews, analysis of questionnaires and in-depth case studies. First, we study and analyze all secondary data that has described the wave of acquisitions in the local setting, especially following data from Hervas-Oliver, Belso-Martínez, and Díez-Vial (2022). This data was elaborated from different sources (ceramic and general economic press, SABI database, ASCER data, etc.), complemented with a total of 43 interviews in two time periods, in 2017 and in 2022. In the present paper we accessed to this data and consider it all secondary data.

Additionally, in 2023, 36 informants from local firms not acquired filled out a questionnaire, that is, those that remain local in ownership. These companies were not in the tables of the concentration process. A questionnaire of nine items was distributed among participants during February, 2023, during the CEVISAMA ceramic fair trade hold in Valencia. We collected all information about perceptions of effects of the entrance of foreign capital into the district. This questionnaire of nine questions was sent by email to firms in the district, seeking evidence on the perception about the effects that those foreign firms could exert on the local production system. In addition, we also discussed questions some of them (in-person, during the CEVISMA-2023 fair trade, around 30% and by telephone, around 20%), collecting additional evidence to interpret results.

Lastly, two in-depth case studies were performed, using secondary data and interviews about the different types of foreign capital entering the district, in particular, the two that represent the largest investment in each case, that is, a multinational company from decoration and covering that diversifies into tiles by acquiring local ceramic tile firms (VICTORIA PLC) and an Investment Fund PEF, the global firm CARLYLE which performed the largest acquisition of the different local leaders of chemistry for tiles, forging the world-class leader of this particular technology. Chemistry for tile decoration (frits and glazing, in the jargon) is the most important part of the supply chain of ceramic tile production along with ceramic machinery, the former being entirely a Castellon-based world class industry in the ceramic district. We dissect the two model types of non-local acquirers, multinationals and PEFs, which are very different in nature and goals. Information of these companies is collected from the company's statements, memorandums and financial disclosures, retrieving information from their corporate web pages. We also document press coverage of the foreign acquisition events of local targets. We build a chronological timeline event for each company and also interview local informants related to those acquisition events. In particular, we interview the CEO of Victoria PLC[1] at Castellon and other local interviewees related to the targeted firms.

In summary, databases of the concentration process and interviews (43) directly from secondary data (from Hervas-Oliver, Belso-Martínez, and Díez-Vial 2022); then, 36 firms (in 2023; local firms not involved in the process; questionnaires through email; then commenting results in-person – around 30% – and by phone – around 20% –); 2 in-depth case studies, including interviews in 2023 (Victoria and Carlyle) for distinguishing types of foreign capital (productive vs non-productive ones).

4. Empirical evidence

4.1. Victoria PLC: a complementing outsider

In 2012, Victoria PLC, a company based in the UK mainly focused on production and the commercialization of soft coverings, i.e. carpets, decided to diversify its portfolio of products related to coverings and also to make a progressive expansion into western markets (mostly Canada, the UK, the US, Australia and Europe), choosing two clear paths: organic growth and external expansion by acquisitions. Their goal was increasing scale and also diversifying into coverings-related products. These decisions show impressive numbers: revenues grew from M£77.13 (2012) to M£660 (2021) and its stock market price increased from 45£ in June 2012–464£ in June 2022.[2]

From an original focus on Anglo-Saxon markets and carpets (38% UK and 62% Australia), it evolved into a company with a diversified product portfolio in flooring (ceramics, carpets, rugs, artificial grass, vinyl, etc.) and an EBITDA of 41% for Europe, 32% for UK, 12% for Australia and 15% for the rest of the world; it is worth noting that while ceramic tiles represent 43% of revenues for the entire group for UK and Europe, they represent 50% of profits for 2021. Ceramic tiles are now a core product and capability of the company.

At the beginning of the external expansion, VICTORIA PLC started by buying out carpet companies in the UK. These acquisitions were reasoned as a potential source of synergies. As evidence, the Chairman of the company states in the 2015 half year report that:

> Operational synergies have been a primary driver of the significantly enhanced performance of the businesses that have been part of Victoria since the start of the year. Of course there is much more to achieve – the process is never ending – but the benefits of the Company's strategy of achieving scale through acquisitions are becoming clear.[3]

In 2017, VICTORIA PLC ventured into a related product: ceramic tiles. The reason? Ceramic tiles represented over 60% of the flooring market, while carpets were starting to decline. Specifically, the ceramic sector represented about 65% of spending on floors in the Western markets and Victoria was not present in that sector. It first targeted the Italian (Sassuolo) ceramic tile district, acquiring an Italian ceramic flooring manufacturer, *Ceramiche Serra S.p.A*. VICTORIA reported that:

> The Acquisition marks Victoria's first move into the ceramic flooring market, which is the largest flooring sector in the world, representing over 60% of flooring sold globally and 30% of flooring sold in Europe. Acquiring Serra therefore opens a large new market to Victoria. The Board believes that there is significant opportunity for further acquisitions in the sector, which should result in a number of commercial, operational and financial synergies – creating additional value for Victoria's shareholders in the medium term.[4]

