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The Performance Implications of Knowledge Management and Strategic Alignment of MNC Subsidiaries

Introduction

Global knowledge management has come to the forefront of strategy research due to it being an important source of competitive advantage and sustained superior performance (Foss and Pedersen, 2004; Blomkvist, 2012; Zeng et al., 2018). Researchers are now exploring knowledge management between subsidiaries and headquarters of multinational corporations (MNCs) (Claver-Cortes et al., 2018) yet researchers are still attempting to link knowledge management to a global firms' performance, or how a knowledge-based advantage is sustained (Lee, 2018; Teece, 1998; McEvily and Chakravathry, 2002). Only currently has the research focused on knowledge management amongst MNCs and their subsidiaries (Meyer and Peng, 2016). This limited research is surprising as much theoretical literature either utilizes knowledge as a theoretical platform or suggests that knowledge is a source of competitive advantage (Mudambi, et al., 2014). Our research furthers the knowledge management literature by focusing on whether firms

with good knowledge management systems will perform better in a transitional economy, in specific that of Croatia which jointed the European Union in 2013.

As multinational corporations (MNC) foreign subsidiaries reside in increasingly diverse environmental contexts, MNCs are attempting to establish complex organizational and strategic arrangements to facilitate global cohesion (Wei and Nguyen, 2017). MNC success depends on how effective subsidiary operations are aligned with local environmental conditions given the context of global competition occurring at the business level in specific markets (Aragon-Sanchez and Sanchez-Martin, 2005). Market conditions therefore affect the knowledge management processes for an MNC (Hong and Snell, 2015). MNC's are now relying on their subsidiaries for knowledge, giving them autonomy for their own operational responsibilities, and developing systems to transfer market knowledge globally (Cadogan, et al., 2009).

Past research suggests that MNCs capable of integrating and utilizing knowledge will develop a sustainable competitive advantage (Crespo et al., 2014; Ferreira et al., 2015; Kirca and Hult, 2009). However, the global strategy literature has focused primarily on the issue of knowledge management, rather than understanding the specific environmental contexts in local markets or the influence of strategic orientation on knowledge management processes. Specifically, there has been little attention so far to the environment-strategy-knowledge management-performance (ESKMP) linkage at the MNC subsidiary level (Vanaik and Midgley, 2019; Najafi-Tavani, Robson, Zaefarian, Andersson and Yu, 2018).

Transitional economies have become increasingly important to MNC operations (Li et al., 2016; Lee, 2019; Wahdwa, McCorick and Musteen, 2017). Transitional economies are characterized by highly uncertain and dynamic market conditions. As such,

the transitional economy context offers a unique opportunity to extend our understanding of the ESKMP relationship. The transition from a socialist to a market economy occurring in Eastern European firms suggest that they will have to develop competencies quickly, build up knowledge bases, and implement innovations (Dabić et al., 2012; Pereira et al., 2018). Currently these local firms are not as competitive to global firms due to high production costs, obsolete machinery, poor infrastructure, poor product quality, insufficient service and older technology (Petrakos, 2013). Prior research on knowledge management has been primarily limited to domestic firms operating mostly in concentrated and stable markets. More importantly, there is little research examining the ESKMP relationship in different institutional settings.

Strategic configurations available in the literature imply that generic strategies are equally viable across environmental contexts. These configurations are also ambiguous in specifying the strategy-environment fit in international market contexts and lack the integration of knowledge management capabilities, which have been purported to enhance a firm's competitive positioning (Frambach et al., 2016). Along with other recent research (Lin, Tsai and Wu, 2014; Ingram et al., 2016), this paper uses the Miles and Snow (1978) typology of strategic orientations as a way for formulating hypotheses about the importance of knowledge management capabilities for MNC subsidiaries. Multinational corporations (MNCs) increasingly understand the important influence between the type of strategic configuration (i.e., Prospector, Analyzer, Defender, Reactor) with their host country environment (Luo and Park, 2001).

