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## MAPPING THE FUTURE OF CROSS-BORDER MERGERS AND ACQUISITIONS: A REVIEW AND RESEARCH AGENDA

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### **Abstract:**

Cross-border mergers and acquisitions are considered one of the main strategies employed by firms to maintain a competitive edge and compete in the high-velocity global industry. This research field holds great promise as many facets are under-explored. Taking into consideration the growing interdisciplinary interest in M&A research, we performed content analysis in combination with the statistical procedure (HOMALS) on 933 articles gathered from the Web of Science and Scopus databases. The quantitative analysis of the intellectual structure of cross-border M&A field yielded the six topics of interest for future research: acquisition versus strategic alliance or joint venture, partial purchase, the outbound acquisitions from emerging market firms, micro-multinationals, the human side of cross-border acquisitions that tie in with the upper echelons research and knowledge management and transfer, in specific, tacit knowledge.

**Index Terms:** cross-border mergers and acquisition, integration process, literature review, multi correspondence analysis, science mapping, HOMALS

### **Managerial Relevance Statement:**

From a strategic perspective, the technology industry is considered a global hypercompetitive market without clear and sustainable competitive advantage due to intense rivalry, rapid technological change, and high rates of knowledge obsolescence. Firms may not have the ability to maintain a competitive edge organically (developing from within) and will seek firms globally to obtain new technologies and to complement a firm's core competence often through the use of mergers and acquisitions (M&A). Managers in the technology sector should be aware of the key areas that we have identified: foreign entry modes of acquisition versus strategic alliance or joint venture, partial purchase, the outbound acquisitions from emerging market firms, micro-multinationals, the human side of cross-border acquisitions that tie in with the upper echelons research, and knowledge management and transfer, in specific, tacit knowledge. Technology managers pursuing global M&A should be aware of the difficulties associated with the M&A strategic tactic, as it appears to be one of the most used. They need to understand that without preparing and planning for the issues that will arise, a "perfect match" may become a failure. For example, managers often neglect a key problem, that of post-integration of the acquired firm. In the integration stage, human resources are lost (key personnel leave the firm), tacit knowledge is not transferred (as it is embedded in individuals who may feel threatened to share their knowledge, or have left the firm), cross-border issues (legal, cultural, etc.) arise, and managers can have an action plan prepared before the M&A. Often most of the issues are not contractual but are of the "soft-side", which clearly need management overview: that of employees, managers, cultural (both corporate culture and foreign culture), knowledge management, and systems integration. Our research illustrates why cross-border acquisitions are an integral part of competitive advantage for technology managers and emphasize the importance of managerial tactical awareness through the entire process.

# **MAPPING THE FUTURE OF CROSS-BORDER MERGERS AND ACQUISITIONS: A REVIEW AND RESEARCH AGENDA**

## **I. INTRODUCTION**

Strong competition, the speed with which knowledge nowadays becomes obsolete and the speed of changes in technology converts the technology industry in a market with unclear advantages in terms of competitiveness [1]. Firms have to struggle with the constant need to reinvent themselves in order to maintain their competitive spirit and keep up with the rapidly-changing industry. As noted by [2] and [3] a strategy to achieve this may be the use of mergers and acquisitions (M&A). For example, the complex global technological industry has led to more international R&D outsourcing, partnerships, loose alliances, and networks working together for strategic goals [4]. The importance of our research is illustrated through few selected M&A in the technology field and their motivations, as both start-up and established technology firms obtain new technologies and to complement a firm's core competence [5]. (See Table I, in the supplementary material for some recent examples of M&A and reasons as to why).

The research field of M&A is varied and voluminous but is not nearly exhaustive as the phenomenon has so many aspects and current research is now exploring new global facets. Most of the past research explored domestic M&A (those within the same country), and now researchers are focusing on cross-border M&As which is considered a relatively young area for research with many new under-explored streams of which we seek to identify [6]. The major difficulty with M&A research is due to the many units of analysis that pose to influence the antecedents of M&A, and the many aspects in the decision-making process of M&A (such as strategy formulation, target identification, due diligence, pricing of the acquisition, post-acquisition integration, and subsequent performance), and ultimately the desired outcomes vary. For example, recent research on technology M&A focused on the firms' market and technology position with the unit of analysis being the industry [7].

Domestic research into M&As have to contend with varying interrelated units of analysis such as industry level (ex. mature/growing/declining market, market power development, technology acquisition, forward/backward integration, etc.), firm level (related/unrelated acquisition, differences between firms such as corporate culture, top management team, firm size, firm resources, networks, etc.), and top executive level (top management team characteristics, board of directors influence, upper echelons theory, agency theory, resource dependence theory, etc.). In addition, cross border M&A research also must include additional interrelated factors at country-level (factors such as cultural, infrastructure, economic, regulatory, market protectionism, customer differences, etc.) and global level (trade blocks, sanctions/embargoes/trade wars, state-owned firms' reasons for foreign acquisitions, global subsidiary organization, global network relationships, etc.) that further confound investigation into the phenomenon. Our research attempts to illustrate where the current research in cross-border M&A stands, and then identify gaps and make suggestions for future research.

Our study contributes to research and practice considering that firms use global M&A as their favorite tactic which is illustrated by the 19,105 global acquisitions of \$4.1 trillion in 2018 [8]. Past research has identified quite a number of reasons for cross-border M&As: acquire new technology, add complementary technology to existing platforms, gain access to new markets, acquire the local technology talent and management, purchase a competitor, utilize local production efficiencies, gain economies of scale or internal efficiencies due to increase in size, acquire brands, knowledge, foreign licenses, and develop synergies amongst subsidiaries [9], [10], [11]. Our research has identified that most of these units of analysis focus on the firm and ignore the decision-makers, and decision making process by top managers who determine, identify, value, and subsequently are responsible for the success of the acquisition. Previous M&A research illustrates from an agency perspective that top managers may have other reasons for an acquisition apart from firm prosperity as there is little empirical evidence that an acquisition results in improved market performance and a significant amount of research suggests

that acquisitions provide few financial benefits [12], [13], [14]. Our research has identified in particular that an underdeveloped area is the human side of M&A which could be the most important and needs extensive exploration [15].

Research suggests that there are certain drivers (antecedents) for firms to consider cross-border M&A: home country constraints on growth, new foreign trade policies, growth in a large foreign market of customers, past experience of a firm in international business, strategic resources not available in the home market, tacit knowledge acquisition and technological acquisition from foreign firms not available either within the firm or domestically [16], [17], [18]. Research explores these drivers for 1) developed-market firms to emerging-market acquisitions, 2) more current research; emerging-market firms to developed-market acquisitions, and now 3) research exploring emerging-market acquisitions into other emerging markets. Our study points out the lack of research explores the impetus for acquisitions from emerging markets and the governance structures (e.g. state-run foreign firms and acquisitions for technology to be used at the home country, or resources such as energy or food) and this seems to be a huge trend in global M&A behaviour.

Our research is noteworthy as a vast majority of the cross-border M&A research suggests that these acquisitions do not create value for the firm [19] due to factors such as high premiums paid for foreign firms because of information asymmetries that cause poor target evaluation, and the subsequent inability to fulfill the potential post-acquisition complementarity [20], yet firms continue to use this strategic tactic. One research stream suggests that the fundamental cause of cross-border acquisition failure is that of the post-acquisition integration, which is also suggested as one of the key causes for domestic acquisition failure as well [21]. After an acquisition, integration (or the amount thereof, as there is a spectrum from little to fully integrated in the acquirer's operations) suggest that the two firms will begin knowledge transfer, standardize operations, begin sharing tasks, have strategic control, and begin to focus on the foreign employee involvement within the umbrella of the acquiring firm [22], [23],

[24]. Research suggests that the biggest challenge will be organizational, cultural, misunderstanding of management styles and behaviors producing less cooperation, inability to develop synergies, and organizational/cultural stress affecting performance [25], [26]. We have developed a Table 2 to illustrate the various units of analysis in cross-border research and the steps of cross-border acquisitions. This table is not intended to be comprehensive, but to give the reader an understanding as to the complexity in researching this phenomenon and to illustrate the wealth of opportunities for research.