With the acquisition of *Ceramiche Serra*, Victoria complemented its portfolio of products in the lead market for ceramic tiles, and positioned itself in the most dynamic flooring market; it also gained geographic diversification for revenues outside the British markets. The company asked the local Italian management team to stay, emphasizing the relative independence of the managerial team of the acquired company. After the acquisition of Serra, VICTORIA bought out three Spanish companies in the same sector, belonging to the ceramic district of Castellon in Spain, accessing also to the Castellon local innovation system and allowing them to seek an abundance of synergies and collaboration. The acquisitions in Spain were close to 40% of the overall amount of acquisitions for the period considered.

We can see a rise in the ceramic business unit sales of the group, which continued growing in double digits (+15.8% up, representing 42.6%) in comparison with a decline in carpets (−0.6% down, representing 42.3%; all data for 2020). Beyond ceramics, Victoria completed its portfolio of products with rugs, vinyl, wood floor and artificial grass, all of them applied to the flooring market (see a summary of the data in Table 1).

4.2 The entrance of Carlyle in the ceramic tile sector

In 2012, *Investcorp*, a PEF from *Bahrein*, acquired Castellon home-grown Esmalglass-Itaca, and later Fritta (2015), both major players in the chemical ceramic tile industry from Castellon, merging them and creating a world-class leading group. At that time, in 2015, three major leading companies from Castellon controlled the innovation and production of chemical decoration for ceramics (through inkjet technologies): Investcorp (a new group), Torrecid (a home-grown Castellon multinational) and Ferro (foreign multinational from US) (see more details in Table 2).

Table 1. Timetable of Victoria PLC acquisitions.

Year	Target firm	Country	Price	Sector
2013	Westex	UK	M£16	carpet
2014	Abingdon Flooring Limited	UK	M£8	carpet
2015	Whitestone Weavers	UK	M£5.74	carpet
2015	Quest	Australia	MA$24.5	carpet
2015	Interfloor	UK	M£65	carpet
2016	Ezi Floor	UK	M£19.5	carpet
2016	Dunlop flooring	Australia	MA$34	wood flooring
2016	Avalon BV & GrassInc. BV	Netherlands	M€11.2	artificial grass
2017	Ceramiche Serra S.p.A	Italy	M€56.5	ceramics
2017	**Keraben Grupo S.A**	**Spain**	**M€274.1**	**ceramics**
2018	**Ceramica Saloni**	**Spain**	**M€96.7**	**ceramics**
2019	**Iberoalcorense, S.L**	**Spain**	**M€15**	**ceramics**
2020	Ceramiche Ascot	Italy	M€11.5	ceramics
2020	Keradom	Italy	M€14.1	ceramics
2021	Ceramica Colli (distributor), Vallelunga (distributor) and Ceramiche Santa Maria (manufacturer)	Italy	M€35	ceramics
2021	Edel Group BV	Netherlands	M€49.4	artificial grass
2021	Cali Bamboo Holdings	USA	US$76.1	distributor
2021	B3 Ceramics Danismanlik ('Graniser')	Turkey	M€8.4	ceramics
2021	Balta	Belgium	M€138	rugs

Source: own from Hervas-Oliver, Belso-Martínez, and Díez-Vial 2022a; also, from sources listed in the main body of the manuscript. M = millions.

Table 2. Description of the concentration of the chemical (glazing, frits and inks) sector for ceramic tiles and inception of the new Altadia group.

TARGET COMPANY	YEAR OF FOUNDATION	DESCRIPTION AND FACTS
ESMALGLASS	1978–1999	Manufacturing and marketing frits, glazes and ceramic colors, in 1979 opened a subsidiary in Italy, later opening more subsidiaries in Brazil, UK and Portugal
ITACA	1989–1999	Manufacture ceramic colors
ESMALGLASS-ITACA	1999–2012	In 1999, both companies decided to merge forming a single group. In 2012, Investcorp (an investment fund from Bahrain) acquired the company; at that time the group had manufacturing and mixing plants in Spain, Brazil, Portugal, Italy, Russia, Indonesia and China. The estimated price is M€300.
FRITTA	1973–2015	Produces ceramic frits, glazes and ceramic colors. In 2013, Nazca Capital (a Spanish investment fund) paid €45 m and acquired the company. In 2015, Investcorp acquired Fritta; at that time Fritta had manufacturing plants in Spain and Vietnam and two glaze mixing units in Italy and Mexico, when the company was already producing inks for ceramics. Investcorp paid M€86, double that of Nazca.
ESMALGLASS-ITACA-FRITTA	2015–2017	Lone Star (an American investment fund) acquired the group to Investcorp for €606 m; the capital gain for the seller was about M€200 m.
FERRO Spain-ceramics	1968–2019	The American multinational started its activity in Spain in the 50s with manufacturing of glazes for steel; in 1968 it opened a plant in Almassora (Castello) in the ceramic cluster. In 2017, it bought a participation in Gardenia Química, a firm of ceramics additives (increasing its share from 46% to 83.54%) and also acquired Endeka (a firm producing frits, glazes and raw material for ceramics) investing an overall amount of M75€. In 2019, Lone Star acquired the ceramic division of Ferro for M€439, naming it Younexa.
Altadia	2021–2022	Lone Star integrated all these businesses (Younexa and Emaltglass-Itaca-Fritta) in a group called Altadia. The investment fund Carlyle acquired Altadia for €1800 m.