Central and Eastern European (CEE) transition economies are major business opportunities, though complex, as socioeconomic problems (e.g., high debt, high

bureaucracy) hinder MNC's subsidiaries performance (Tihanyi and Roath, 2002). Even with these issues, the CEE has attracted considerable foreign direct investment capturing 23% of FDI projects in Europe and 52% of jobs in 2016 (Ernst and Young, 2017). The transitional economies like Croatia are a unique opportunity for researchers to explore business phenomena as suggested by expanded research in the CEE economies (Meyer and Peng, 2005; Meyer and Peng, 2016; Zahra et al., 2000; Meyer, 2016; Peng and Luo, 2000, Luo and Peng, 1999; Peng, 2000; Peterson, 2016). One of the key driving forces is the privatization of state-owned enterprises (SOEs) in the CEE (Frydman, et al., 1998), and are currently manufacturing hubs for European countries (Nelson, 2017). Privatization resulting in employees with a lack of entrepreneurial and managerial skills of the employees (Meyer, 1998) and being a new manufacturing hub has researchers examining the technology and management skills transfers to these CEE organizations (Uhlenbruck and Castro, 2000; Stor et al., 2016).

Our research endeavors to explore two research questions:

R1: *To add to the knowledge management literature in general; do firms in transitional economies that actually pursue knowledge management have better performance*.

R2: *Past research suggests that knowledge is a source of competitive advantage, and transitional economies are characterized by uncertain and dynamic market conditions, as such; will MNCs select a Prospector strategy to proactively seek and utilize new market knowledge and opportunities.*

Our paper is organized as to the following: First we explore the theoretical foundation of the knowledge-based theory of the organization, second, we analyze the Croatian marketplace and why it is an appropriate setting for our research, third, we

explore the Miles and Snow framework and give preference for our hypothesis as to why the Prospector strategy will be favored in a transitional economy, fourth, we apply the knowledge management literature and support why knowledge management will be the most used by Prospectors in this marketplace, fifth, we argue how knowledge management by all firms will be a requirement for successful firm performance and then hypothesize why Prospectors will have greater performance, sixth, our methodology section, finally we make conclusions and limitations of our study.

Knowledge-Based Theory of Organizations

Knowledge management has continued to generate an enormous amount of interest from the early 1990s, with formulative researchers contending that the knowledge-based view represents a fundamentally new theory of the firm (e.g., Nonaka and Takeuchi, 1995). Much of this early research began by distinguishing between information and knowledge and has subsequently delved into the meaning of knowledge, determining how knowledge is generated and disseminated, setting out the foundations of a knowledge-based theory of the firm, and prescribing the adoption of a knowledge perspective (Nonaka, 1994; Kogut and Zander, 1992, 1993; Spender, 1996; Grant, 1996; Teece, 1998, 2000; Nonaka and Teece, 2001; Schultz and Jobe, 2001; Thomas et al, 2001).

The success of a global corporation in foreign markets as well as the accumulation of knowledge from these markets is challenged by the influences of the environments that the foreign subsidiaries operate, thereby suggesting a need for adaption to the local environment for global marketing effectiveness (Kirca et al., 2009 b). Foreign subsidiaries do not necessarily follow corporate strategy in a global corporation in total, and often

tailor parts of the marketing strategy to the local environment due to effective knowledge management and rely on informal contacts of customers and sales people as a basis for information gathering (Meyer and Su, 2015). These same changes may be utilized in other subsidiaries and could assist in the home office's global strategy.

The marketing strategy of foreign subsidiaries and a corporation's market orientation illustrate that foreign subsidiaries who are able to successfully analyse their local market and provide additional knowledge and add-value will be more successful (Pehrsson, 2009). The local market conditions and environment vary per country due to distribution, market segmentation, local networks and competitor moves and must therefore tailor a portion of the global strategy to their local strategy (Najafi-Tavani et al. 2015).

The success of a global strategy rests within its subsidiaries' locally developed capabilities and less with the corporate headquarters (Ensign et al., 2000) hence researchers are focusing on examining how foreign subsidiary knowledge can be incorporated both in the headquarters and throughout the entire network of subsidiaries (Andersson, Forsgren and Holm, 2002). If a subsidiary does not have knowledge producing capabilities, support for the subsidiary from the global corporation headquarters and allocation of resources in support of the subsidiary will be hindered (Kirca et al., 2009a).

Research suggests that foreign subsidiaries are playing greater roles in global corporation success, and those engaging in product diversification activities or expanding their local presence in related businesses perform better (Chiao et al., 2008). However, there appears to be a dearth in understanding strategy implementation of foreign subsidiaries and how the strategy is a value adding activity (Pehrsson, 2008).