Table II: Example of stages of analysis and levels of acquisition

<i>Level of analysis</i>	<b>Stage 1</b> Strategic intent	<b>Stage 2</b> Identification Selection	<b>Stage 3</b> Purchase	<b>Stage 4</b> Post-Acquisition Integration
Upper Echelons	Empire Building Firm Growth Sound Strategy	Personal preference Relationships Cultural similarity	Hubris Winners Curse Premium How to purchase (stock, etc.)	Involved/forgotten after a chase Escalation of commitment
Firm	Micro MNC Global MNC Internal Resources	Complementarity Corporate Culture Human Resources	Valuation based on combined Private/Public	Loss of key personnel IOIS Leverage resources
Industry	Market type -introduction -growth -mature -decline	Conglomerate or related Forward/backward integration Competitor/related	Varies per industry (multiples, etc.) Evaluation based on industry type	Knowledge transfer Market power Integration level
Country	Market entry Customers Knowledge Efficiencies Subsidiary Network Internationalization Outbound Governmental Policies	Complementarity Competence Infrastructure Market base Resources Knowledge	Currency fluctuations Local regulatory requirements Market potential Past Acquisitions	Country culture Foreign top executives Corporate culture Employee/TMT loss Language Tacit knowledge transfer
Global	Trade Blocks Trade wars MNC global integration	Target country resources Country of origin effect Home/host country governmental legal/politic	Ability to globally integrate	Power bases of global subsidiaries Importance to MNC globally

Note: The table is for illustrative purposes as to the varied nature of acquisitions and the levels of influencing factors and is not intended to be comprehensive

Source: own draft

As already noted, there are a number of reasons for the impetus of our research and its importance. The technology industry is a quickly changing with new technologies, strategies, and emerging markets now have many competences that the leading developed countries' firms have

overlooked. Much has changed since the last reviews, new research streams are emerging, trade wars and protectionism is on the rise, and we have identified key areas that have been previously under researched. For example, the role of global M&A has evolved from just developed country's firms buying firms in developing countries; to developing country's firms buying firms in developed countries as a competitive advantage is fleeting and speed is a necessity for technology firms to be successful.

One of the driving factors for this review is the continued upsurge of technology related M&A in 2018, where technology firms lead all other industries with 17% of all M&A or nearly \$700 billion [5], while research suggests that domestic M&A does not create value for firms and international M&A decreases performance [27], [28], [29]. We recognize the gap in the M&A research as it appears to not mirror actual practitioner returns, as firms would not continuously follow this practice if it is detrimental to their long-run success. Although research does identify that there can be an agency problem in regard to top management and M&A, this could not explain the large and continued M&A trend, especially from the perspective of state owned emerging market firms.

Our research identifies the progress made up until most recently and focuses on the firm as the unit of analysis, while other reviews either were not empirical or focused more on the macro environment. Our research should be more helpful to practitioners and assist them in developing appropriate strategies and tactics for successful international M&A, as well as note our findings in regard to other options they should assess before attempting an M&A. From a researcher's perspective, we have identified 6 key under-researched areas that can assist the researchers as well as practitioners.

Another impetus for our research is the current cross-disciplinary nature of international M&A and we attempt to synthesize streams and identify key areas where researchers can work together from different streams of research, or at least be aware of future directions of M&A from other perspectives. Entrepreneurship, strategic global human resource management, strategy, international business, organizational behaviour, knowledge management, operations management fields are now all exploring

global M&A, but often from only one perspective. For example, from the strategy perspective some of the key factors in M&A in the technology sector is speed to the market, internalization of proprietary technology, and knowledge acquisition while knowledge management researchers are exploring how tacit knowledge can be transferred, international business is exploring the cultural nuances, and organizational behaviour researchers are focused on post-integration and success of the strategic tactic.

In summary, our research has identified 6 key areas that researchers need to explore and are considered imperative from a practitioner's viewpoint, as well as nascent areas for researchers. We have identified 2 key areas empirically for global M&A (integration and foreign entry mode) and from reading the literature 6 focus areas within these 2 domains (the behavioural side, knowledge management, the use of other forms of entry mode (i.e. joint venture, strategic alliance, etc.), use of partial purchase, how micro-multinationals are entering markets, and how emerging market firms are entering developed markets). As noted, for numerous reasons a current review of the field is timely, as the technology industry is changing so rapidly, M&A continues to be the favorite strategic tactic, and the research field has not caught up with the changes that are occurring.

## II. METHODOLOGY

### *A. The Sample of Articles and Data Collection*

Our methods address the key aspect of this type of research, that of the selection of journals dealing with international or cross-border M&A. We used two of the most reputed scientific databases, namely Scopus and the Social Science Citation Index – SSCI (Web of Science – Clarivate Analytics) since they include those top journals that are a reference in the cross-border M&A research field [58]. Furthermore, we set two conditions for an article to be included in the review. First, it should mention the scope explicitly in any of the article's fields, namely title, abstract, and keywords. Second, it should investigate M&A descriptors previously identified by literature reviews (ex. [6] [25] [31]). In Table III we present the keywords used for the article search. While performing the search, we did not set any



constraints on the publication year as the objective of this paper is to explore the research field of cross-border mergers and acquisitions. To further ensure the legitimacy of our review, we constrained our analysis to full length academic articles published in journals with a peer-review process [44]. Furthermore, we limited our sample to articles written in English, and we excluded conference proceedings as well as book chapters to fortify the quality and cohesion.

Table III: List of keywords used in the search

Scope	M&A
International	Merger and Acquisition
Cross-border	Mergers and Acquisitions
Cross border	Merger & Acquisition
	Mergers & Acquisitions
	M and A
	M &A

At the date of extraction (December 12, 2018) this search yielded a total of 933 articles. Following [32] and [44] recommendations, 933 articles were reviewed by the three experienced researchers and two external expert reviewers [33] (see Figure 1 for the overview of the reviewed studies)

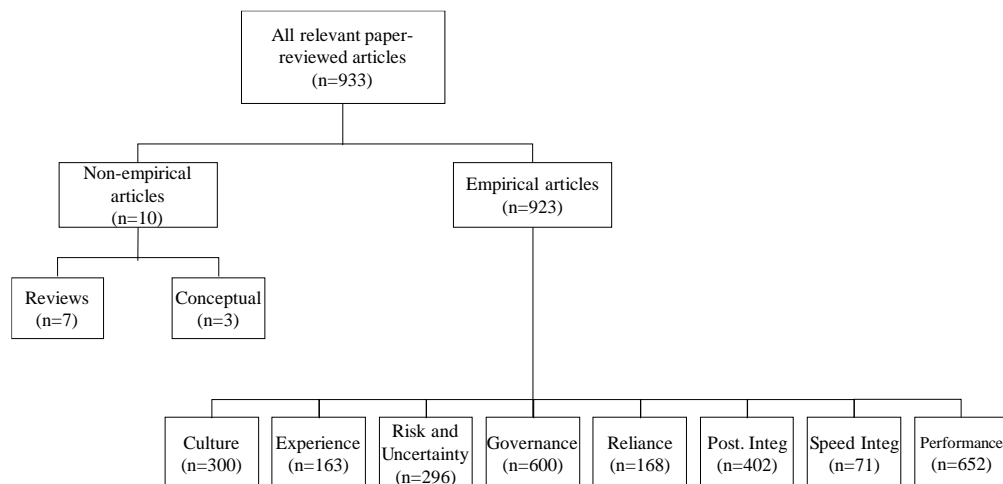


Figure 1: Overview of reviewed studies

Of the articles published, 49.8% were in published in highly ranked business management journals (Q1 and Q2) according to the Journal of Citation Report-Clarivate Analytics rank, such as:

Journal of International Business Studies, Journal of Banking and Finance, Journal of World Business, International Business Review, Strategic Management Journal, Journal of Corporate Finance, International Journal of Human Resource Management, Journal of Business Research, among the others (see Table IV).