Source: own from Hervas-Oliver, Belso-Martínez, and Díez-Vial 2022a; also, from multiple sources[11] from the text and databases. M = millions.

In 2017, *Investcorp* sold Esmalglass-Itaca-Fritta[5] to *Lone Star* (an American PEF[6]) with a net gain of around 30% or M200€. In only two years, the PEF materialized profits from the acquisition. Lone Star kept the group and in 2019 they bought out Younexa, the ceramics division of Ferro in Spain, creating the leading chemical for ceramics group in the district and one of the two leading such companies in the world. Lone Star' Younexa (Ferro + previously Esmalglass-Itaca-Fritta), jointly with Torrecid (still an independent chemical company in the Castellon district, co-leading the decoration activity with Younexa), accounts for around 80% of sales in Spain and most of the world-wide exports to international markets. The Younexa group from Lone Star was renamed Altadia in 2021.

Lone Star sold Altadia in 2022 to CARLYLE, another American PEF, for 1,800 Million Euro, making a profit of 755 Million Euro in around two years. Altadia is one of the largest groups in the ceramic tile auxiliary industry (chemistry for tile decoration) achieving not only operational synergies (from production, marketing, R&D and other activities) but controlling a large part of the market valued at €1800m.

The new group owned by Carlyle has a turnover of around €800M, 32 productive plants in 19 countries, and 19 distribution centers. It is made up of Esmalglass, Itaca and Fritta, jointly with Ferro TCB, Quimicer, Endeka, Vetriceramici, SPC Color, Gardenia Química, Zircosil and Oximet. It has around 3,600 employees around the world. The second leading firm in the district is TORRECID, a home-grown multinational company owned by a Castellon family. TORRECID is a global multinational family business founded in 1963, dedicated to providing products, services, solutions and future trends to the ceramic industry. With more than 50 subsidiaries and over 3000 employees in 29 countries, this group serves clients in 130 countries worldwide.

Carlyle group is a private equity fund, the sixth largest by capital raised, according to PEI300.[7] Carlyle works in three main business segments: global private equity, global credit and global investment solutions. It has 26 offices in five continents and 1,900 employees. Carlyle, like all PEFs, works to a four-stage strategy:

1: Investment sourcing: they evaluate emerging growth markets, market disruptions and changing consumer preferences to find opportunities.
2: Investment due diligence: the analysts and experts at Carlyle evaluate in-depth the focus company, finding opportunities to create value and the risks.
3: Investment period: Carlyle helps the company to grow and perform better while measuring important KPIs (Key Performance Indicators).
4: Exit: Carlyle constantly looks for premium valuation for its acquisitions in order to sell them.

As we can see in Tables 4 and 5, the PEFs range of buying-selling time window is between two to five years in most cases, never showing long-term commitment to the target (acquired) companies. In all cases, a positive integration of groups is achieved, favoring the formation of synergies and allowing, in most cases, top management team permanence.

In Tables 3 and 4, the way PEFs gained profit is shown, ranging from 36% to 48% in a time window of two to five years. These are impressive numbers. What is not yet known is how much the integrations (synergies, reduction of waste and overlapping activities, etc.) achieve and whether those operations pay off for the IDs as well as the investors.

Table 3. Carlyle acquired Altadia. Acquisitions of investment funds in the chemical (glazing, frits and inks) industry for ceramic tiles.

PEF	Target	Year	Amount
Nazca capital (Spain)	Fritta	2013	M45€
Investcorp (Bahrein)	Esmalglass-Itaca	2012	M300€
	Fritta	2015	M86€
Lone Star (USA)	Esmalglass-Itaca-Fritta	2017	M606€
	Ferro-Younexa	2019	M439€
Carlyle (USA)	Altadia	2021	M1800€

Source: own from Hervas-Oliver, Belso-Martínez, and Díez-Vial 2022a; also, M = millions.

Table 4. Exits of investment funds in the chemical (glazing, frits and inks) industry for ceramic tiles. Selling off Altadia to Carlyle.

