European Planning Studies

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/ceps20

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To cite this article: Jose-Luis Hervas-Oliver, Carles Boronat-Moll, Marta Peris-Ortiz & Ronald Rojas-Alvarado (2023) Understanding spatial networking and industrial district evolution from firms' strategies, European Planning Studies, 31:10, 2058-2086, DOI: 10.1080/09654313.2022.2078659

To link to this article: https://doi.org/10.1080/09654313.2022.2078659

EUROPEAN PLANNING STUDIES
2023, VOL. 31, NO. 10, 2058–2086
https://doi.org/10.1080/09654313.2022.2078659

Understanding spatial networking and industrial district evolution from firms' strategies

Jose-Luis Hervas-Oliver [a,b,c], Carles Boronat-Moll[d], Marta Peris-Ortiz[b] and Ronald Rojas-Alvarado[e]

[a]ESIC University, Madrid, Spain; [b]Universitat Politècnica de València Valencia, Spain; [c]Universidad de la Costa, Atlántico, Colombia; [d]Universitat de València Valencia, Spain; [e]Universidad ICESI; Escuela de Ciencias Básicas, Tecnología e Ingeniería, Universidad Abierta y a Distancia UNAD, Cali, Colombia

ABSTRACT

Positioned in the study of firm heterogeneity in industrial districts (IDs), this study analyses how mergers and acquisitions (M&A) differ between local and non-local acquirers, impacting district evolution. Focusing on the Castellon ceramic tile district transformation, from acquisitions over 2012–2022, M&A and their implication for the local district are discussed, cross-fertilizing strategy and IDs literatures. Findings, from using mixed-methods, reveal that in IDs, the M&A process remarkably differs between local and non-local firms. While local firms tend to specialize in the related focal business, targeting local acquisitions to achieve internal synergies from a better valuation and integration of acquisitions, foreign firms seek access to tacit knowledge through relational and network synergies through diversification. Effects on the territory from M&A are also discussed.

ARTICLE HISTORY
Received 10 November 2021
Revised 9 May 2022
Accepted 10 May 2022

KEYWORDS
Industrial districts; Marshallian socio-economic context; strategy; synergies; mergers & acquisitions

1. Introduction

This article analyses how industrial districts (IDs) show a concentration of production from ongoing serial Mergers and Acquisitions (M&A). M&A are studied under different yet related managerial lenses, such as finance, strategy or economics strands, a fact that not only enriches phenomenon but fragments it (e.g. Feldman and Hernandez 2021). We contribute by adding a 'place-based' or geographic dimension to the topic, extending knowledge on M&A to managerial, clusters/industrial districts and economic geography literatures. Thus, we complement business group orientation in IDs (e.g. Cainelli, Giannini, and Iacobucci 2020) by adopting an M&A perspective, cross-fertilizing managerial and clusters/IDs literature.

Contextualized in the Marshallian literature (e.g. Becattini 1990; Bellandi 1996; Bellandi, Santini, and Vecciolini 2018; Belussi and Hervas-Oliver 2018; De Propris 2001) and set in the recent debate about 'firm heterogeneity' in districts (e.g. De Marchi, Di Maria, and Gereffi 2017; Grashof 2021; Hervas-Oliver, Lleo, and Cervello 2017) and district evolution (e.g. Belussi and Sedita 2009), we open the black-box of understanding

CONTACT Jose-Luis Hervas-Oliver Jose.hervas@omp.upv.es Universitat Politècnica de València, Cami de Vera s/n 46022 Valencia, Spain

how firms' strategies shape spatial networking and district transformation and evolution (e.g. Belussi and Sedita 2009; Hervas-Oliver, Lleo, and Cervello 2017). While prior literature acknowledges 'meso-level' district transformation from variance in ownership linkages, district grouping and hierarchization (Cainelli, Giannini, and Iacobucci 2020; Randelli and Boschma 2012), there is room to explore firms' 'growth' (M&A) strategies at the 'micro-level' and their influence on spatial networking and district transformation, cross-fertilizing managerial and clusters/IDs perspectives. We work on this less-researched intersection.

Strategy literature on growth directions (i.e. organic vs acquisitive development, e.g. McKelvie and Wiklund 2010) and generic orientations of competitive strategy, (i.e. cost versus differentiation, Porter 1985, 1980), illustrates how heterogeneously firms make decisions and implement different strategies to compete, grow and expand, regardless of location in districts. Why is this approach important for IDs?

The fact that districts concentrate a large part of a focal district firm's competitors for both cooperation and competition, influences local district firms, vis-à-vis non-district ones, a point we explore in-depth in this present study. Adding the cluster/ID to the managerial M&A literature, we posit that local district firms present an additional advantage for acquisitive growth, vis-à-vis non-local district firms and for specialization on the same focal district business, rather than diversification. We posit that focal district firms possess abundant knowledge and information regarding local assets, such as know-how, local technology and a profound understanding of competitors' and suppliers' knowledge and expertise to reconfigure local assets (e.g. Brioschi, Brioschi, and Cainelli 2002; Hervas-Oliver, Lleo, and Cervello 2017; Sorenson and Audia 2000). Thus, we assume that local firms' embeddedness delivers a better valuation of local assets that facilitates access to opportunities, including acquisitions of local firms, that is, acquisitive growth strategy with less information asymmetries, vis-à-vis non-local firms. In this line of thought, this study's goal consists of researching how firms' M&A strategies occur and drive district evolution.

The main research questions are: how firms' M&A strategies drive district transformation? What are the strategic differences between local and non-local acquirers? What are the implications on M&A for the territory or local innovation system? Using mixed-methods, we analyse the 2012–2022 transformation of the Castellon district in Spain, radically shaped by a set of ongoing continuous acquisitions of firms that have radically transformed the competitive arena: while in 2002 the largest local market share owned by a district firm was 5%, in 2022 six (equity-linked) groups concentrated 62% of local ceramic tile production.[1]

Our findings point out different approaches and rationales when comparing local and foreign firms' growth acquisitive strategies and different impacts and implications for the focal district. This article contributes to Marshallian literature (e.g. Bellandi 1996; De Propris 2001) and strategy by dissecting M&A strategies for local and non-local firms within the district/cluster framework (e.g. Feldman and Hernandez 2021), cross-fertilizing both strands.

2. M&A and district transformation: synergies and concentration

2.1. Mergers and acquisitions (M&A) in managerial literature

As pointed out, M&A usually seek synergies, that is, achieving that the value of the acquirer and target firms, as a single entity, exceeds the added value of the two firms operating individually (Feldman and Hernandez 2021). What drives synergies? A complementary (in the sense of Milgrom and Roberts 1995; 'when more of one thing enhances the returns to another thing.') combination of two firms' pre-existing assets that can improve value, increasing prices or lowering costs (Feldman and Hernandez 2021; Shaver 2006). Following Feldman and Hernandez (2021) there are different types of synergies: (a) 'internal' ones, usually from efficiency within the boundaries of the newly combined firms (internal recombination of R&D, teams, economies of scale in operations, shared managerial and marketing costs, etc.). According to Rabier (2017), these are supposed to be the most important ones driving profits from acquisitions (and effective integrations), vis-à-vis those M&A with financial aims (like those from investment funds or motivated by financial synergies); (b) 'market power' synergies increasing power in competitive interactions (e.g. increasing bargaining power or eliminating rivals); (c) 'relational' ones, based on the enhancement of shared assets, on a cooperative relationship (e.g. mutual trust, social ties, etc.), that are originated between a third party and the newly combined firms, making inter-firm interactions more profitable (e.g. company A acquires B, previously B and C cooperate in developing new capabilities that are also improving A's R&D pipeline accessing C's knowledge). Importantly, the relational synergies value is based upon that which is within the boundaries of the newly combined firm (following the example, knowledge flows from C could also be transferred to A and B, improving both). Lastly, (d) 'network' synergies, that consists of improving the acquirer's position in a network (from the acquisition) that encompasses all direct and indirect ties (e.g. A acquires B and as a result, the new firm AB eliminates redundant ties or adds more value from combining synergistically previous A and B pre-existing ties in a novel way).