The search results yielded the period of publication included in our review between 1970 and 2018; with the following distribution: 1970–1980, 0,1%; 1981–1990, 0,3%; 1991–2000, 4,7%; 2001–2010, 27,9%; 2011- 2018, 66,9%. Such a distribution indicates continuing as well as increasing interest level in this area of research.

Table IV: Overview of most frequent source journals according to the Journal of Citation Report-Clarivate Analytics rank.

<b>S.No.</b>	<b>Name of the Journal</b>	<b>Articles</b>
1	INTERNATIONAL BUSINESS REVIEW	45
2	JOURNAL OF INTERNATIONAL BUSINESS STUDIES	35
3	JOURNAL OF WORLD BUSINESS	26
4	JOURNAL OF CORPORATE FINANCE	25
5	JOURNAL OF BANKING & FINANCE	20
6	INTERNATIONAL JOURNAL OF HUMAN RESOURCE MANAGEMENT	18
7	STRATEGIC MANAGEMENT JOURNAL	18
8	THUNDERBIRD INTERNATIONAL BUSINESS REVIEW	18
9	EUROPEAN JOURNAL OF INTERNATIONAL MANAGEMENT	15
10	JOURNAL OF BUSINESS RESEARCH	14
<b>Total no of articles</b>		<b>4659.8 % of the 933 articles)</b>

### *B. The Building of the Codebook*

We utilized the past literature reviews, bibliometric and the systematic search methods using multiple sources as an initial foundation for keyword identification (ex. [6] [34]). In that line, we used these foundations as a starting point while building our sample of descriptors in order to allow the comparison with their general map of the field. We adopted the procedure presented in [35], [36], [37], [38] and coded the author-supplied keywords into major categories, or themes using QDA Miner v.5 and Wordstat v.7 software. Overall a list of 30 major themes of research or keywords were identified

and selected after several rounds for testing. The creation of this list was necessary because of the large number of idiosyncratic keywords provided by previous research and journal databases. The indexed keywords reflect the content of each article as the authors themselves identified and classified the keywords that best signals its content to potential readers. In addition to the theoretical foundations' descriptors stemming from the field of international M&A, we included the main methodological approaches of research in social sciences gathered from the taxonomy of research methods [39]. Furthermore, international activities were included, however, due to the low loadings of the separated foreign activities, the activities were merged under the unified format of contractual and investment entry modes. In addition, the focal units of analysis investigated are in line with previous literature reviews such as [25], [12], [26], [21]. Moreover, we added the main industries according to the [40] in order to develop an enhanced path for future research. Additionally, the distribution of articles by geographic focus is presented. Overall, as the number of articles reviewed is large and for the sake of wordiness, in supplementary material (see Tables V - XII), we present the complete information on the codebook and summarize the notable studies in accordance with each identified descriptor.

### *C. The Statistical Tool: HOMALS Procedure for Multiple Correspondence Analysis (MCA)*

In order to identify the research themes on cross-border M&As, we took up to the multiple correspondence procedures for analyzing qualitative data [41]. An MCA is an exploratory data analysis technique for the graphical display of multivariate categorical data which enables the researcher to identify the relationships among the dichotomous variables (the presence or absence of the defined keywords in this study). MCA has been reported as useful for mapping the structure of a research field [42], including management [35], [37]; multinationals' strategy [43] as well as international alliances and culture [44].

The HOMALS analysis was performed in SPSS (v20) software for each group of keywords in the article's title, abstract, and keywords. A value of "1" was entered if it was found and zero if the

keyword was not present. The main outcome of this procedure is a proximity map where keywords are depicted along the two axes. On this map, the proximity between keywords corresponds to shared-substance: keywords are close to each other because a large proportion of the articles within the sample treat them together; they are distant from each other when only a small fraction of articles discusses these keywords together [45].

In order to identify the proximity among the identified keywords and the Cross-border M&A field of research, the map centers correspond to the average position of all articles within the field. For example, the keyword performance is positioned close to the center which represents that waist number of articles within the field is researching on this topic.

### III. MAPPING THE STATE OF ART OF CROSS-BORDER MERGERS AND ACQUISITION RESEARCH

The mapping of the cross-border M&A research field has provided us with the intellectual structure of the particular research field in terms of theoretical foundations, methods, context and geographical scope. Through the HOMALS approach, the veiled directions within the field have been identified and the intellectual structure of this research area has been mapped. In order to map the up to date research field of Cross-border M&A, a first step is the interpretation of the dimension poles [41], [44]. The proportion of variance explained by each dimension jointly sum for 86,6 % which exceeds the threshold of 50% of total variance explained (see Figure 2). Accordingly, the position of each keyword on the map represent the particular positioning within the cross-border M&A field, therefore their respective position can be described as such (see Table XI in supplementary material).

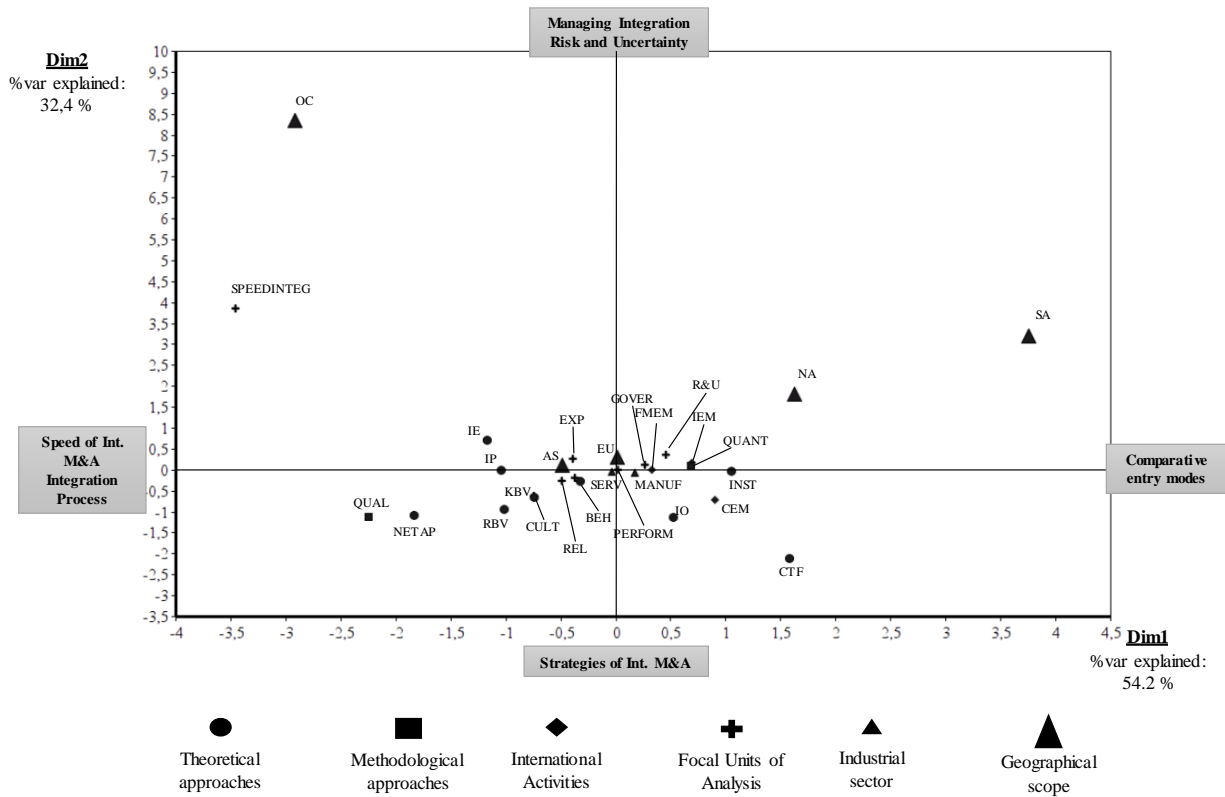


Figure 2: Map of the cross-border M&A research field

Our first result identified (the far left horizontal line) the dimension emphasizing the speed of integration. The articles within the category of the speed of the cross-border M&A integration process focus on the behavioral perspective category [46], [47]. The effects of integration speed have not been profoundly investigated regarding the other identified focal units such as performance, governance, risk, and uncertainty among the others. As represented in the map the speed of the integration is positioned distant from the map center which amounts for 7,6 % articles within the field researching this topic. The lack of research on the speed of the integration continues to represent an important topic [21] and provides a fruitful research avenue. Moreover, the factors of integration from a behavioral standpoint is a research area that we discuss in more detail later as an item for future research.