EXITS							
Name of investment fund	Company sold	Year	Amount	Years from the 1st acquisition to the final sale	Net gain in M€	% net gain	% net gain per year
Nazca capital	Fritta	2015	M86€	2	M41€	48%	24%
Investcorp	Esmalglass-Itaca-Fritta	2019	M606€	5	M220€	36%	7.2%
Lone Star	**Altadia**	2021	M1800€	2	M755€	42%	21%

Source: own from Hervas-Oliver, Belso-Martínez, and Díez-Vial 2022a; also, from Table 3, data sources listed in the manuscript and own calculations. M = millions.

Another blind spot is based on the fact that we do not know how much the acquisitions/ sales supported or constrained long-term (R&D) investments in the local companies that can spill over to the territory (see Tables 3 and 4).

4.3. Questionnaire-based evidence

The analysis of the questionnaire brings very interesting results. According to data shown in Table 5 and A-2, the overall feeling of local actors to the entrance of new foreign capital, that is, question #1, is positive (18 out of 36) and neutral (11 out of 36), rather than negative (7 out of 36, 19.4%). Regarding the most valuable contributions that informants perceived by foreign capital in the local district, cost reduction and synergies (16/ 36) and more internationalization (16/36) stand out.

As respondents comment when filling in the survey, cost reduction is a very good and positive reason, as these companies tend to concentrate the same models of production in the same plant, achieving economies of scale and reducing the experience curve. As informants pointed out:

> … only manufacturing a reduce typology of products in the same lines dramatically increasing productivity. These companies choose each company from within the group to produce a few ranges of products, making each plant rather a specialist on those products, such as in the automotive industry.

> … … these groups also take the opportunities to share marketing costs and commercialization costs, using the same infrastructure and investments for all the companies.

In additional, more financing for innovation projects remains between positive (14/36) and neutral (21/36), as well as bringing to the local district new 'home' (decoration, styles, trends, etc.) knowledge (positive 14/36 and neutral 19/36).

Table 5. Analysis of survey's questions on the general and specific effects of foreign capital entrance.

Variables	1 General perspective	2 Cost reduction	3 Internationalization	4 New Technology	5 New marketing	6 More innovation	7 Betterdecisions	8 Non-local ownership	9 Cooperation
Positive	18 (50%)	16 (44.44)	16 (44.44%)	9 (25%)	14 (38.89%)	14 (38.89%)	25 (69.44%)	6 (16.67%)	8 (22.22%)
Neutral	11 (30.56%)	16 (44.44)	18 (50%)	21 (58.33%)	19 (52.78%)	21 (58.78%)	10 (27.78%)	17 (47.22%)	18 (50%)
Negative	7 (19.44%)	4 (11.11)	2 (5.56%)	6 (16.67%)	3 (8.33%)	1 (2.78%)	1 (2.78%)	13 (36.11%)	10 (27.78%)

Source: own, from survey.

A very interesting positive perception is that based on potentially better managerial and economic decisions (25/36), the latter very salient. As one interviewed informed:

> Traditional firms mostly measure performance by sales … .they want to be high in rankings, show off growth … that is of utmost social importance … .. Whereas foreign capital wants just profits: sales are not important but returns. In the foreign capital decision-making process nothing is related to egos or to social aspects … ..just achieve the objectives.

> The foreign capital has no 'social dimensions' or local rules, just to make rational economic decisions … .

In general, we observed from the interviews that complemented the survey that local informants perceived a more professional management, better economic decisions and a more formal perspective. This is very positively perceived, as numbers show, as it is considered a more professional way of doing business, contributing to dismiss other more emotional and non-professional ways of doing business that some family companies show, especially those smaller. This positive effect, however, is also related to potentially changing the local existing institutional setting: turning from a social-based (informal, trust-based, etc.) to a more professional (formal) perspective. That means that social-capital and cooperation might not be as important as in the traditional way of doing things in IDs.

In this line, and connecting to those rather negative perceptions, there are two results that stand out: less cooperation (10/36 negative and 18/36 neutral) and potential risks from no local ownership (13/36 negative and 17/36 neutral). Diving in-depth on the analysis of these two perceptions, respondents were quite clear on them:

> … .the risk is that manufacturing is off-shored to a third (lower-cost) country. The new group Victoria PLC (new entrant from UK home decoration industry) just acquired a new factory in Turkey, transferring all knowledge there … ..I do not think they are embedded in the territory … ..it is just a more professional way to see profit & loss account … or just how the usual multinational business goes on … .

These potential risks of offshoring, for instance, are well-documented and in early 2023 one of the new foreign acquirers closed down one of the acquired factories and re-opened a new one in Turkey[8], laying-off around 200 employees.

Some informants commented that:

> As regards cooperation with local actors, formal inter-firm relationships are rather more formal and more professional … .

> 'With these new groups you cannot bargain the price … ..they follow top-down headquarters orders …

> Local actors are rather more flexible in the relationships, interaction is more based on trust … … those new actors just follow by the book their standards for price, delivery, quality … .nothing is based on cooperation nor tradition … .

> It looks like there are new rules of the game, trust, friendship and all local values matter, but they are not any more the rule, just a facilitation of trading and doing business. Working for and with those groups requires new perspectives, tight schedules and a more professional management.