Pre-merger relatedness or complementarity (e.g. Chatterjee 2009) differs from post-merger integration (e.g. Ellis, Reus, and Lamont 2009). The M&A process involves the assessment of potential gains (e.g. complementarity, strategic fit, operational synergies, etc.) and also the effective integration of assets to achieve positive synergies. Cartwright and Schoenberg (2006) point out that around half of M&A presented failure (generally from poor post-merger integration or from poor pre-merger complementarity appraisal) rates. In the same line, according to Renneboog and Vansteenkiste (2019) acquiring firms often underperform relative to non-acquiring firms, a fact driven by information asymmetries or due to lack of integration of newly combined firms (Shaver 2006). In short, 'CEO overconfidence' as acquirers lack the required resources and abilities or make misleading evaluations to achieve learning gains and/or 'poor merger execution and integration' (post-merger) are potential drivers of underperformance.

2.2. M&A in clusters and IDS

We posit that these asymmetries and poor execution are less important for clustered firms. From a managerial perspective, it is evidenced that geographic proximity (usually measured in miles from the acquirer to the target firm) presents benefits due to better information on closer targets (acquired firms) (Uysal, Kedia, and Panchapagesan 2008). Thus, successful completion of acquisitions is partially explained by 'spatial' determinants (Chakrabarti and Mitchell 2016, 2013). Local cluster firms have access to more fine-grained information, local contextual knowledge and local idiosyncrasies both for the pre-merger appraisal of complementarities and the post-merger integration. Rodríguez-Pose and Zademach (2003) point out that it is agglomerations that really drive M&A, the spatial factor being central. As stated (1917):

> Even if German firms look for target firms primarily in other large German urban areas, there is a greater chance that they would look for them in neighboring rather than in distant urban regions

In IDs local entrepreneurs have a crystal-clear knowledge of local counterparts. As regards the reason to external (acquisitions) expansion, Brioschi, Brioschi, and Cainelli (2002) point out that district familiarity reduces transaction costs to entrepreneurs that acquire businesses with precise knowledge and understanding, due to the trust-based relationships that are pervasive in districts. In the same line of thought, Hervas-Oliver, Lleo, and Cervello (2017) explain new firm formation in districts, pointing out those groups that share equity (corporate parent joint ventures) as a consequence of the social ties existent in districts. In particular, it is found that social ties or informal relations are supposed to be the important sources of learning in districts, where informal and repetitive interactions convey knowledge. This social dimension, which reduces transaction costs, fosters knowledge exchange through personal and inter-firm ties, allowing local entrepreneurs to have abundant and high-quality knowledge about the focal industry before acquisitions. Social ties mobilize resources (knowledge, know-how, know-who, relationships, etc.) that reduce information asymmetries and enable entrepreneurial initiatives such as acquisitions.

Thus, this ‘matching competence’ (see Foss et al. 2021) of local firms and entrepreneurs constitutes an advantage for estimating potential synergies from local resources, as locals present better individual capacity to foresee, judge, or theorize about valuable resource combinations, developing novel configurations of assets and capabilities to solve problems because they understand the value of their resources and those possessed by other local firms (e.g. Kerr, Nanda, and Rhodes-Kropf 2014). In addition, acquisitive growth strategies of local assets reduce the size disadvantages (e.g. Randelli and Boschma 2012). Coltorti and Garofoli (2011) found out that these groups are family controlled and their group-affiliated firms tend to be specialized in specific products in the same production chain, sharing marketing and capital. Thus, business groups offer strong routines through subsidiaries, distributing R&D, marketing, managerial internationalization capabilities throughout firms, as hierarchization is a way to respond to global challenges and avoid small firms’ disadvantages (e.g. De Marchi, Di Maria, and Gereffi 2017).

Post-merger integration, as well as pre-merger estimations of complementarities or potential synergistic-based assets, are facilitated by the ex-ante knowledge and understanding of local cluster/districts institutions. These are the combination of shared goals, behaviours and relations (in the sense of Harris 2021), or just ‘who-we-are’ (ie. identity, Staber and Sautter 2011). This profound understanding of the local formal and informal ‘institutional preconditions’ by local firms constitutes an advantage over external-to-the-cluster firms or those that do not have previous experiences in the focal local territory, because the tacit knowledge lies pervasively across inter-firm and inter-personal ties, enhanced by social ties. Local managers present similar cognitive frameworks and mental models around the focal (local) business, built upon similar experiences and training, reinforced by a profound knowledge of local competitors that act as reference points for local managers (Pouder and St. John 1996): this institutional configuration facilitates knowledge access in the calculation of pre-merger potential synergies (i.e. complementarity or fit) and post-merger execution to integrate. This occurs because local firms in districts and clusters have abundant knowledge and information regarding local assets, such as know-how, local technology, competitors' and suppliers' knowledge (e.g. Hervas-Oliver, Lleo, and Cervello 2017).

We posit that acquisitions in cluster/MID contexts present another key difference: tacit knowledge is not only within the firms but primarily within the inter-firm and inter-personal ties. Therefore, acquisition permits access to both internal and external flows of knowledge, a fact that is more desirable for external-to-the-cluster firms than for local firms that are already within those local boundary-spanning knowledge (networks) conduits. In this chain of thought, we posit that internal and external (to-the-cluster) firms not only potentially gain from internal and market power but also 'relational and network synergies', the latter lying beyond the boundaries of the combined firm.

3. Methods and setting

3.1. Methodology and secondary data analysis

According to Hervas-Oliver and Albors-Garrigós (2007),[2] the Castellon (Valencia Region, Spain) ceramic tiles ID is a typical Marshallian industrial district, well-endowed with world-class public R&D organisations with impressive breakthroughs in the local innovation system (see Hervas-Oliver et al. 2018; Hervas-Oliver, Lleo, and Cervello 2017).

This study utilizes mixed-methods, through study of secondary data information (industry reports, SABI database for equity linkages and ASCER database of acquisitions in the cluster, press reports about the concentration of the industry, etc.) and a total of 43 interviews in two time periods, plus 28 additional firms answering a questionnaire. Field work started in 2017 and ended in 2022. The first round in 2017 included 35 informants and 28 answers from a survey. The second round, 2020–2022 included 8 additional interviews. See Table 1 for interview's description. Some interviewees were interviewed at least twice at different times in a more informal context (spontaneous talks from joint attendance at seminars, congresses, technology demonstration events, etc.). The latter were not computed. See Table 1 here.

In 2017 the first round of interviews was conducted to develop the main draft of the Regional Innovation Policy for the Valencian Region (Spain), commissioned to the authors of this study by the Regional Government to design an industrial plan for the

Table 1. List of interviewees and data.

Approach	2017
Focus group (2 sessions)	35 informants −30 firms −5 support organizations (ASCER and ITC)
Survey	28 firms
Approach	2020–2022
Interviews	8 firms from the concentration process

next 6 years (2018–2023, named PEIV[3]). One key point from PEIV was its place-based orientation and bottom-up approach, using local clusters and/or industries as units of analysis; PEIV considered first ‘place’ and invited local stakeholders to be part of the design, discussing, interacting and finally co-designing the output through a joint decision-making process. PEIV covered 16 industries, some of them highly concentrated, such as the ceramic tile industry.