The far right horizontal dimension indicates a focus on foreign entry modes and their effect of the performance [48] from the quantitative approach leaving the room for the more individual level behavioral approach and the inclusion of the cultural effects [49]. In addition, the way in which

experience and reliance are partitioned between the speed of integration and entry modes is another relevant issue to be considered. Therefore, the identified research stream gap on entry mode should include behavioral perspective since reliance represents one of the main aspects in cross-border M&A field [50].

The vertical axis distinguishes the dimension focusing on the management of integration risk and uncertainty (in the upper part) from those with attention to the general cross-border M&A strategies (in the lower part). A dynamic approach to the effects of experience and risk and uncertainty is needed. This is a particularly relevant issue as the aspects of experience, risk, and uncertainty perception are key drivers of cross-border M&A decision making [51]. Further exploration into this area would allow fulfilling the upper and right areas of the identified map of the field by incorporating the impact of cultural changes [52], cultural evolution, and acculturation processes [53] on (I) management of risk and uncertainty and (II) contractual entry modes perspectives. The institutional approach would be useful to analyze the role of the interaction between institutional support-performance-behavioral perspectives. Furthermore, our analysis shows that the cross-border M&A field focused mostly on the services and knowledge-intensive companies. Therefore, more permeability within manufacturing industries is needed.

Regarding the methodological issues, further emphasis on qualitative methods could uncover contra-intuitive results, and provide further theoretical foundations. A qualitative approach has been mainly adopted in the behavioral aspects while quantitative are predominant in the areas of entry modes, risk and uncertainty and overall strategies employed by cross-border M&As.

Geographical scope suggests Oceania and Australia, South America and Africa have arisen as a neglected geographical area in this field. Developing research relative to this geographical context becomes necessary as an interaction between cultural issues and behavioral context exists [54] and emerging markets can play an outstanding role in the cross-border M&A research field [19], [55].

#### IV. DISCUSSION, MANAGERIAL IMPLICATIONS, AND FUTURE RESEARCH AVENUES

The technology industry is hypercompetitive and firms use the acquisition strategy to target firms globally to add new technology, complement current core competencies, or to eliminate a competitor. Our review has identified numerous cross-border mergers and acquisitions research opportunities from both theoretical and practical viewpoints (see Table XIII for the overview of the research findings and future directions). Cross-border M&A research is considered as an interdisciplinary research area with a variety of opportunities for researchers [6]. Cross-border M&A research was fragmented in the past, with no unifying theoretical foundation, and many variants of the unit of analysis that explore the phenomenon. Our qualitative and quantitative research resulted in the following areas for future research: acquisition versus strategic alliance or joint venture, partial purchase, the outbound acquisitions from emerging market firms, micro-multinationals, the human side of cross-border acquisitions that tie in with the upper echelons research and knowledge management and transfer, in specific, tacit knowledge.

Table XIII: Research Findings and Trends

Findings	Specific Areas Identified for Research	Trends Directions/ Scientific Interest
<b>Integration</b>	Behavioural side	Under-researched is the focus on human resources due to its complexity; the people involved in an acquisition from the top management, to the foreign employees in the target market, and the people in the global acquiring organization as a whole. People affect the entire process of cross border acquisitions, from the strategic decision to identifying potential target firms, evaluation, and finally the integrating of the cross border acquisition.
	Knowledge Management	Research suggests that valuable knowledge is typically tacit, not codified, is interdependent upon the social context, so is difficult to understand and transfer. Although an entire research stream continues to explore outbound knowledge transfer from the local subsidiary to HQ (e.g. information system development, organizational structure for knowledge transfer, exploration/exploitation of foreign knowledge, etc.) very little research (due to its difficult nature to measure and various forms) focuses on the most important aspect of foreign global knowledge, that of tacit knowledge which is embedded within the employees.

Findings	Specific Areas Identified for Research	Trends Directions/ Scientific Interest
<b>Foreign entry mode</b>	M&A versus other modes	Other various forms of integration, that of a joint venture, strategic alliance, greenfield foreign direct investment, or even exporting. Decision factors: industry, the complexity of foreign market, risk, flexibility, need for control, intellectual property protection, speed and cost affect the decision of type of integration.
	Partial purchase	Partial purchase of firms is also becoming an important topic. Partial purchase to control the Board of Directors, control of a subsidiary, access to intellectual property, etc. are now being pursued through purchasing only a percentage of the firm
	Micro-multinationals (mMNE)	mMNEs may not always “own” resources cross-border but control and manage resources in foreign markets. Major implications for foreign entry mode, as instead of SMEs constrained to exporting, mMNEs now illustrate great performance in being actively involved and in controlling cross-border activities.
	Emerging market to developed market	Theoretically, there is a lack of rationale for emerging market firms’ foreign entry mode. Not only the reasons for emerging-market firms’ cross-border acquisitions, but also performance implications need research as many emerging-market firms’ are either government controlled or private, so decisions as to the target and subsequent performance need research.

Although essential, the theoretical foundation of transaction cost theory has been criticized due to its inability to completely explain cross-border strategic alliances, joint ventures, partial purchases and acquisitions. For example, when a firm has a high level of asset specificity, needs the advantage of spreading fixed costs (following transaction cost theory), they will pursue cross-border acquisitions [56]. However, based on network theory and the industry characteristics, complex technological industries have led to more R&D outsourcing, partnerships, loose alliances, and networks working together for strategic goals [4]. In this type of market, firms will not pursue cross-border acquisitions, but will more likely seek to arrange strategic alliances [57]. As previously noted, the varying units of analysis confound cross-border research, and in this example, firm-level theories such as transaction cost theory may not be sufficient when all units of analysis are required to explore the phenomenon.

The decision for cross-border acquisition should also take into account other various forms of integration, that of a joint venture, strategic alliance, greenfield foreign direct investment, and a simple form as exporting (which implies very little presence or integration in the foreign market). Decision



factors such as industry, complexity of the foreign market, risk, flexibility, need for control, intellectual property protection, speed and cost also affect the decision of the type of integration. Only recently has research begin to explore entry mode as comparisons between cross-border acquisitions or other forms of cross-border arrangements (e.g. [58], [59]). Further research is required to determine the appropriate method based upon subsequent firm performance.

From the real options theory approach, instead of acquiring 100%, firms are now taking large block positions through strategic stock acquisition in other firms as partial acquisition due to the size of today's publicly traded firms, as a method of control without full purchase and risk hedging especially in cross border arrangements [60]. Two examples of many: Tianwei New Energy Holdings (Chinese) purchased 60% of Hoku Scientific (USA) and has controlling power and access to the high technology of the firm [61], China Investment groups acquisition of 10% of Morgan Stanley (USA) [62]. Past research suggests partial acquisitions [63] will occur in cross-border acquisitions as foreigners will invest less in overseas firms where there is poor investor protection with information asymmetry issues and high monitoring costs. However, research that focuses on investment in a target firm and the amount of control or governance influence based upon the partial acquisition of equity in the literature is limited [64]. We suggest that researchers should explore when a cross-border acquisition is preferable to other modes of entry/control/internalization, and what factors determine these choices.