As the manager of a new big group (Victoria PLC, a multinational company) commented:

> Of course social ties and relationship matters here … .we are all local people, I have lunch with all my local professional colleagues from my supply chain, my competitors are even (some of them) my friends … .our relationships are based on trust, tradition and friendship. The new factor, however, is that I just follow the corporate culture from headquarters for trade debt expirations, delivery time, prices, etc. … .my focus is more on controlling the profit & loss account that I report to headquarters: just following the new cultural values from the group.

Another manager from a new group (a PEF that acquired local factories) informed:

> Investment funds never change local teams … .they do not know the business, we are all the same team that has been running this company for a long time, we do things as usual, including our local relationships, trusting usual partners and so forth … the only remarkable change is that we have new reporting requirements and returns to achieve, new objectives; I have to report every three months and I have to follow the fund's basic requirements about pricing, costs, projects … ..the real difference is that need to disclose more frequently and achieve financial and commercial targets: my investors want to see profit. In this sense, yes, local rules are prevailing but we have also added other types of requirements that come from the headquarters and are more professional and less social … ..

According to the quotes, we evidence that cooperation for transactions, with those foreign groups, is rather different from traditional ways of doing things in IDs. Rather, we observe that more formal institutions are becoming, whether accepted or not, the new business- as-usual in the district. Informants keep maintaining and using social ties to facilitate business transactions, but the new rules of the game are rather different. This is evidenced in the new way of setting prices, the tight constraints for delivery schedules or the stricter and more formal trade expirations, just as a matter of fact.

Finally, as Table 6 shows, the majority of foreign capital entrance is done through acquisitions, that is, brownfield investments; we did not notice alliances or joint ventures at all. This finding responds to a very interesting question that has been posited from the IB and EG intersection literature. It seems that the importance of accessing tacit knowledge and the entrance on local social networks is capital in the case of districts.

5. Discussion and conclusions

Positioned in the Marshallian district literature, this article analyzes the potential effects, either positive or negative, that foreign capital exerts on industrial districts and the different *type of multinationals* behind these effects, whether they are financially- or non-financially-oriented. Using mix-methods and theory-building on a focal case-study,

Table 6. Local firm acquisitions by international acquirers.

Year	Local firm acquired	Acquirer	% of acquisition	Mode of entry
2012	Cretaprint (auxiliary industry, tile equipment for decoration)	EFI (A Silicon Valley listed company in printing technology, entering ceramic tile digital decoration)	100%	Brownfield (acquisition)
2013	Marazzi	Mohawk (US distributor of coverings)	100%	Brownfield (acquisition)
2017	Endeka Ceramics (auxiliary industry, glazing)	Ferro (American corporation focused on glazing; historically rooted in the district since the 60s)	100%	Brownfield (acquisition)
2017	Grupo Keraben	Victoria Carpets (leading UK coverings – carpets, tiles, floors, etc. – distributors)	77.3%	Brownfield (acquisition)
2017	Esmalglass-Itaca (auxiliary industry, glazing)	Lone Star (US investment fund in real estate and construction)	100%	Brownfield (acquisition)
2018	Saloni	Victoria Carpets (leading UK coverings – carpets, tiles, floors, etc. – distributors)		Brownfield (acquisition)
2018	Halcón Cerámicas	SK Capital Partners (Falcon investment fund from the UK)	100%	Brownfield (acquisition)
2018	Equipe Cerámicas	Miura Partners y Mandarin Capital Partners (MCP), Spanish and Italian investment funds.(forming Italcer group, a group of Castellon and Sassuolo ceramic tile producers)	100%	Brownfield (acquisition)
2019	Ibero Alcorense	Victoria Carpets (leading UK coverings – carpets, tiles, floors, etc. – distributors)	100%	Brownfield (acquisition)
2019	Ferro (auxiliary industry, glazing)	Esmalgrass-Itaca (local leading frit and glazing Company), owned by Lone Star (construction and real state)	100%	Brownfield (acquisition)
2021	Roca (division ceramica)	Grupo Lamosa (Mexican-listed company specialized in construction and ceramics)	100%	Brownfield (acquisition)
2021	Equipe Ceramicas	Italcer (international group)	100%	Brownfield (acquisition)
2021	Spring-2021, Altadia (Younexa)	Lone Star (US investment fund in real estate and construction); in 2022 Carlyle acquired Altadia-Younexa to Lone Star (both are financial investment funds).	100%	Brownfield (acquisition)
2021	Cicogres (firm speciaized in large size formats)	Halcon cerámica (local district group, previously acquired by UK SK Capital and Falcon)	100%	Brownfield (acquisition)

Source: own from Hervas-Oliver, Belso-Martínez, and Díez-Vial 2022; also, from analysis, interviews, databases, press, etc.

this article presents tentative answers to these questions for the case of the Castellon ceramic tile ID.