During the first stage, 35 direct face-to-face interviews and focus groups (2 sessions) were held with business representatives (30) and support organization representatives (5) from ASCER (ceramic tile local business association). Additionally, a survey to triangulate results from the focus groups was answered by 28 firms in the focal cluster. Focused groups revealed the main challenges of the district for the following years, including issues such as sustainability, digitization (Industry 4.0), energy problems and some other regulatory issues. One of the main aspects, however, was the on-going major shift to be accomplished in the cluster: achieving larger firms for coping with globalization. The latter was motivated primarily by the emergence of China, Turkey, Brazil and other catching-up countries in the industry with very aggressive low prices. In particular, informants pointed out the necessity to get larger groups and firm size, similar to the ones emerging in the Sassuolo district (Italy) for targeting: -cost reduction and economies of scale from increasing volume and size, reducing range of catalogues to specialize in fewer products (i.e. reducing range of portfolios and catalogues and concentrating on a few best-seller products massively produced); -sharing marketing costs (in larger groups) and sustaining less but more effective commercial channels, including large distributors (like DIY retailers, away from premium and tile-dedicated stores); - increased flexibility to market changes by product specialization at firms.[4] The storytelling of this rationale is based on the fact that companies in the district faced, at that time, two important problems, among others: (a) small size, with all the associated inconveniences and (b) too wide an assortment of products, including very large catalogues.

We got 28 additional responses from firms not attending the meeting (local district firms) and surprisingly we got the following results (Likert-scale ranging from 1 (none) to 5 (high); ‘Do you agree that support for group consolidation and larger firm size is a district priority?; Do you agree that support for differentiation and high-value added through marketing and design is a district priority?’): group consolidation was voted for by 63.16% and differentiation by 85% of the sample. It was clearly pointed out that despite the necessity to cope with globalization through larger size firms (and larger groups), high-value added activities (services, marketing, design, etc.) were the most desirable strategy.

We visited 8 additional companies during 2020–2022 that participated in the recent ongoing M&A process, both business group-affiliated companies (acquired) and the new owners. We were entirely focused on the understanding of M&A and the rising concentration of the industry. Questions very directly targeted the M&A process, its rationale and consequences, for firms and the territory. Semi-structured interviews were held lasting around 1 h each, with questions such as: -What do M&A mean for local firms? -What do M&A mean for the territory? –What is the rationale behind this ongoing process of M&A? What is the difference between local and foreign M&A for firms and for the territory?

Complementing interviews, archival analysis was conducted through press reports, secondary data (from ASCER, lists of acquisitions, upon request; and SABI database for the equity linkages). In 2002, however, the largest concentration of revenues in the district was 5% by Porcelanosa, a historical leader in the district that pioneered many disruptions, and we counted around 240 tile manufacturers and over 400 firms along the different stages of the local ceramic tile value chain. Overall, more than 30 major M&A by both local and foreign companies led to this impressive concentration, with many consequences for firms and the focal territory. In 2022, the district accounted for around 20,000 direct jobs and 300 firms from which 120 were tile manufacturers. As regards the degree of concentration, in 2022 the district concentrates more than 60% of revenues in only two firms in the auxiliary industry (frits, glaze and colour) for 2020 (Torrecid and Lone Star –group with former Endeka, Esmalglass and Ferro local firms, now named Carlyle Group, a financial investment fund); and the first six groups of tiles concentrated around 62% of revenues in 2020 (Pamesa, Porcelanosa, STN, Victoria Carpets, Baldocer and Halcon). The Carlyle Group is the fourth largest private-equity firms in the world. Carlyle works in three main business segments: global private equity, global credit, global investment solutions. Carlyle decided to buy Altadia (formerly Esmalglass) to another investment fund Lone Star for a figure of about 1500 million euros[5] alliancing with the actual management team of the company.[6]

Important equity linkages started in 2012, seeking focused specialization, the new low-cost approach and financial problems from the Great Recession (2009–2014) in Spain, some (mainly local) companies with abundant capital started to make acquisitions. At the same time, at the end of the recession period, some investment funds and international groups started to enter the district for acquisitions. During the second period (2020–2021) of interviews, the two approaches (cost vs differentiation) co-existed in the district, but the one growing the most was the low-cost rationale, fuelled by the wave of acquisitions in the period 2012–2022 and the cost pressure that acquisitions exerted.

Despite the general consensus about increasing firm size, some firms were more in favour of adding more value and following a rather non-price competition, i.e. differentiation. These firms were signalling the importance of targeting higher-end segments with more value-added by offering ‘picking’ (tile replacement in small quantities for refurbishing small areas, like kitchens, providing the same colour, tone and formats for small customers), better customization, engaging in architectural projects where ceramic tile is more a decoration-oriented product than just a construction one, selling special formats, sizes and premium tiles (e.g. decorative pieces for infinity pools, large-size format tiles, etc.). These firms need to develop more marketing efforts, conduct better service and customization, get involved with prescription (designers, architects, etc.) for providing expertise on decoration, being more quality oriented, adding frills, services and design, along with higher prices.

After secondary data analysis, we identified the following typologies of groups in the ceramic tile district. See Table 2.

- **Local districts groups** are characterized by the presence of a local head (holding belongs to a local entrepreneur, family or company well rooted in the district) that has mainly acquired productive firms from the focal district, following a focused

Table 2. Main acquisitions in the district and analysis of strategies and impacts.

Year	Local firm acquired	Acquirer	Motivation	Firms' growth strategy
2012	Cretaprint	EFI (A Silicon Valley listed company in printing technology, entering ceramic tile digital decoration)	- Diversification into ceramics (auxiliary industry, decoration of tiles by digital printing glazing) - Access to technology and production capacity in inkjet tile decoration	Diversification by foreign firm
2013	Marazzi	Mohawk (US distributor of coverings)	- Diversification (vertical integration) - Access to technology and production capacity in tiles in special formats (large-size porcelains)	Diversification by foreign firm
2014	Navarti	Pamesa (local district group)	- Specialization - Access to technology and production capacity in tiles (porcelains and stone walls)	Specialization by local district firm
2014	Alaplana	STN group (local district group)	- Specialization - Access to technology and production capacity in tiles (white body tiles)	Specialization by local district firm
2017	Endeka Ceramics (auxiliary industry, glazing)	Ferro (American corporation focused on glazing; historically rooted in the district since the 60s)	- Specialization in the glazing (auxiliary industry), buying local rivals. - Access to technology and production capacity in glazing	Specialization by local (auxiliary) district firm
2017	Atomizadora SA (auxiliary industry, clay)	Peris&Cia; Azulindus &Martí (local district firms)	- Specialization - Access to production capacity in clay	Specialization by local district firm
2017	Grupo Keraben	Victoria Carpets (leading UK coverings –carpets, tiles, floors, etc.- distributors)	- Diversification (vertical integration) - Access to technology and production capacity in porcelains and large-size formats	Diversification by foreign firm
2017	Esmalglass-Itaca (auxiliary industry, glazing)	Lone Star (US investment fund in real estate and construction)	- Diversification (horizontal and vertical) (auxiliary industry) - Access to technology and production capacity in glazing	Diversification by foreign firm (investment fund)
2017	Nuevos productos cerámicos (Euroatomizado)	Grespania (local firm)	- Specialization - Access to technology and production capacity in tiles	Specialization by local district firm

(*Continued*)

Table 2. Continued.

Year	Local firm acquired	Acquirer	Motivation	Firms' growth strategy
2018	Rocersa	Avenue Capital (local firms)	- Specialization - Access to technology and production capacity in tiles	Specialization by local district firm
2018	Saloni	Victoria Carpets (leading UK coverings –carpets, tiles, floors, etc.- distributors)	- Diversification (horizontal and vertical) - Access to technology and production capacity in porcelains and large-size formats	Diversification by foreign firm
2018	Halcón Cerámicas	SK Capital Partners (Falcon investment fund from UK)	- Diversification (unrelated) - Tile production capacity access	Diversification by foreign firm (investment fund)
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**)	- Diversification (unrelated) (Formation of a Spanish-Italian ceramic group specialized in medium-high segments) - Technology access (small formats for decoration)	Hybrid.Specialization by Italian firm and diversification from foreign firm (investment fund)
2018	Zirconio	STN group (local district group)	- Specialization - Technology (special formats and large-size tiles)	Specialization by local district firm
2018	Keratile	STN group (local district group)	- Specialization - Technology (porcelains)	Specialization by local district firm
2019	Ibero Alcorense	Victoria Carpets (leading UK coverings –carpets, tiles, floors, etc.- distributors)	- Diversification (horizontal and vertical) - Technology access: tile products for special decoration	Diversification by foreign firm
2019	Ferro (auxiliary industry, glazing)	Esmalgrass-Itaca (local leading frit and glazing Company), owned by Lone Star (construction and real estate)	- Technology access (inks) - Diversification (horizontal and vertical) Auxiliary industry (chemicals for ceramics –glazing--)-high value-added inks	Specialization by local (auxiliary) district firm
2019	Keramex	Pamesa (local district group)	- Specialization - Technology access (special formats, large-size ones)	Specialization by local district firm
2020	Azulev Grupo	Rocersa (local district group)	- Specialization - Technology (large-size formats, e.g. 40x120) and capacity	Specialization by local district firm