Most of the past research in cross-border research focused on developed-countries' firms acquiring firms in emerging markets. Currently, there has been a focus on emerging-market firms performing cross-border acquisitions in developed counties, but this research is just beginning [6]. Some examples of cross-border acquisitions from China to USA: Smithfield foods sold to Shuanghui International Holdings Limited, Hoover sold to Techtronic Industries, IBM's division Lenovo sold to Chinese computer corporation, Motorola Mobility sold to Lenovo, Friede Goldman United sold to China Communications Construction Company, Starwood Hotels sold to Anbang Insurance, Legendary

Entertainment Group bought by Dalian Wanda, etc. [65]. To illustrate the importance of cross-border acquisitions, we will continue with the China example as more than 1,300 acquisitions outbound cross-border acquisitions worth more than \$1 trillion in 2017 occurred with European nations receiving the largest portion, USA second (emerging to developed), while Russia, Singapore, Malaysia, Thailand, Iran, Pakistan and Sri Lanka had acquisitions from China (emerging to emerging) [66].

Although research suggests emerging-market firms are acquiring cross-border firms for strategic assets, arguments are made that theoretically there is a lack of rationale and much more research is required [67]. Emerging market firms are late-comers and have many disadvantages as opposed to established western brands and are attempting to either catch-up or even get in front strategically in cross-border acquisitions. Due to firm internal factors and country specific factors however, the acquisition may not be leveraged appropriately for competitive advantage. Not only the reasons for emerging-market firms' cross-border acquisitions need elucidation, but also performance implications in regard to the selection of the target market and subsequent integration need to be researched. This will be a difficult task as many emerging-market firms' are either government controlled or private, so decisions as to the target, and more specifically (this is also difficult in domestic M&A research) determination of the performance of the specific acquisition. Past domestic M&A research utilizes proxies for acquisition performance and focus on only publicly traded firms (stock price, volatility of stock, etc.), hence identifying any one particular cross-border acquisition (with the plethora of decision making factors known) and subsequent performance will be difficult, but will make a huge impact on the field.

The entrepreneurial research field is focusing on cross-border acquisition in regard to a new type of firm termed "micromultinational" (mMNE) [68]. These "global smaller firms" are adding to both the SME (small and medium enterprise) and international entrepreneurship literature [69]. mMNEs are small firms that quickly become international and are considered different from large MNEs as they may not

always “own” resources cross-border but control and manage resources in foreign markets and will have much less physical assets globally than an MNE due to their small degree of resources available [70]. This research is very recent [71] and has major implications for foreign entry mode, as instead of SMEs constrained to exporting, mMNEs now illustrate great performance in being actively involved and in controlling cross-border activities [72].

Research into mMNEs and cross-border acquisitions provide a wealth of opportunities from many theoretical lenses such as resource based view, entrepreneurship, knowledge management, real options, transaction cost, agency theory implications (lack thereof), and institutional theory to name a few. Past entrepreneurial research on cross-border transactions have identified young firms immediately going global (terms such as born global and international new ventures, with many similar characteristics of mMNEs), but utilizing mostly exporting as their main determinant of globalization [73]. mMNE research is at a cross section for direct implications of cross-border acquisition where MNEs express a desire for the establishment and ownership of foreign operations, while mMNEs capture foreign opportunities through various means that include the foreign presence, but not necessary through acquisition or exporting [74]. As success for mMNEs may not be through cross-border acquisition but are successful in their tactics, this comparative literature will provide knowledge and contrast to MNE cross-border acquisition, factors for, and possible reasons for performance failure/success.

Finally, an area that has been mostly under-researched in both domestic and cross-border acquisition research is the focus on human resources due to its complexity; the people involved in an acquisition from the top management, to the foreign employees in the target market, and the people in the global acquiring organization as a whole. Human resources affect the entire process of cross border acquisitions, from the strategic decision to identifying potential target firms, evaluation, and finally the integrating of the cross border acquisition. Research suggests that often foreign employees’ local culture is a straw-man excuse for cross-border failure, while management takes credit for cross-border

acquisitions that are successful [75]. Researchers seem to assume that cultural issues of employees in cross-border acquisitions will be key to success/failure and often impose dummy variables of culture [53] but the current global marketplace employees often have numerous national identities, blurring cultural norms, and should not be treated as a distinctly separate entity [76], [77].

As the literature on emerging-market outbound cross-border acquisition is still nascent, the effect of the top managers of the firm (which are often either privately owned or government sponsored/owned) has not been ascertained. Why are these managers deciding to perform cross-border acquisitions and decisions as to where (networks, international experience, governmental impetus, strategic opportunity, personal reasons)? Although it is suggested that publicly owned top managers will often perform acquisitions for their own personal reasons beyond that of success for the firm (e.g. foundation of this concept is [28], [32]), emerging-market private firms' managers will have different motivations for cross-border acquisitions.

Often the strategic opportunity for cross-border acquisitions is based upon the theoretical foundations of the resource-based view, resource dependence theory, and knowledge based view, that of acquiring resources and knowledge from foreign markets. Research suggests that valuable knowledge is typically tacit, not codified, is interdependent upon the social context, so is difficult to understand and transfer [79]. Although an entire research stream continues to explore outbound knowledge transfer from the local subsidiary to HQ (e.g. information system development, organizational structure for knowledge transfer, exploration/exploitation of foreign knowledge, etc.) very little research (due to its difficult nature to measure and various forms) focuses on the most important aspect of foreign global knowledge, that of tacit knowledge [80], [81]. The tacit knowledge is embedded within the employees and in the integration stage of a cross-border acquisition, this tacit knowledge must be obtained/utilized for acquisition success [59]. The acquisition of tacit knowledge through cross-border is a research stream for further exploration.

## V. CONCLUSIONS

The cross-border M&A research is nascent with a vast research opportunity for scholars to explore as the technology industry is utilizing this strategic tactic. For example, Apple has purchased over 25 firms in the just the first 6 months of 2019 (ex., Laserlike, Stamplay, PullString, DataTiger, Platoon, Silk Labs, etc.) [82]. Unfortunately for researchers exploring this phenomenon, there is no overwhelming theoretical foundation as there are so many units of analysis that influence a cross-border acquisition. New research is questioning past research, suggesting more in-depth analysis and to question past tenets: for example, that culture is a major barrier for success or failure of a cross-border acquisition. Our research into this phenomenon shows that although there is a considerable lack of research on the topic, that the research that has been performed has begun to unlock the many facets and variables for firm success.

As noted in our introduction, our contributions carry forward the global M&A field with new findings and illustrative research avenues for researchers. The technology sector continues utilizing the M&A tactic extensively, and we have identified issues for practitioners and well as research topics/areas for researchers exploring these phenomena. As past research suggests that M&A does not assist in firm performance, practitioners must be aware of the key areas of which they must focus. For researchers, our study illustrates how nascent the global M&A field is, how many facets still need in-depth exploration, and we attempted to illustrate ones that they may find to their advantage to research.

The limitations of our research are that the field is so broad, with so many different facets, and is changing so quickly, that we only illustrated key areas. For example, we only discussed the human resource area while strategy is attempting to focus on the upper echelons and top management and their reasons for acquisition, while the international business researchers although also concerned with human resources, have identified that a key impetus for failure may be the human resources of the target firm after acquisition. As we note, global M&A in the technology industry requires cross-disciplinary

research and will benefit from assistance from collaborative researchers to identify and explain phenomena.

Another limitation is from a theoretical perspective as there are many theoretical foundations for why acquisitions occur such as the resource-based view, agency theory, transaction cost theory, institutional theory, resource dependence theory, network theory, knowledge-based view, various efficiency theories and normally researchers use a combination of theories. As such, it is difficult for researchers to define and develop a unifying theoretical foundation that will be effective in supporting hypothesis and research into global M&A. This conundrum is exacerbated by the varying units of analysis under consideration and becomes difficult to synthesize from a multiple correspondence analysis and to make subsequent suggestions for research.