This study's argumentation is based on the idea that PEFs follow a *buy-to-sell* approach, a rather short-term-orientation, and focus mostly driven by financial goals. PEFs would not present commitment to the local companies acquired, nor to the focal territory, allegedly challenging established ID classical ideas (sense of belonging, cooperation, social ties, trust, reduction of opportunistic behavior, etc.). Therefore, we expect that institutions can be altered, along with other positive and negative effects.

As reported, the focal ID has evolved from a social-capital community of family-based SMEs (around 400 in the late 90s, ranging from 50 to 200 workers on average[9]) to a mix of foreign capital investments with headquarters in different countries or local large groups, along with just 15%–20% of local production accounting for independent SMEs, as related in Hervas-Oliver, Belso-Martínez, and Díez-Vial (2022). For instance, from 2017 to 2022, *Investcorp* PEF sold previously acquired local companies to *Lone Star*, and the latter re-sold to *Carlyle*, all of them being PEFs. The companies re-sold in these operations are now integrated into a single group, constituting around 60% of the auxiliary chemical industry in the focal district, the real engine of local innovation.

At the present time in 2023, this sub-industry presents a duopoly *de facto*. Is this good for the focal district?

As results indicate, the overall perception by local firms is rather positive or neutral, especially for the cost reduction and efficiency, broader internationalization of the territory and the introduction of a more professional organization and managerial decision-making process, the latter being especially salient. In a less important position, results also show potential entrance of innovation or new knowledge that could also positively impact the local territory. Regarding the negative consequences, two are especially important: (i) the non-local ownership and therefore the potential lack of embeddedness and offshoring decisions, and (ii) the change of the local rules of the game by showing more formal institutions and less social-based interactions, reducing considerably the cooperation in general, showing a change in local institutions. These two impacts are the ones that showed more 'negative' than 'positive' scores, signaling a very interesting new line of inquiry in the ID literature.

As regards the type of foreign firms, results show that the two models of multinational companies studied are very different in nature and purposes with regard to the local socio-economic system. Beyond the local district's acquirers, whose goals are productive in nature and based on synergy-seeking strategic decisions (see Hervas-Oliver, Belso-Martínez, and Díez-Vial 2022), the confrontation of the different types of foreign acquirers highlights a remarkable difference. First, while industry-related foreign acquirers target local district firms, as is the case with Victoria PLC, their main goals are to expand international business operations, diversify and achieve post-merger integrated synergies. As Victoria PLC's statements and investors' information disclosure states, market diversification, synergies and other potential benefits are sought within the acquisitions. This type of industry-committed or industry-related multinational also bring very interesting effects such as the introduction to the district of more economic and professional decision-making processes, the entrance of new capital, new managerial knowledge (management, marketing, financial, etc.), along with new knowledge of different international markets. Also, these new entrants bring a better insertion into global value chains and facilitate local district diversification. Other, negative, effects can also be considered, such as the disappearance of the decision center in the local district, now centered on the multinational headquarters or the different local embeddedness of the new (investors) owners. Second, regarding the PEFs, the analysis is quite different to the VICTORIA PLC case. PEFs are not motivated to stay in the district, but to sell soon and at the best possible price. This might compromise long-term or R&D-intensive investments that can offer returns over rather long periods, as they probably will not increase the selling price. Also, there is no local commitment of any kind and only financial returns-led investments and decisions. Notwithstanding positive managerial and economically-based decisions that professionalize local targets' managerial systems, increase their size and improve their access to finance, the main goal is to sell the local target company. We induce, therefore, that local inter-firm trust, and social interactions can be compromised. Also, financial organizations that are driven by profits alone, might reduce importance to long-term decisions favoring investment and R&D. Institutions based on cooperation, mutual trust and a pervasive sense of belonging shared by local entrepreneurs that live and work in the focal district can also be distorted. These results enlarge and complement those from Hervas-Oliver, Belso-Martínez, and Díez-Vial (2022), that already evidenced that local firms were very skeptical about the local impact from PEFs, but very positive about acquisitions by industry-related multinationals.[10] According to these results, PEFs are not really bringing substantial benefits to the local territory, despite the fact that cost reduction and rationalization of local management systems might occur in the short term. In any case, we need more evidence to support this tentative proposition. Finally, as an ancillary result, the study shows that the preferred mode of entry for foreign capital is brownfield acquisitions, rather than joint ventures, alliances or even green-field investments. The latter result is limited to this single case study. In short, our results point out the alteration of local social institutions, along with other effects, both positive and negative, on the local system.