2020	Myr Ceramica	Azuliber (local district group)	- Specialization - Technology (porcelains) and capacity	Specialization by local district firm
2021	Argenta and Cifre	Pamesa (local district group)	- Specialization - Capacity access and technology (large-size formats)	Specialization by local district firm
2021	Azuliber (also Myr Ceramica)	Pamesa (local district group)	- Specialization - Capacity access and technology (porcelains)	Specialization by local district firm
2021	Roca (division ceramica)	Grupo Lamosa (Mexican listed company specialized in construction and ceramics)	- Specialization - Technology access (sustainable tiles)	Specialization by local district firm
2021	Equipe Ceramicas	Italcer (local firms)	- Specialization - Technology access (small formats for decoration)	Specialization by local district firm
2021	Azulindus y Marti	Bestile (local firms)	- Specialization - Capacity access and technology (high decoration in ambiances)	Specialization by local district firm
2021	Pulidos la Plana	Pamesa (local district group)	- Specialization - Technology access (auxiliary industry in polishing)	Specialization by local district firm
2021	Spring-2021, Altadia (Younexa)	Lone Star (US investment fund in real estate and construction)	- Diversification - Technology access of high value-added inks	Diversification by foreign firm (investment fund), forming Younexa, the world-class largest company in glazing for ceramic tile (digital inks)
2021	Cicogres (firm speciaized in large size formats)	Halcon cerámica (local district group, previously acquired by UK SK Capital and Falcon)	- Diversification (unrelated for SK Capital) Formation of a Spanish - ceramic group specialized in low-end segments (Halcon, Cicogres, Onda International ceramics, etc.). - Technology access (large-size formats)	Hybrid.Specialization by local district firm

Source: own from ASCER data, publications and SABI. Elaborated in 2017 for the PEIV elaboration, then expanded in 2020 and completed in 2021. Double-checked with ASCER, ITC and leading informants in the district.; ** Ceramica Rondine, La Fabbrica Ceramiche, Elios Ceramica, Cedir, Devon & Devon and Equipe Cerámicas; See Appendix for more information.

'specialization path'. Some of them deploy strategies characterized by large volume, factory specialization in few products (or only a few formats) and serving primarily the contract market (large construction customers that demand in bulk a high volume of square metres). These firms are using mainly large volume-oriented commercial channels (like DIY chains, e.g. Leroy Merlin) or directly to builders in huge construction operations. Also, presenting low investment in marketing and services but providing also medium-high designs and special formats massively produced in large volumes, i.e. democratizing design and decoration.

- **Tile-dedicated international groups** where the head is not local but is in the ceramic tile industry and related products, showing related diversification strategies like backward integrations and others (e.g. MOHAWK, the largest ceramic tile distributor acquired the Marazzi factory in Castellon).
- **Diversified international groups** where the head is not local and the group is focused on 'financial investment' funds (e.g. Carlyle, Lone Star, Falcon) and other more manufacturing-based on 'related products' (e.g. Victoria PLC, a UK leading retailer of coverings, including carpets or tiles, acquired Keraben, Saloni and Metropol firms). These groups show both horizontal and vertical integrations.

See Table 2. See more information about acquisitions, rationales, firms' strategies and impacts on the district in Appendix, Tables A-1 and A-2. See Appendix.

4. Results

4.1. Interviews

As informants reported (1st focus group):

> Europe is our natural market and logistics and expertise are an advantage over emerging nations; new emerging markets, however, are turning out to be very price sensitive due to the new producers, Turkey, China, etc.. We need to be more efficient, regardless of the type of product we market.
>
> Our size, compared to our Italian competitors (Sassuolo cluster) is smaller; new producers in emerging countries are very large competitors driven primarily by cost rationale.
>
> Our factories require higher specialization in a small number of products and formats to keep competitive: focus on less products massively produced.
>
> We need to cooperate more for product specialization, reducing our catalogues and increasing productivity and efficiency in our plants to cope with new competition.

During the second focus group, some firms also manifested:

> We want to compete on quality, providing more decoration than construction products. We need to add value by accessing to prescription channels, sell more decoration ambiances and projects than just construction products
>
> Europe, China and the USA present many opportunities for high-fashion decoration; targeting those high-end segments is the future and price there is not as important as design and service. We can learn by looking at Sassuolo firms (Italian district).

Following interviews, local groups primarily targeted two objectives: special products (porcelains, large-size formats, special design tiles) and high production capacity (large and efficient factories). Most of the acquired local firms were those producing special tiles like large-size porcelains, small decoration tiles, high-fashion formats, etc. The potential advantages for the focal district of this strategy are, among others, a reorganization of activities and product concentration in plants leading to high-productivity and advanced operations for benchmarking, increased size and the subsequent economies of scale and cost synergies from sharing costs and activities. For instance, these groups share overhead, marketing and distribution costs, share retail channels and logistic assets among more products or increase volume of materials for manufacturing, lowering their costs. Local acquisitions by local firms are not only seeking low-cost strategies but also differentiation, despite getting synergies from local asset recombination. In fact, as observed during interviews, both cost and differentiation co-exist, albeit the formation of larger groups exerts pressure on prices and tends to favour the low-cost approach. In the particular case of the auxiliary industry (glazing), R&D synergies and production costs are also sought, although these firms primarily compete on differentiation based on customization and services.

On the contrary, diversification is primarily observed among foreign firms seeking technology and complements to their existing products and assets. As is observed in Table 2, most of the foreign groups acquired those local firms with special formats (large-size 'porcelains', special high-fashion decoration tiles in small formats, etc.), seeking high-value-added products, most of them targeting medium-high segments. Potentially, these strategies bring to the territory access to abundant capital, knowledge and asset recombination from related industries (real estate, construction, distributions, related household decoration and covering products, design, trends, etc.). These firms also could bring to the district access to different customers, market knowledge and privileged access to different retail channels. Negatively, these foreign firms establish a foothold in the district while taking away holdings' decision centres outside the district, show less 'sense of belonging' 'à la Becattini' and even can resell assets (factories) following speculative orientations, the latter when the foreign firms are investment funds. Finally, we also observed some 'hybrid' approaches where a local firm acquires another local specializing one, but the acquirer already belongs to a foreign firm.

These local groups, nevertheless, primarily acquired local firms with high-value-added products, estimating cost synergies by sharing costs within a larger group. Low-value added or average-product factories were not targeted but those offering unique products were.

As informants concluded (2021 interviews):

> Local groups knew perfectly the value of the local acquired firms. Due to their own previous inter-firm and inter-personal interactions, local existing information and knowledge from other partners like suppliers or employees, they bought what they were looking for: high capacity in some products, good manufacturing expertise and other advantages mostly unknown for foreigners.

> The general strategy for local groups has consisted of acquiring local firms in order to get synergies as groups, mostly focused on becoming more efficient and productive.

> Most of the acquired firms are those that have something special, such as high capability in large-size porcelains, special decoration tiles, etc..

In short, the analysis of the case shows a clear tendency: increase in industry concentration and more specialization of firms, that are also positioning in different generic strategies, either cost or differentiation. Overall, we can argue that the district is showing a tendency to concentrate on low-cost strategy pioneered by the district groups that are specializing in specific products and increasing concentration. Informants were crystal-clear on this particular point:

> Their cost-orientation and their large size, gradually, put pressure on the district. Indirectly they are making it compulsory to choose what to do: follow them in costs or, alternatively, seek more product and service differentiation. Their cost structure is an advantage that smaller firms can hardly fight against, along with their production size, therefore, smaller companies need to specialize in more high value-added products and services or, alternatively, be part of other groups or collaborative structures to survive.