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## APPENDIX

### SUPPLEMENTARY MATERIAL

Table I: Examples of Technological Mergers and Acquisitions in 2018-2019

<b>Firm</b>	<b>Target</b>	<b>Year</b>	<b>Price</b>	<b>Reason</b>
IBM	Redhat	2019	\$ 34 bil	Open source software to assist to compete in cloud,
SAP	Qualtrics	2019	\$ 8 bil	Complete Oracle Communication's leading Session Border Controller (SBC) and network management infrastructure by adding high availability and Quality-of-Experience (QoE) connectivity and cloud application access
Twilio	Sengrid	2019	\$ 3 bil	Integrate with their own cloud communications platform to create an all-in-one platform for business growth.
Vista Equity	Apptio	2019	\$ 1.96 bil	Specializes in tools for IT leaders to get visibility into their spending across complex, hybrid environments to spot pinch points and areas where cost can be optimized
Oracle	Datafox	2018	\$ 35 mil	Artificial intelligence for big business
Broadcom	CA Technologies	2018	\$ 18.9 bil	CA is uniquely positioned across the growing and fragmented infrastructure software market, and its mainframe and enterprise software franchises will add to the portfolio of mission critical technology businesses.
Adobe	Marketo	2018	\$ 4.75 bil	Add to Adobe Experience Cloud with Marketo's lead management and marketing technology for the B2B world
Cisco	Duo Security	2018	\$ 2.3 bil	The acquisition is said to be about bolstering Cisco's intent-based networking strategy by extending it into multi-cloud environments.
Workday	Adaptive Insights	2018	\$ 1.5 bil	Integrate into it financial planning software
Amazon	Ring	2018	\$ 1 bil	Ring manufactures doorbells and record live videos and sending it back to client's smartphones.
Salesforce	Datorama	2018	\$ 800 mil	Combining their sales and marketing software with marketing intelligence and analytics to help business improve how they propagate their brands.
Siemens	Mendix	2018	\$ 730 mil	Use Mendix low-code software platform to provide tools for building, testing, deploying and iterating applications to create more products more seamlessly
DocuSign	Spring CM	2018	\$ 220 mil	Modernize its software by providing secure solutions for electronic exchanges of contrasts and signed documents

Source: own draft adapted from the press and corporate announcements'

Table V: Theoretical Approaches identified keywords

Acronym	Descriptor	Keywords
IE	International Entrepreneurship	BG, Born again Global, Born Global, Born Global Firm, Business Opportunity, Causation, Corporate Entrepreneurship, Effectual Logic, Effectuation, Entrepreneur, Entrepreneurial Activity, Entrepreneurial Attitude, Entrepreneurial Competence, Entrepreneurial Culture, Entrepreneurial Decision, Entrepreneurial Founding Teams, Entrepreneurial Orientation, Entrepreneurialism, Entrepreneurship Theory, Immigrant Entrepreneurs, International Business Opportunity, International Entrepreneurship, International New Venture, International Opportunity, INV, Transnational Entrepreneur
IO	Industrial Organization	Competitive Advantage, Bargain, Bargaining Perspective, Bargaining Power, Deindustrialization, Industrial Cluster, Industry Analysis, Industry Cluster, Market Imperfection, Monopolistic Advantage, Regional Cluster
IP	Internationalization Process	U-M, U-Model, International Commitment, Gradual Commitment, Gradual Internationalization, Gradualist Model, Gradually, Internationalization, Internationalization Process, Internationalization Stages, Internationalization Strategy, Internationalize, IP Model, Scandinavian Model of Internationalization, Scope of Internationalization, Sequential Internationalization, Stage, Uppsala Model
KBV	Knowledge Based View	Absorptive Capacity, International Learning, Knowledge Combination, Knowledge Creation, Knowledge Development, Knowledge Management, Knowledge Recombination, Knowledge Transfer, Learning Effort, Learning Perspective, Learning Process, Organizational Learning
BEH	Behavioral Perspectives	Analytical, Attitude, Attitude Toward a Behavior, Behavior, Behavioral, Behavioral Agency, Behavioral Theory, Cognition, Cognition Based, Cognitive, Cognitive Ability, Cognitive Perspectives, Decision, Decision Making Process, Decision Theory, Echelon, Emotion, Emotive, Heuristic, Heuristics, Hubris, Insight, Intuition, Judgement, Judgment, Leadership Style, Mindset, Misperception, Perceive, Perception, Psychological Approach, Psychology, Rational, Satisfaction, Sense giving, Sense making, Socio Psychological Approach, Socioemotional, Sociological Approach, Sociology, Upper Echelons
NETAP	Network Approach	Business Network, Industrial Network, International Network, International Relational Exchange, Network Approach, Network Development, Networking, Relational Capital, Social Capital, Social Network Theory
RBV	Resource Based View	Ambidexterity, Ambidextrous, Asset Specific, Capabilities, Capability, Comparative Advantage, Competitive Advantage, Dynamic Capability, Exploit, Exploitation, Exploration, Explorative, Exploratory, Explore, Firm Characteristic, Firm Specific Advantage, Firm Specific Asset, FSA, Intellectual Property, Internal Capital, RBV, Resource Advantage Theory, Resource Base View, Resource Dependence, Resource Dependence Theory, Resources and Capabilities, Slack Resources, Specific Advantage, Specific Asset
CTF	Contract Theories of the Firm and Principal-Agent Theory	Agency, Agency Theory, Dunning, Eclectic Paradigm, Information Cost, Internalization, Internalization Theory, Internalize, Location Advantage, OLI, OLI Paradigm, OLI Theory, Organizational Learning Theory, Ownership Advantage*, Principal Agent, TCE, Trade Cost, Transaction Cost, Transaction Cost Economics
INST	Institutional Theory	Institution, Institutional Distance, Institutional Environment, Institutional Factor, Institutional Theory

Table VI: Methodological approaches identified keywords

Acronym	Descriptor	Keywords
QUAL	Qualitative	Action Research, Case Study, Case Study Approach, Case Study Method, Comparative Case Study, Concept Mapping, Content Analysis, Document Interpretation, Focus Group, Grounded Theory, Interpretive Analysis, Interview, Interviewing, Narrative Analysis, Participant Observation, Qualitative, Qualitative Analysis, Qualitative Approach, Qualitative Comparative Analysis, Qualitative Data, Qualitative Research, Qualitative Study, Single Case Study, Storytelling, Triangulation
QUANT	Quantitative	Meta-Analysis, Analysis Of Variance, ANCOVA, ANOVA, Archival Analysis, Auto regression, Bayesian Analysis, Bootstrapping, Categorical Dependent Variable, Causal Mapping, Cluster Analysis, Coefficient, Coefficient Beta, Common Method Variance, Computational Modelling, Computer Simulation, Confidence Intervals, Correlation, Correlation Analysis, Covariance, Cox, Cox Hazard Model, Descriptive Analysis, Descriptive, Discriminant Analysis, Econometric, Econometrics, Effect Size, Empirical Analysis, Ethno Statistics, Euclidean, Exploratory And Confirmatory Factor Analysis, Factor Analysis, Generalized Estimating Equations, Hierarchical, Hierarchical Regression, Logistic Regression, Logit, Longitudinal, Longitudinal Case Study, Longitudinal Data Analysis, Longitudinal Field Experiment, Missing Data, Multidimensional Scaling, Multiple Linear Regression, Multiple Regression, Network Analysis, Neural Networks, Nonlinear, Nonparametric Techniques, Panel, Panel Data, Panel Data Analysis, Panel Data Model, Panel Data Set, Parameter Estimation, Partial Least Squares, Path Analysis, Power Analysis, Quantitative, Quantitatively, Quantitative Design, Quantitative Study, Random Parameters Logistic Model, Regression, Reliability Analysis, Robust, Robustness, Scale Development, SEM, Structural Equation Modelling, Variance

Source: based on the taxonomy of research methods of [59]