Our contribution to the ID literature working on multinationals is threefold. First, our study's insights show that foreign capital entering IDs through acquisitions exert specific impacts on the local value chain, producing positive and negative effects across different attributes (innovation, internationalization, cost reduction, etc.), presenting also an alteration of the local way of doing things traditionally portrayed in IDs. The latter remains especially salient as the local rules of the game are gradually modified. New ways of doing things seem to be more tending towards a rather more rigid, formal and non-social-based mode, at least when trading with those foreign multinational companies. Therefore, it can be sustained that different types of institutions might co-exist in the district: two types of institutions in one single district. We point out that small firms, non-integrated in those large groups, will relate differently, depending on the type of local partner, and will face different rules of the game. This contributes to the intersection of innovation systems and institutions (Hassink, Klaerding, and Marques 2014; Martin and Sunley 2015; 2011), and enlarge the framework of IDs by adding the intersection of institutions and multinationals (e.g. Brusco 1999; Belussi 2018; Hervas-Oliver, Belso-Martínez, and Díez-Vial 2022; Bellandi, Chiara Cecchetti, and Santini 2023).

Second, as regards the type of multinational acquirers, whether they present financial motivations (PEFs) or a rather industrial-based tradition, our insight suggests that, despite some positive aspects (professional management, cost reduction, finance, etc.), financial investments (PEFs) might be less desirable in districts. Their short-term approach and buy-and-sell orientation, however, might not be the more interesting model for the local institutions and the cooperative-based interactions, challenging the idea of embeddedness and sense of belonging *à la* Becattini.

Third, our conclusions contribute to the Marshallian ID model (e.g. Brusco 1982; Becattini 1990; Belussi and Hervas-Oliver 2016; Hervas-Oliver et al., 2021) and its sub-line of inquiry that intersects multinationals in IDs (Belussi 2018; De Marchi, Di Maria, and Gereffi 2017; Hervas-Oliver, Belso-Martínez, and Díez-Vial 2022; Hervas-Oliver, Belso-Martínez, and Díez-Vial 2022) and the formation of business groups (Molina-Morales et al. 2021; Cainelli, Giannini, and Iacobucci 2020; Randelli and Boschma 2012).

As regards modes of entry, our findings suggest that *brownfield* investments through acquisitions are the most utilized way of accessing local knowledge and social capital, complementing extant literature (see e.g. Belussi, Caloffi, and Sedita 2017; Belussi 2018; Hervas-Oliver and Boix-Domenech 2013), albeit limited by the nature of the present study, that is, a single case-study.

Scholars can use these insights to research the different types of institutions in districts, by separating those related to SMEs vs large foreign groups. Policymakers then have evidence from which to generate tailored policies that take into account all these impacts, perhaps changing their policy incentives to attract firms in one direction or another, especially regarding the type of support for attracting or promoting foreign capital entry. Finally, local firms and managers are warned about the necessity to develop a *double way of doing business* in order to adapt to these new global changes.

Notes

1. VICTORIA top executive as informant.
2. M millions; https://manufacturing-today.com/profiles/victoria-plc/ (accessed 31 January 2023).
3. https://www.victoriaplc.com/wp-content/uploads/2018/03/half-year-report-2015.pdf (accessed 31 January 2023).
4. https://markets.ft.com/data/announce/full?dockey=1323-13406262-1I0NG5RSD0TSKJPPUUSF6CDJA1 (accessed 5 January 2023).
5. See Appendix.
6. https://www.lonestarfunds.com/ (accessed 5 May 2023).
7. https://www.privateequityinternational.com/pei-300/#pei-300-full-ranking (accessed 5 January 2023).
8. https://castellonplaza.com/victoria-confirma-el-cierre-de-la-planta-de-saloni-en-sant-joan-de-moro-y-concreta-en-198-los-despidos (accessed 5 May 2023). https://castellonplaza.com/victoria-plc-impulsa-la-azulejera-turca-graniser-ante-los-altos-costes-del-gas-en-europa (accessed 5 May 2023).
9. www.ascer.es; ASCER reports.
10. In Hervas-Oliver et al. (2022a), it is stated that:

    - "Investment funds based on financial resources, without a manufacturing tradition are not good … ..they just treat firms as financial numbers and make decisions based on that, without a long-term strategy … .";
    - "I do not think that financial investment funds are good for the cluster … … they have removed competitors and created larger champions that concentrate most of R&D … ..and the decision center is no longer the cluster."

11. See Appendix.

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Appendix

Links and story of the early conformation of Altadia

In 1999 Esmalglass-Itaca, local home-grown Castellon multinationals in ceramic tile decoration, decided to merge forming a single group. In 2012 Investcorp (an investment fund from Bahrein) acquires the company, at that time the group had manufacturing and mixing plants in Spain, Brazil, Portugal, Italy, Russia, Indonesia and China. The estimated price is €300m. Established in 1973 in Onda, Spain, Fritta produces ceramic frits, glazes and ceramic colors. In 2013 Nazca Capital (a Spanish investment fund) pays €45m and acquires the company. In 2015 Investcorp acquires Fritta, at that time had manufacturing plants in Spain and Vietnam and two glaze mixing units in Italy and Mexico, the company was already producing inks for ceramics. Investcorp paid €86m, double that of Nazca.

https://www.esmalglass-itaca.com/es/el-grupo
https://www.investcorp.com/investcorp-acquires-esmalglass/
https://www.expansion.com/2012/07/05/valencia/1341480034.html
https://www.investcorp.com/investcorp-to-add-fritta-to-its-spanish-portfolio/
https://www.expansion.com/valencia/2016/10/07/57f75ea2468aebf80f8b45d5.html
(all websites accessed 5 May 2023).