As revealed during interviews, the district innovation engine, inter-firm and inter-personal collaboration, seems to be pervasive but there is no doubt that, in the long term, group formation can hinder collaboration. As informants pointed out:

> Collaboration remains similar, but step by step the larger groups can work more as isolated structures and probably with different interests; this is not good news for the district.

From interviews, different patterns were presented:

> While local and foreign companies bring synergies to the territory, including larger size, better operations or new management techniques, those foreign firms oriented to financial synergies (mostly investment funds) only bring speculation and take away the decision center from the cluster. The latter does not bring anything positive but financial speculation. The former, however, bring new market channels, marketing capabilities, branding and managerial practices, in my view, all of them positive to the territory.

> New foreign firms, however, are more interested in local knowledge, including not only the target firms' knowledge but the access to local networks, that is, access to the local innovation atmosphere … ..

> New groups from foreign firms, more professionalized and with better organizational and managerial techniques change the local way of doing things. For instance, when one customer is struggling to pay, the new rules are to stop filling new orders if so, when traditionally the local trust and social ties were more oriented to support those in difficulties and help local customers, changing the local rules of the game … ..

> Investment funds based on financial resources, without manufacturing tradition are not good … ..they just treat firms as financial numbers and make decisions based on that, without 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 not any more in the cluster.

> Investment funds are thinking of the short-term, selling for a higher price than acquisition; this is inconsistent with long term R&D projects … .they are more efficient but not embedded; they bring finance, but not long term foothold

> International firms, with manufacturing tradition, are very positive and bring economic rationality to the local territory, making it more 'professional' and stronger.

More information about the groups in Appendix.

In short, the results suggest the following new structural conditions in the focal district. These are the presence of new multinationals and investment funds (e.g. Carlyle, Lone Star), an increase in production concentration, more vertical integration and a strong focus on low-cost strategies that co-exist with service-oriented and differentiated strategies. Evidence also points out the presence of smaller firms shifting differentiation (high value-added products, services, customization, etc.) trying not to compete on price, a decreasing cooperation across groups and increasing within groups and a process of increasing hierarchization and ownership linkages among firms (equity). Last but not least, results also show the presence of new complementary knowledge in the territory (design, distribution channels, new markets and marketing insights, etc.) from multinational groups, along new management techniques from other industries and a gradual reconfiguration of the local institutional setting (identity and local rules of the game).

4.2. Discussion

Our findings allow the interpretation of theoretical contributions for both the managerial and the cluster/ID literature. We posit that acquisitions in cluster/MID contexts present key differences vs non-IDs settings: (a) the ID contains the majority of the competitive landscape, for both cooperation and competition, a fact that provides more information for assessing potential synergies to local firms and subsequent integration. Then, (b) tacit knowledge is not only within the firms but primarily within the inter-firm and inter-personal ties, a fact that shows how important the 'relational' and 'network' related synergies can be and are also of utmost interest to explain M&A in clusters; (c) the local institutional configuration matters but can also be reconfigured; (d) not all acquisitions are positive for the focal territory; and, (e) different synergies and acquisition rationales exist between local and non-local acquirers.

What is clear, from our findings, is that the vast tacit knowledge available in the focal cluster drives acquisitions, rather than greenfield investments or shared ownership, extending strategy literature (e.g. Yin and Shanley 2008) that points out that tacit knowledge drives acquisitions, vis-à-vis joint ventures or greenfield investments. This finding extends strategy literature by adding a cluster/ID and economic geography perspective. The learning-by-doing setting, with abundant tacit knowledge occurring in clusters/MIDs, motivates acquisitions, as the meaning and contextual knowledge are difficult to transfer to other new contexts (Ryu, McCann, and Wan 2022), therefore, the presence of extensive tacit knowledge in an inter-firm association suggests a higher cost of transferring knowledge, increasing the likelihood of potential acquisitions to access the target (firm) knowledge.

Overall, acquisition permits access to both internal and external flows of knowledge, a fact that is more desirable for external-to-the-cluster firms than for local firms that are already within those local boundary-spanning knowledge (networks) conduits.

According to our findings, we observe that local firms are primarily seeking focused or related acquisitions, while foreign firms vary across the spectrum of focused specialization (such as 'Lamosa') or unrelated financial diversification (e.g. Lone Star or Carlyle). In short, unrelated diversification is only accomplished by foreign groups, and is not visible in local ones.

We also found that local firms present much better pre-merger valuations, because not only do they know the business, but they also have plenty of understanding of the local system and local competitors. Thus, our results contribute to strategy literature, pointing out that local players, or those that are already in the focal business and in the same place, outperform foreign entrants (external-to-the-cluster) due to the possession of necessary resources to integrate and achieve potential synergies. The reason is based on the fact that local acquirers show a better understanding of the entire local innovation system. As a result, we state that these local acquirers might present less overconfidence in assessing the potential gains and the price to pay. We also expect that local acquirers conduct better execution for post-merger integration. Thus, we extend strategy strand by clarifying these place-based features (e.g. Chakrabarti and Mitchell 2016, 2013; Renneboog and Vansteenkiste 2019).

As regards economic geography (e.g. Rodríguez-Pose and Zademach 2003) and cluster/ID literature (Cainelli, Giannini, and Iacobucci 2020), we add different findings to extend extant literature. First, local managers' similar cognitive frameworks and mental models around the focal (local) business, is of utmost importance for facilitating knowledge access in the calculation of pre-merger potential synergies (i.e. complementarity or fit) and post-merger execution to integrate, insofar as local firms in districts and clusters have abundant knowledge and information regarding local assets, such as know-how, local technology and competitors' and suppliers' knowledge. This understanding of the local innovation system and institutions outperforms assessment and execution of synergies, confirming extant literature (Cainelli, Giannini, and Iacobucci 2020). Additionally, we observe that the M&A process driven by foreign companies might bring not only positive effects (e.g. marketing insights, managerial practices, new distribution channels, etc.) but negative ones, like distant and unusual managerial practices not based on trust and social ties but just 'numbers'. This lack of understanding of the local business could reconfigure the local institutional setting (in the sense of Harris 2021) or 'what we are' ('identity', in the sense of Staber). Therefore, we point out the transition to a double institutional setting where trust, social ties and mutual interdependence co-exist with new rules of the game, where profits and new schemes of incentives are at play.

Second, the M&A process brings to the territory better operational costs and other internal synergies because M&A present strong routines through subsidiaries, distributing R&D, marketing and achieving better firms' size to globally compete. Thus, the firms and the territory are better integrated into global value chains, and we also point that hierarchization from M&A is a way to respond to global challenges and avoid small firms' disadvantages (e.g. De Marchi, Di Maria, and Gereffi 2017).

5. Conclusions

The main research questions address are: how firms' M&A strategies drive district transformation? What are the strategic differences between local and non-local acquirers? Due to these strategies, then, what are the implications for the territory or local innovation system? Using mixed-methods we analyse the 2012–2022 transformation of the Castellon districts in Spain, radically shaped by a set of continuous acquisitions of firms that have radically transformed the competitive arena.