Table VII: International Activities identified keywords

Acronym	Descriptor	Keywords
FMEM	Foreign Market Entry Mode	Cross Border Transaction, Entry, Entry Mode, Entry Mode Choice, Entry Process, Expansion, Export, Export Intensity, Export Market, Exporter, Foreign, Foreign Entry, Foreign Market, Foreign Market Entry, Foreign Market Entry Mode, Foreign Target, Global, Global Market, Globalization, Globalism, Globalist, Globalization, Globalize, Globally, Globe, International Trade, Market Entry, Market Entry Mode, SME Export, Trading
CEM	Contractual Entry Mode	Contract, Contract Based Agreement, Contractual Agreement, Franchise, Franchising, Franchisor, License, Licensing, Non-Equity Agreement, Non-Equity Alliance, Offshoring, Outsource, Outsourcing, Subcontract, Subcontracting
IEM	Investment Entry Mode	CMNEs, Cross Border Investment, Cross Border Joint Venture, Direct Entry, Direct Foreign Investment, Direct Investment, Disinvestment, DMMS, DMNE, EJV, Emerging Market Multinational, Emerging Market Firm, EMM, EMNC, EMNEs, Equity International Joint Venture, FDI, FDI Flow, Foreign Direct Investment, Foreign Investment, Greenfield, Greenfield FDI, Greenfield Foreign Direct Investment, Greenfield Investment, Greenfield Subsidiary, IJV, International Equity Joint Venture, International Investment, International Joint Venture, Investment, Inward FDI, Joint Venture, JV, JVs, Market Multinational Company, Micro Multinational, mMNE, MNC, MNCs, MNE, MNEs, Multinational, Multinational Corporation, Multinational Enterprise, Multinational Firm, Multinationals, Outward FDI, Outward Foreign Direct Investment, Overseas Investment, Parent Control, Partial Joint Venture, Partial Ownership, Partly Owned Subsidiary, Shared Ownership, Subsidiaries, Subsidiary, Wholly Owned, Wholly Own Subsidiary, WOS

Table VIII: Focal units of analysis identified keywords

Acronym	Descriptor	Keywords
CULT	Culture	Acculturation, Corporate Culture, Cross Cultural, Cross Cultural Interaction, Cross Cultural Management, Cultural, Culturally Distant, Cultural Analysis, Cultural Attractiveness, Cultural Change, Cultural Difference, Cultural Dimension, Cultural Distance, Cultural Diversity, Cultural Dynamics, Cultural Evaluation, Cultural Experience, Cultural Factor, Cultural Fit, Cultural Friction, Cultural Identity, Cultural Influence, Cultural Integration, Cultural Integration Path, Cultural Issue, Cultural Organizational, Cultural Proximity, Cultural Relatedness, Cultural Similarity, Culture, Culture Clash, Culture Difference, Culture Distance, Culture Influence, Distance, Geographic, Geographic Distance, Geographical, Geographically, Hofstede, Intercultural, Knowledge Share, Multicultural, Multiculturalism, Multinationalism, National Cultural, National Cultural Difference, National Cultural Distance, National Culture, National Culture Differences, National Identity, Nationality, Norms, Organizational Culture Difference, Organizational Culture, Parent Culture, Power, Power Distance, Psychic Distance, Religion, Religious, Ritual, Sociocultural, Tradition
EXPER	Experience	Acquisition of experience, Addition To Knowledge, Educational Background, Experience, Expertise, Feedback, Foreign Market Experience, Foreign Market Knowledge, Host Country Experience, Inexperienced, International Acquisition Experience, International Business Experience, International Business Knowledge, International Experience, Internationalization Experience, Knowledge Flow, Knowledge transfer in acquisition, Knowledge Transfer Process, Prior Knowledge, Prior Relate Knowledge, Reverse Knowledge Transfer, Years of Experience
R&U	Risk And Uncertainty	Barrier, Conflict, Corruption, Crisis, Damage, Danger, Dangerous, Default Risk, Environment, Exchange Risk, Geopolitical, Global Financial Crisis, Hazard, Illegal, LOF, Liability of foreignness, LON, Liability of newness, Market Risk, Market Uncertainty, Mitigate Risk, Political Risk, Policy Implication, Political, Political Relation, Political Risk, Political Uncertainty, Risk, Risk Arbitrage, Risk Assessment, Risk Associate, Risk Factor, Risk In Cross Border, Risk Management, Risk Outcome, Risk Perception, Riskier, Riskiness, Riskless, Risky, Risk Reduction, Security, Uncertainty, Uncertainty Associate, Unforeseeable Uncertainty, Uncertainty Avoidance
GOVER	Governance	Board of directors, CEO, Chairman, Corporate Governance, Decentralize, Executive, Firm Ownership, Foreign Ownership, Governance, Governance Mechanism, Government, Governmental, Institutional Ownership, Investor, Key Manager, Leader, Leadership, Managed, Manager, Owner, Ownership, Ownership Participation, Ownership Structure, Private, Private Equity Firm, Public, Shareholder, Spillover Of Corporate Governance, Staff, State Own Enterprise, State Own Firm, State Ownership, Stockholder, Target Corporate Governance, Team, TMT, Top Management, Top Management Team, Top Manager, Vice President
REL	Reliance	Antitrust, Charismatic, Charismatic Leadership, Collaboration, Collaborative, Cooperation, Cooperative, Courage, Credibility, Enthusiasm, Ethical, Friendly, Idiosyncratic, Interdependence, Interdependency, Interdependent, Interrelationship, Loyalty, Mutual Respect, Parties, Partner, Partner Approach, Partner Attractiveness, Party, Relatedness, Reliability, Reliable, Reliance, Reliant, Relieve, Strategic Alliance, Stressful, Trust, Trust Building, Trust Commitment, Trust Development, Trust Perception, Trust Dynamics

Acronym	Descriptor	Keywords
POSTINTEG	Postmerger Integration	Absorb, Absorption, Acceptance, Acquired, Acquisition Integration, Agglomerate, Agglomeration, Aggregate, Alignment, Buyout*, Coherent, Cohesion, Cohesive, Cointegration, Conglomerate, Consolidation, Coordinative Effort, Disintegrate, Disintegration, Economic Integration, Firm Interact*, Growth Strategy, Holding, Holding Approach, Human Integration, Incentive Structure, Integration, Integration Approach, Integration Capability, Integration Challenge, Integration Degree, Integration Mechanism, Integration of Resource, Integration Process, Integration Stage, International Financial Integration, International Integration, Level Of Integration Adopted, Marketing Integration, Network Integration, Oligopolistic, Partial Acquisition, Postmerger Integration, Postmerger Integration Process, Post Acquisition Integration, Post Integration, Postmerger Acquisition Integration, Postmerger Period, Relocate, Relocation, Reorganization, Reorganize, Socio Cultural Integration, Sociocultural Integration, Symbiosis, Symbiotic Approach, Synergy, Takeover, Takeovers, Task Integration, Vertically Integrated
SPEEDINTEG	Speed of Integration	Accelerate, Acceleration, Earliness, Early, Early Entry, Early Mover, Early Mover Advantage, Entry Timing, Fast Integration, Integration Speed, Late Entry, Late Starters, Quickly, Quickness, Rapid, Rapid Integration, Speed, Speed Integration, Speed To Market
PERFORM	Performance	Abnormal, Abnormal Gains, Abnormal Losses, Abnormal Profits, Abnormal Return, Abnormal Stock Market Returns, Abnormal Stock Return, Acquisition Performance, Anticipated Takeover Gains, Bankrupt, Bankruptcy, Capital Gains, Cash, Collapse, Cross Border Acquisition Performance, Cumulative Abnormal Return, Dominance, Dominant, Dominantly, Dominate, Earn, Economic Growth, Efficiency, Exit, Failure, Feasibility, Feasible, Firm Performance, Foreign Sales To Total Sales, FSTS, Gain, Generates Positive Outcomes, Gradual, Growing, Growth, High Failure Rate, International Performance, Long Term Performance, Longevity, Mortality, Operating Performance, Performance, Performance Change, Performance Depend, Performance Effect, Performance Have, Performance Implication, Performance Improvement, Performance Indicator, Performance Measure, Performance Outcome, Performance Play, Performance Relationship, Poor, Portability, Positive Abnormal Return, Post Acquisition Performance, Preservation, Profit, Profitability, Profitable, Quality Increase, Return, Return Earn, Return On Asset, Return To Shareholders, Revenue, ROA, Significant Abnormal, Significant Abnormal Return, Stock Return, Success, Survival, Turnover, Underperformance, Wealth, Wealth Gain