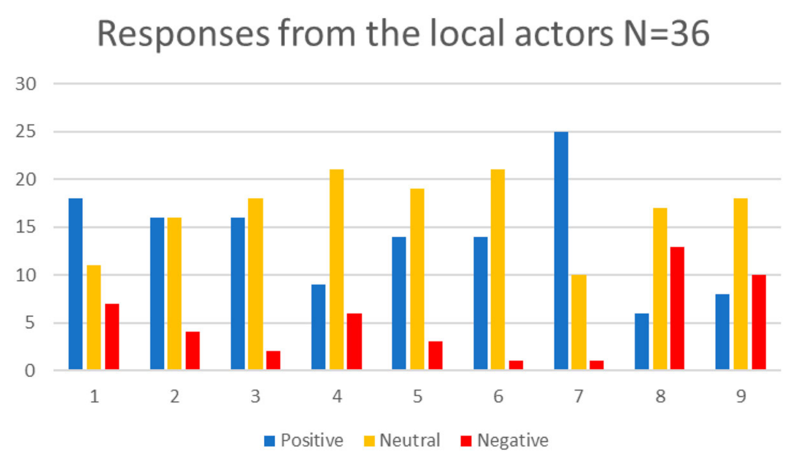

Figure A1. Anwers of the questionaire. Source: own, from survey.

Links of latest conformation of Altadia

https://www.investcorp.com/investcorp-acquires-esmalglass/
https://www.expansion.com/2012/07/05/valencia/1341480034.html
https://www.investcorp.com/investcorp-to-add-fritta-to-its-spanish-portfolio/
https://www.expansion.com/valencia/2016/10/07/57f75ea2468aebf80f8b45d5.html
https://www.elconfidencial.com/espana/comunidad-valenciana/2017-07-13/lone-star-compra-esmalglass-irrumpe-sector-ceramico-en-espana_1414461/
https://www.expansion.com/valencia/2018/04/09/5acbae9c468aebec168b45b3.html
https://www.elconfidencial.com/empresas/2019-12-16/lone-star-ferro-esmalglass-gigante-ceramico_2379236/
https://castellonplaza.com/altadia-crea-younexa-para-integrar-a-ferro-spain-y-tiene-fecha-limite-en-almasora-febrero-de-2023
All websites accessed 5 May 2023

Analysis of the questionnaire

The items of the questionnaire are as follows:

1. Overall, the entrance of foreign capital (either funds or multinational) for the territory is reported to be (positive, neutral, negative)
2. Achieving reduction of costs by synergies performed in the new groups (positive, neutral, negative)
3. Facilitating more internationalization (positive, neutral, negative).
4. Bringing new technological knowledge to the industry.
5. Brining new commercial/ marketing /trends knowledge to the industry
6. Supporting new projects of innovation and research.
7. Introducing better and more professional managerial and economic decisions
8. Potentially transferring ownership to non-district (non-local) actors and places
9. Fostering cooperation in the territory from new foreign capital is: positive, neutral, negative.

Table A1. Statistical analysis of effects of foreign capital entrance.

Variables	Mean	Standard deviation	Standard Error of the Mean	t-value	Significance	Cohen's d
1. General perspective	0.31	0.786	0.131	2.332**	0.013	0.786
2. Cost reduction	0.33	0.676	0.113	2.958***	0.003	0.676
3. Internationalization	0.39	0.599	0.100	3.896***	< 0.001	0.599
4. New technology	0.08	0.649	0.108	0.770	0.223	0.649
5. New marketing	0.31	0.624	0.104	2.937***	0.003	0.624
6. More innovation	0.36	0.543	0.090	3.993***	< 0.001	0.543
7. Better decision	0.67	0.535	0.089	7.483***	< 0.001	0.535
8. Non-local ownership	−0.19	0.710	0.118	−1.643*	0.05	−0.710
9. Cooperation	−0.06	0.715	0.119	−0.466	0.322	−0.715

*** $p<0.01$; ** $p<0.05$; * $p<0.1$ Positive was coded to value 1, neutral to 0 and negative to −1.
Source: own, from survey.
The sample, N=36 is large enough to conduct a simple t-test. Horn (1983) recommends the use of t-statistics for samples between 4 and 20, albeit bigger samples bring more powerful explanations. Thus, the t-test was largely resilient when sample sizes were equal and at least of size n =30 per group while Heeren and D'Agostino (1987) showed that the independent samples t-test was robust with ordinal data; the t-test is preferable even for very small samples when comparing the suggested Wilcoxon signed-rank test for Likert scale data with small samples with the former.