According to our findings, M&A including a place-based perspective present key features that are different from those from the managerial literature. We point out that place-based perspective extends managerial literature that is usually place-blinded. Overall, these distinct features are: (a) a competitive landscape that both cooperates and competes; (b) better and high-quality information for local players; (c) simpler assessing potential synergies and integration by local acquirers; (d) tacit knowledge based on networks and ties; (e) local institutional configuration that drives the rules of the (local) locus of innovation and production; (f) different synergies and rationales of acquisition by local and non-local acquirers. Beyond results already discussed in previous section, the two important insights are presented in short:

What does this paper bring to the Strategy literature? This paper adds the geography of innovation (ID and EG) perspective to Mergers and Acquisitions (M&A), establishing a moderating effect that predicts different rationales for local vs non-local acquirers. Put differently, M&A phenomenon by local and non-local firms in clusters/IDs 'differs': (a) different strategies and rationales by local and non-local firms that acquire firms in clusters and, (b) different types of synergies sought by local and non-firms acquiring firms in clusters. While local firms seek traditional cost-based internal synergies and/or market power, non-local firms seek other relational/network assets that local acquired firms possess. Put differently, geographic boundaries shape the strategies and synergies involved in the M&A processes in clusters/IDs, being dependent on the 'geography' of acquirers. Overall, local firms in the M&A process do not seem to look for the tacit knowledge that already got it, but non-local ones seek it in local firms and in network ties.

What does this paper bring to the ID literature? While ID literature already pointed out business groups in the ID literature, especially in Italian IDs, we think that our paper presents four different contributions: (a) it presents an M&A framework that connects better ID (business groups) and strategy and, (b) it separates the type of synergies seek in the M&A process by local and non-local firms, extending ID literature and refining the strategic one alike; (c) we show firm heterogeneity in cluster firms through different generic (cost vs differentiation) strategies; (d) it reflects on the M&A effects (positive and negative ones) on IDs.

Policy implications are central in this study. M&A should be taken into account for policymaking, as they should be encouraged in order to achieve more efficient and larger firms. Local firms tend to make non-speculative investments due to their emotional linkages and sense of belonging to the territory. Perhaps, this grouping is better than that based on international firms that remove the decision centre from the district and might be more speculative-oriented, like financial investment funds. M&A advantages for districts are important due to larger size of firms, reorganization of more efficient production and access to additional knowledge from related industries, as well as better management and best practices, more sophisticated marketing capabilities and commercialization channels, market knowledge and design, access to GVCs, especially from foreign multinational firms. Negative influences are also presented, such as the disappearance of decision centres from the cluster, potential speculation by financial investment funds, and the reconfiguration of local institutions. The latter means that the local rules (trust, social ties, etc.) are less relevant when facing the multinational processes and culture of short term and different structures of incentives. This might provoke a double and different set of local institutions in the same territory. Additionally, grouping for increasing size also influences increased production concentration and its subsequent impact on lessening collaboration and concentrating it within groups. This new, highly concentrated structure, however, brings efficiency to the district by fitting local firms into globalization, provoking synergies and enlarging size and efficiency in resource allocation. This is very positive.

Local firms, as they are more committed to the territory, present long-term projects, representing locally 'embedded firms' ('sense of belonging'). These firms, nevertheless, are less 'professional' and present disadvantages related to size and finance; for this reason, international firms counteract those disadvantages and might bring the above-mentioned positive effects. Best policy instruments should:

- Incentive M&A to foster efficiency and synergies, from either local and non-local firms, contributing to strengthen the territory.
- Incentive M&A from related industries (construction, coverings, baths and kitchens, etc.) in order to provoke 'related diversification'.
- Promote attraction of international firms that are not financial investment funds. The latter, show a very short-term approach, and are motivated by financial speculation without commitment to the territory or to maintain, in the long term, industrial activity.

Thus, this article contributes to Marshallian literature (e.g. Becattini 1990; De Propris 2001) and its emerging firm heterogeneity line of inquiry (e.g. Grashof 2021), enriching also the spatial networking and district grouping strand (e.g. Brioschi, Brioschi, and Cainelli 2002; Cainelli, Giannini, and Iacobucci 2020; Randelli and Boschma 2012), presenting implications for managing innovation in those socio-economic concentrations that are re-structured. Also, the study contributes to strategy by dissecting M&A strategies for local and non-local firms within the district/cluster framework, adding a new perspective based on the importance of 'place' or geography for strategy (complementing others such as Feldman and Hernandez 2021; Rabier 2017; Shaver 2006).

For future studies, the effect of grouping in cooperation, without M&A, deservers further analysis. Lastly, a very interesting question needs to be answered: can we start to label the ID Mark IV?

Notes

1. Ascer data (www.ascer.es) and own calculation through SABI database.
2. The cluster provides around 20,000 direct jobs (in 2020, before Covid) and there are around 300 firms in total, accounting for ceramic tile (120), equipment (60) and glazing (20), plus other related industries (packaging, logistics, marketing, etc.) (PEIV, 2018); see also www.ascer.es (industry statistics). See also Hervas-Oliver, J. L., & Parrilli, M. D. (2017). Networks of clusters within global value chains: the case of the European ceramic tile districts in Spain and Italy. In *Local Clusters in Global Value Chains* (pp. 175-192). Routledge

3. Published as PEIV (2018); Valencian Manufacturing Strategic Plan, see more here: http://www.indi.gva.es/es/web/industria-e-i-d-i/estrategia-politica-industrial;
4. https://cindi.gva.es/documents/161328133/164106546/Plan±Sectorial±CER%C3%81MICO±2018.pdf/087f3225-b727-4985-9ef3-45c34120a0c2 Results from the PEIV sessions.
5. https://cincodias.elpais.com/cincodias/2021/12/17/companias/1639733561_157294.html
6. https://www.eleconomista.es/empresas-finanzas/noticias/11602260/02/22/Rentabilidades-del-20-atraen-a-los-grandes-fondos-de-capital-privado-al-sector-ceramico.html; https://www.investinspain.org/es/noticias/2021/carlyle-altadia

Acknowledgements

We acknowledge PEIV representatives from ASCER; interviews with ITC members; all informants participating, especially Mr Jose Luis Lanuza (Victoria PLC, Keraben); Fernando J. Tomas Badenes (EFI) and Carlos Gil (Keros), among many others.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

Financial support from AICO2020/123 (Generalitat Valenciana); RTI2018-095739-B-100 (Ministerio de Ciencia, Innovación y Universidades, AEI/EU Feder); PID2021-128878NB-I00 (Ministerio de Ciencia, Innovación y Universidades, AEI/EU Feder).

ORCID

Jose-Luis Hervas-Oliver http://orcid.org/0000-0001-6438-5497

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Appendix

Victoria Carpets group, from UK, highly specialized in carpets and coverings, shifted to incorporate tiles in its portfolio. After distributing ceramic tiles for many years, the company purchased different tile firms, conducting a backward vertical integration (integrating tile suppliers). It ranks 20th in the world. Acquired firms in Castellon (Keraben, Saloni, Metropol, etc.) added 1200 workers and 230 M. in revenues to the group.

LONE STAR is a financial investment fund, extensively focused on real estate and construction, purchased different auxiliary industries (glazing), forming Younexa, the largest holding for the most innovative glazing firms in the district (Ferro and Esmalglass, two leading companies that pioneered the digital decoration in the district, disrupting the world industry; See Hervas-Oliver et al. 2018b). This group is the third largest in the district (800 millions of Euro in revenues). This new group **Younexa** is the direct competitor of Torrecid (a glazing group with the entire value chain, including ceramic tile firms such as Inalco and mining-atomizing). The three companies (former Ferro, Esmalgalss and Torrecid) are the world-class leaders of ceramic tile decoration, serving as auxiliary industry in the most relevant markets (Brazil, India, China, Turkey, Italy, etc.). Early 2022 Younexa is sold off to Carlyle Global Investment Fund.

Halcon Ceramicas, owned (70%) by SK Capital-Falcon Investment group, presents 200 M. in revenues and two factories (Halcon and Cicogres).

STN is a local group, owned by the Aparici family, integrates all the value chain, except glazing, machinery and mining. The fourth largest group in the district (around 500 millions and 750 workers) represents around 10% of the district revenues in tiles. This group, along with others (Halcon, Pamesa, etc.), is the paradigm of efficiency and productivity representing clearly a low-cost oriented generic strategy.