Table IX: Industries/Sectors Analyzed identified keywords

Acronym	Descriptor	Keywords
SERV	Services	Accounting, Agricultural Services, Audit, Auditor, Aviation Services, Bank, Bank Acquisition, Banker, Banking, Banking Industry, Banking Sector, Banking Services, Business Services, Commerce, Communications, Components, Computer, Consumer Goods, Cross Border Bank, Design, Development, Education, Electronics, Engineering, Facebook, Finance, Financing, Fleet Management Systems, Health, Health Technology, Healthcare To Housewares, High Tech, Higher Education, ICT, Informatics, Information Technology, Insurance, IT, Law, Legal Services, Life Sciences, Lightning, Logistics, MBA, Media, Medical Products, Natural Health, Paper, Personal Services, Pharmaceutical, Pharmaceuticals, Pharmaceutics, Printing, Railway, Research And Development, Retail, Retailer, Service, Skin Products, Software, Software Industries, Telecommunication, Telecommunications, Tourism, Trade, Transport, Transportation, Web, Website

MANUF	Manufacturing	Aeronautic, Aerospace, Agribusiness, Agro Alimentary, Agroindustry, Automotive, Biotech, Biotechnology, Building, Car, Ceramic Tile, Chemical, Chemicals, Clothes, Clothing, Construction, Electrical Devices, Energy, Equipment, Factory, Fashion, Footwear, Fuel Cells, Furniture, Hydrogen, Industrial, Industrial Automation, Industrial Goods, Industry, Industry Original Equipment, Instrumentation, Leather, Leather Accessories, Machine, Manufactory, Materials Handling, Mechatronics, Mechanical Engineering, Medical Equipment, Medical Technology, Metal, Metal Machinery, Mining, Nanotechnology, Non Metallic Mineral, Ocean Technology, Oil And Gas, Petroleum, Pharmaceutical Industry, Plastic, Polymer Processing, Rubber, Technological, Technology, Textile, Textiles, Toys
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Table X: Geographical scope identified keywords

Acronym	Descriptor	Keywords
AF	Africa	Africa, Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, Central African Republic, Chad, Congo, Democratic Republic Of Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Ethiopia, French South Territories, Gabon, Gambia, Ghana, Guinea, Island Of Santo Tome And Principe, Ivory Coast , Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauricio Islands, Mauritania, Mayotte, Morocco, Mozambique, Namibia, Niger, Nigeria, Occidental Sahara, Reunion Island, Rwanda , Senegal, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Tanzania, Togo, Tunisia, Uganda, Zaire, Zambia, Zimbabwe
AS	Asia	Afghanistan, Arab, Asia, Asia Pacific, Azerbaijan, Bahrain , Bangladesh, Beijing, British Indian Ocean Territory, Brunei Darussalam, China, Hong Kong, India, Indian, Indonesia, Iran, Iraq , Israel, Japan, Jordan, Kazakhstan, Kiribati, Korea, Kuwait, Kyrgyzstan, Laos, Lebanon, Macao Island, Malaysia, Maldives Island, Mongolia, Myanmar , Nepal, North Korea , Oman, Pakistan, Persian, Philippines, Qatar, Saudi, Saudi Arabia , Singapore, Singaporean, South Korea , Sri Lanka , Syria, Syrian, Taiwan, Taiwanese, Thailand, Timor Oriental, Tokyo, Turkmenistan, United Arab Emirates, Uzbekistan, Vietnam, Vietnamese, Yemen
EU	Europe	Andorra, Austria, Baltic, Belarus, Belgium, Bosnia and Herzegovina, Britain, Bulgaria, Central And Eastern Europe, Croatia, Czech, Czech Republic, Denmark, Dutch, England, Estonia, EU, Europe, European Union, Finland, France, German, Gibraltar, Greece, Holland, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, London, Luxembourg, Macedonia, Malt, Moldova, Monaco, Montenegro, Moscow, Netherland, Netherlands, Nordic, North European, Norway, Petersburg, Poland, Portugal, Romania, Russia, San Marino, Scandinavia, Scotland, Serbia, Slovenia, Soviet, Spain, Sweden, Switzerland, UK, Ukraine, Norwegian, Vienna
SA	South America	Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, Granada, Guadalupe Island, Guatemala, Guyana, Haiti, Honduras, Jamaica, Latin America, Malvinas Island, Martinique, Mexico, Netherlands Antilles, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Santa Lucia Island, Surinam, Trinidad and Tobago, Uruguay, Venezuela
NA	North America	Alabama, America, California, Canada, Canadian, Chicago, Greenland, Massachusetts, North America, Pennsylvania, Seattle, United States of America, USA
OC	Oceania	Fiji, Norfolk Island, Northern Mariana Island, Oceania, Papua New Guinea, Pitcairn Island, Solomon Island, New Caledonia, Vanuatu Island, New Zealand, Tokelau Island, Tonga, Australia, Australian, Zealand



Table XI: Descriptors that represent the poles of the axes

Axes	Descriptor	Origin of the axes descriptor
Axis X Left	Speed of International M&As Integration Process	Speed of Integration; Network Approach, International Entrepreneurship, Internationalization Process
Axis X Right	Comparative entry modes	Contractual Theory of Firms; Institutional Theory; Contractual Entry Modes; Investment Entry Modes
Axis Y Upper	Managing Integration Risk and Uncertainty	Risk and Uncertainty, Experience, Governance
Axis Y Lower	Strategies of International M&As	Industrial Organization; Resource-Based View; Knowledge Based View; Culture

Table XII: Descriptors frequency and notable references of identified descriptors (\*)

Category	Descriptors	Frequency % (N=933)	Notable References
Theoretical approaches	International Entrepreneurship	9.9%	[23], [83], [84], [85], [86]
	Industrial Organization	2.5%	[49], [87], [88], [89], [90]
	Internationalization Process	15.9%	[91], [19], [92], [93], [94]
	Knowledge-Based View	22.0%	[25], [59], [58], [49], [17]
	Behavioral Perspectives	36.5%	[95], [96], [49], [50], [97]
	Network Approach	3.7%	[98], [58], [99], [100], [101]
	Resource Based View	24.9%	[48], [91], [95], [98], [59]
	Contract Theories Of The Firm: And Principal-Agent Theory	9.5%	[91], [102], [58], [17], [103].
Methodological approaches	Qualitative	11.4%	[104], [91], [49], [53], [97], [106]
	Quantitative	26.3%	[96], [59], [108], [109], [53], [50]
International Activities	Foreign Market Entry Mode	61.9%	[107], [103], [110], [111]
	Contractual Entry Mode	2.6%	[112], [113], [90]
	Investment Entry Mode	48.0%	[102]; [114]; [115], [85]; [116]
Focal units of analysis	Culture	32.6%	[48], [95], [53], [50], [23]
	Experience	17.4%	[117], [118], [11], [119], [120]
	Risk And Uncertainty	31.9%	[121], [122], [123], [124], [125]
	Governance	64.5%	[114], [126], [127], [128], [129]
	Reliance	18.2%	[130], [59], [50], [131], [132]
	Postmerger Integration	43.7%	[46], [133], [134], [135], [5]
	Speed of Integration	7.6%	[47], [93], [136], [137], [138], [46]
	Performance	70.6%	[48], [139], [140], [141], [142]

Category	Descriptors	Frequency % (N=933)	Notable References
Industries/Sectors analyzed	Services	70.8%	[104], [91], [107], [25]
	Manufacturing	39.7%	[98], [59], [58], [49], [114]
Geographical scope	Africa	1.5%	[143], [144], [145]
	Asia	27.2%	[104], [91], [102], [17], [146]
	Europe	28.6%	[53], [147], [117], [106], [148]
	South America	1.6%	[149], [150], [151], [152]
	North America	14.7%	[102], [58], [126], [153]
	Oceania	2.7%	[154], [155], [156], [157],

\*Notable references are based on the content within each article and the amount of citation per year since the publication date

Tables V, VI, VII, VIII, IX and X contain detail keywords and information about the content of each identified descriptor

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