The case of Pamesa is different, as it is the largest group in the district and is almost vertically integrated. It has incorporated all activities of the value chain (mining, clay atomizing, tile production, commercialization, glazing, energy, etc.), albeit relying extensively on the local auxiliary industry. This company is the paradigm of vertical integration, specialization and low-cost strategy, pursuing an impressive growth in the last 10 years, building momentum on an intense acquisition path taking advantage of the Great Recession and the turmoil in the industry. See the company structure in the Figure A-1 below. Owned by the Roig family, with branches in the Villareal football club (Spanish premier league, ‘La Liga’), presents total revenues around 1000 milion of Euros (Argenta and Cifre companies are owned by the same family). It is the largest firm in the cluster, representing 20% of production in the district (around 740 milions of Euro) and 3,000 employees. Globally, it is ranked as the world 6th firm in the industry. It encompasses all the value chain, including mining, clay atomizing, tile production, auxiliary industries and commercialization (except machinery and a small representation of glazing in Esmaldur, with 20% stake). It has production affiliates in Brazil and distribution in Portugal and USA.

Other smaller groups are Grespania (following differentiation, including glazing, atomizing and tile production; Euroatomizados, Esmaltes SA) or Rocersa; Baldocer (Benadresa) is following cost-strategy. It has been continuously disrupting the district with many innovations. It covers the entire value chain, except machinery and glazing, but is also diversified into complementary products such as bath equipment and kitchens. With 2500 workers and 850 milions Euro in revenues is the most international Company with assets in many countries (mainly distribution centres and tile-bath-kitchen stores). Other local firms following differentiation (average market price around 15 Euro m^2) are *Natucersa, Grespania,* or *Coloker.* These local and foreign groups also co-exist with other local groups that have evolved mixing organic and acquisitive growths, such as Porcelonosa. Similarly, the district presents foreign multinationals from the Italian (Sassuolo) district, such as Sacmi or System, leading equipment tile firms. The entrance of the foreign heads, such as Victoria PLC, Mohawk or Lone Star, however, is a relatively new phenomenon in the district and together with the local district groups foster a raised industry concentration. As a matter of facts, in the district shows more than 60% of revenues only in frits, glaze and colour industry (2019) in main two manufacturers (Torrecid and Lone Star) and the first five groups concentrate around 62% of revenues for 2018 (Pamesa, Porcelanosa, STN, Victoria Carpets, Baldocer and Halcon ceramicas); if we add Mohawk, Lamosa, and Italcer all of them with companies in the cluster we have a 66% of share in ceramics.

See Table A-1 and Table A-2 in this Appendix.

Table A-1. Table 1 extended. Local firm acquisitions by local firms.

Year	Local firm acquired	Acquirer	Motivation	% of acquisiton	- Strategic orientation (differentiation vs cost) - Technology/product accessed	Potential benefits to the district	Potential disadvantages to the district	Firms' growth strategy
2014	Navarti	Pamesa (local district group)	- Specialization - Access to technology and production capacity in tiles (porcelanics and stone walls)	100%	- Cost and Differentiation (Medium segments) - Porcelanics	High-productivity activities and operations for benchmarking; Concentration, larger size, economies of scale, synergies	Concentration and low collaboration outside the group	Specialization by local district firm
2014	Alaplana	STN group (local district group)	- Specialization - Access to technology and production capacity in tiles (white body tiles)	100%	Low-medium segments	High-productivity activities and operations for benchmarking; Concentration, larger size, economies of scale, synergies	Concentration and low collaboration outside the group	Specialization by local district firm
2017	Atomizadora SA (auxiliary industry, clay)	Peris&Cia; Azulindus &Martí (local district firms)	- Specialization - Access to production capacity in clay	51% (getting 100%)	- Differentiation (Medium-high segments) - High capacity in clay production	High-productivity activities and operations for benchmarking; Concentration, larger size, economies of scale, synergies	Concentration and low collaboration outside the group	Specialization by local district firm
2017	Nuevos productos cerámicos (Euroatomizado)	Grespania (local firm)	- Specialization - Access to technology and production capacity in tiles	75% (getting 100%)	- Differentiation (Medium-high segments)	High-productivity activities and operations for benchmarking; Concentration, larger size, economies of scale, synergies	Concentration and low collaboration outside the group	Specialization by local district firm
2018	Rocersa	Avenue Capital (local firms)	- Specialization - Access to technology and production capacity in tiles	100%	- Differentiation (Medium-high segments)	High-productivity activities and operations for benchmarking; Concentration, larger size, economies of scale, synergies	Concentration and low collaboration outside the group	Specialization by local district firm

(*Continued*)

Table A-1. Continued.

Year	Local firm acquired	Acquirer	Motivation	% of acquisiton	- Strategic orientation (differentiation vs cost) - Technology/product accessed	Potential benefits to the district	Potential disadvantages to the district	Firms' growth strategy
2018	Zirconio	STN group (local district group)	- Specialization - Technology (special formats and large-size tiles)	100%	- Low-medium segments (Cost strategy) - Porcelanics and large-size formats	High-productivity activities and operations for benchmarking; Concentration, larger size, economies of scale, synergies	Concentration and low collaboration outside the group	Specialization by local district firm
2018	Keratile	STN group (local district group)	- Specialization - Technology (porcelanics)	100%	- Low-medium segments (Cost strategy)	High-productivity activities and operations for benchmarking; Concentration, larger size, economies of scale, synergies	Concentration and low collaboration outside the group	Specialization by local district firm
2019	Keramex	Pamesa (local district group)	- Specialization - Technology access (special formats, large-size ones)	100%	- Cost and Differentiation (Medium segments) - Large size formats	High-productivity activities and operations for benchmarking; Concentration, larger size, economies of scale, synergies	Concentration and low collaboration outside the group	Specialization by local district firm
2020	Azulev Grupo	Rocersa (local district group)	- Specialization - Technology (large-size formats, e.g. 40 × 120) and capacity	100%	- Differentiation (Medium-high segments)	High-productivity activities and operations for benchmarking; Concentration, larger size, economies of scale, synergies	Concentration and low collaboration outside the group	Specialization by local district firm
2020	Myr Ceramica	Azuliber (local district group)	- Specialization - Technology (porcelanics) and capacity	100%	- Differentiation (Medium-high segments)	High-productivity activities and operations for benchmarking; Concentration, larger size, economies of scale, synergies	Concentration and low collaboration outside the group	Specialization by local district firm
2021	Argenta and Cifre	Pamesa (local district group)	- Specialization - Capacity access and technology (large-size formats)	50%	- Cost and Differentiation (Medium segments) - Porcelanic large-size formats	High-productivity activities and operations for benchmarking; Concentration, larger size, economies of scale, synergies	Concentration and low collaboration outside the group	Specialization by local district firm

2021	Azuliber (also Myr Ceramica)	Pamesa (local district group)	- Specialization - Capacity access and technology (porcelanics)	100%	- Cost and Differentiation (Medium segments) - Special formats for decoration	High-productivity activities and operations for benchmarking; Concentration, larger size, economies of scale, synergies	Concentration and low collaboration outside the group	Specialization by local district firm
2021	Azulindus y Marti	Bestile (local firms)	- Specialization - Capacity access and technology (high decoration in ambiances)	100%	- Differentiation (Medium-high segments) - Porcelanics and high design for decoration (small and medium sizes)	High-productivity activities and operations for benchmarking; Concentration, larger size, economies of scale, synergies	Concentration and low collaboration outside the group	Specialization by local district firm
2021	Pulidos la Plana	Pamesa (local district group)	- Specialization - Technology access (auxiliary industry in polishing)	100%	- Cost and Differentiation (Medium segments)	High-productivity activities and operations for benchmarking; Concentration, larger size, economies of scale, synergies	Concentration and low collaboration outside the group	Specialization by local district firm

Source: own, from analysis, interviews, databases, press, etc.

Table A-2. Local firm acquisitions by international acquisitions

Year	Local firm acquired	Acquirer	Motivation	% of acquisiton	- Strategic orientation (differentiation vs cost) - Technology/ product accessed	Potential benefits to the district	Potential disadvantages to the district	Firms' growth strategy
2012	Cretaprint (auxiliary industry, tile equipment for decoration)	EFI (A Silicon Valley listed company in printing technology, entering ceramic tile digital decoration)	- Diversification into ceramics (auxiliary industry, decoration of tiles by digital printing glazing) - Access to technology and production capacity in inkjet tile decoration	100%	- Differentiation - Inkject tile decoration equipment	Global linkages and printing technology from Silicon Valley; access to knowledge and resources from related industries and technologies (printing and digital technologies); access to abundant capital (from stock exchange).	Holding decision centre outside the district; less 'sense of belonging'.	Diversification by foreign firm
2013	Marazzi	Mohawk (US distributor of coverings)	- Diversification (vertical integration) - Access to technology and production capacity in tiles	100%	- Differentiation (high-end segments) - Porcelanics and large-size formats	Access to global linkages and market knowledge from the US market; access to international channels, customers and capital	Holding decision centre outside the district; less 'sense of belonging'.	Diversification by foreign firm
2017	Endeka Ceramics (auxiliary industry, glazing)	Ferro (American corporation focused on glazing; historically rooted in the district since the 60's)	- Specialization in the glazing (auxiliary industry), buying local rivals. - Access to technology and production capacity in glazing	100%	- Differentiation high-value added inks for tiles - Glazing capacity and technology	One of the largest group in auxiliary industry (glazing for tiles); tremendous advantages on R&D cost sharing	Concentration and low collaboration outside the group	Specialization by local (auxiliary) district firm
2017	Grupo Keraben	Victoria Carpets (leading UK coverings –carpets, tiles, floors, etc.- distributors)	- Diversification (vertical integration) - Access to technology and production capacity in porcelanics and large-size formats	77.3	- Differentiation (Medium-high segments) - Porcelanics and large-size formats	Access to market knowledge from related products (e.g. carpets), distribution channels and customers. Access to capital and	Holding decision centre outside the district; less 'sense of belonging'.	Diversification by foreign firm

						management expertise; consuming trends from European consumers and household related products.		
2017	Esmalglass-Itaca (auxiliary industry, glazing)	Lone Star (US investment fund in real estate and construction)	- Diversification (horizontal and vertical) (auxiliary industry) - Access to technology and production capacity in glazing	100%	- Differentiation high-value added inks for tiles - Glazing capacity and technology	Access to abundant capital and knowledge from related and international industries (real estate, construction, etc.)	Holding decision centre outside the district; divestiture by speculative assets; less 'sense of belonging'.	Diversification by foreign firm (investment fund)
2018	Saloni	Victoria Carpets (leading UK coverings –carpets, tiles, floors, etc.- distributors)	- Diversification (horizontal and vertical) - Access to technology and production capacity in porcelanics and large-size formats		- Differentiation (Medium-high segments) - Porcelanics and large-size formats	Access to market knowledge from related products (e.g. carpets), distribution channels and customers. Access to capital and management expertise; consuming trends from European consumers and household related products.	Holding decision centre outside the district; less 'sense of belonging'.	Diversification by foreign firm
2018	Halcón Cerámicas	SK Capital Partners (Falcon investment fund from UK)	- Diversification (unrelated) - Tile production capacity access	100%	- Low segments (Cost strategy) - High capacity of tile production (red-body)	Access to capital and management expertise;	Holding decision centre outside the district; divestiture by speculative assets; less 'sense of belonging'.	Diversification by foreign firm (investment fund)
2018	Equipe Cerámicas	Miura Partners y Mandarin Capital Partners (MCP), Spanish and Italian investment funds.(forming	- Diversification (unrelated) (Formation of a Spanish-Italian ceramic group specialized in	100%	- Differentiation (Medium-high segments) - Small formats for design and decorations	High-productivity activities and operations for benchmarking; Concentration, larger size, economies of	Holding decision centre outside the district; divestiture by speculative assets; less 'sense of belonging'.	Hybrid.Specialization by Italian firm and diversification from foreign firm (investment fund)

(*Continued*)

Table A-2. Continued.

Year	Local firm acquired	Acquirer	Motivation	% of acquisiton	- Strategic orientation (differentiation vs cost) - Technology/ product accessed	Potential benefits to the district	Potential disadvantages to the district	Firms' growth strategy
		Italcer group, a group of Castellon and Sassuolo ceramic tile producers**)	medium-high segments) - Technology access (small formats for decoration)			scale, synergies. Access to capital and management expertise;	Concentration and low collaboration outside the group	
2019	Ibero Alcorense	Victoria Carpets (leading UK coverings –carpets, tiles, floors, etc.- distributors)	- Diversification (horizontal and vertical) - Technology access: tile products	100%	- Differentiation (Medium-high segments) - Special formats for decoration	Access to market knowledge from related products (e.g. carpets), distribution channels and customers. Access to capital and management expertise; consuming trends from European consumers and household related products.	Holding decision centre outside the district; less 'sense of belonging'.	Diversification by foreign firm
2019	Ferro (auxiliary industry, glazing)	Esmalgrass-Itaca (local leading frit and glazing Company), owned by Lone Star (construction and real state)	- Technology access (inks) - Diversification (horizontal and vertical) Auxiliary industry (chemicals for ceramics –glazing–)	100%	- Differentiation - High-value added inks for tiles	One of the largest group in auxiliary industry (glazing for tiles); tremendous advantages on R&D cost sharing. From the perspective of Lone Start (investment fund), this is a related diversification in the local glazing (auxiliary industry), buying local rivals. Final group (Altadia-***Younexa***):	Concentration and low collaboration outside the group	Specialization by local (auxiliary) district firm

						Ferro, Endeka, Esmalglas-Itaca, all owned by Lone Star (in 2022 by Carlyle) In September, 2021, Altadia-Younexa, created in Spring 2021 (by Lone Star) is on negotiations to be sold (speculative decision to Carlyle, accomplished in 2022).		
2021	Roca (division ceramica)	Grupo Lamosa (Mexican listed company specialized in construction and ceramics)	- Specialization - Technology access (sustainable tiles)	100%	- Differentiation (Medium-high segments) - Porcelanics and large-size format	High-productivity activities and operations for benchmarking; Concentration, larger size, economies of scale, synergies	Concentration and low collaboration outside the group	Specialization by local district firm
2021	Equipe Ceramicas	Italcer (international group)	- Specialization - Technology access (small formats for decoration)	100%	- Differentiation (Medium-high segments) - Small formats for high-fashion decoration	High-productivity activities and operations for benchmarking; Concentration, larger size, economies of scale, synergies	Concentration and low collaboration outside the group	Specialization by local district firm
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).	- Diversification - Technology access	100%	- Differentiation high-value added inks for tiles	Access to abundant capital and knowledge from unrelated related industries (real estate, etc.); management capabilities. Market power synergies, creating the world-largest champion in glazing for ceramics	Holding decision centre outside the district; divestiture by speculative assets; less 'sense of belonging'.	Diversification (unrelated) by foreign firm (financial investment fund), forming Younexa, the world-class largest company in glazing for ceramic tile (digital inks)
2021	Cicogres (firm speciaized	Halcon cerámica (local district group,	- Diversification (unrelated for SK	100%	- Low-medium segments	High-productivity activities and	Concentration and low collaboration	Hybrid.Specialization by local district firm

(*Continued*)

Table A-2. Continued.

Year	Local firm acquired	Acquirer	Motivation	% of acquisiton	- Strategic orientation (differentiation vs cost) - Technology/ product accessed	Potential benefits to the district	Potential disadvantages to the district	Firms' growth strategy
	in large size formats)	previously acquired by UK SK Capital and Falcon)	Capital) Formation of a Spanish-ceramic group specialized in low-end segments (Halcon, Cicogres, Onda International ceramics, etc.). - Technology access (large-size formats)		- Large size formats	operations for benchmarking; Concentration, larger size, economies of scale, synergies. Access to abundant capital and knowledge from related industries (real estate, construction, etc.); management capabilities	outside the groupHolding decision centre outside the district; divestiture by speculative assets; less 'sense of belonging'.	

Source: own, from analysis, interviews, databases, press, etc.