Why Croatia is an Appropriate Setting for the Research

Croatia transitioning from a socialist economy to a free-market focused is constrained by historical barriers and institutional pressures. Recent research suggests that a weak formal, and strong informal, institutional environment such as is present in Croatia will negatively affect high growth firms (HGFs) (Krasniqi and Desai, 2016), which is of interest as these type of firms have the largest contributions in job creation and economic growth (Coad et al., 2014). Initially, the focus on Croatia's transition was on structural reform and macroeconomic issues, in specific, opening their marketplace to foreign firms. Success has been seen with low inflation and many government-owned institutions have been privatized and are now forced to compete. This has allowed foreign firms to enter the marketplace and have compelled local firms to change rapidly. New knowledge processes and production efficiencies are required to be successful in the transitioning economy. Croatia's transition has shown some success as it has grown from 61rst (in 2006) to 30th in the Global Competitiveness report in 2019 (INSEAD, 2019).

Pent up domestic demand for new goods is a main driver of growth along with increased public spending. The transition into a market oriented economy has brought opportunities but also challenges to the consumer (Cui et al., 2006). Not only has the economy evolved but so also has the buying habits and the transparency in the marketplace, though there is still much change to occur. Croatia has two major strengths: a high quality educated workforce, and its physical location as it is located between the developed markets of Western Europe and the fast growing Southeast (Dabic and Bach, 2008). Although attempting to transition, there are still barriers to free competition, governmental still intervenes in the marketplace, and information is still not always freely available.

Due to their previous socialist institutions, Croatia is still in the "catch up" mode. For example, in the past, manufacturer's goals were to provide jobs and not be efficient. Currently, there is much innovation in the manufacturing industry to achieve efficiency and provide superior offerings to the consumer. This requires significant knowledge transfer, market knowledge gathering, and knowledge management systems within firms that wish to be competitive in the new dynamic fast-changing marketplace. Research focusing on Central and East European countries (CEECs) exhibits the importance of our research focusing on Croatia. All CEECs are restructuring, are focusing on efficiency of labor, and that Croatia has had the most extensive strategic changes of all CEECs (Stojcic, Hashi and Telhaj, 2011).

Research has illustrated that a country's institutional and economic environments have an impact on a firm's ability to operate as country-specific environments affect both the intensity and type of competition which influence firm strategy. Competitive intensity and dynamism will affect the strategy configuration of a firm. MNC subsidiaries in Croatia still are strategically challenged by a high degree of uncertainty as the government continues to try to influence market imperfections, and there continues to be rapid changes in competition and customer demands (Tihanyi and Roath, 2002). These institutional and marketplace challenges illustrate the need for firms to have strong knowledge management practices to not only seek new knowledge, but to apply internally.

Hypotheses Development Relative to Translating Knowledge into Global Business Strategies

Our research in this section explores knowledge management to specific strategic configurations that MNCs will use in a transitional market. Past foundational research in international management has identified several attributes of global competitive advantage, such as firm- and location-specific advantages (Kogut, 1985), integration of functional area (Porter, 1986), etc. Current knowledge management literature does focus on subsidiary level knowledge management (Claver-Cortes, et el., 2018), or from a global human resource management perspective, the role of expatriates in knowledge transfer (Sanchez-Vital, et al., 2018; Vlajčić, et al., 2019). However, very little recent research has focused on the environment-strategy-knowledge management linkage (Cavaliere and Lombardi, 2015).

The strategy literature suggests that organizational learning is important for a company to survive and to attain superior performance (Foss and Pedersen, 2004; Zeng, Grogaard and Steel, 2018). Even successful global MNCs must continue to acquire knowledge that will help them to develop new competencies and to successfully position their product (Peltokorpi and Yamao, 2017; Kogut and Mello, 2017). Researchers still know relatively little in regard to how firms acquire useful knowledge much less how this knowledge affects entity performance (Ferraris et al., 2016). Some research suggests that organizational design is important in the learning process as smaller units might accelerate learning (Nadayama, 2018). Market volatility hinders knowledge management as it devalues old knowledge so in transitional economies the importance of successful knowledge management systems becomes imperative. Also, when in uncertain markets where multiple changes occur simultaneously, managers will have difficulty in attributing any particular innovation as the cause of performance change, so strategic configuration to match the environment is of consequence.

Strategic configurations

MNC success is attributable to the leveraging of key resources (particularly knowledge) when expanding to new markets (Lin et al., 2014). The rationale for MNC expansion into transitional economies is resultant from the inherent MNC drive for market expansion and the accumulation of new resources. MNC subsidiaries focus on managing the exploitation of existing MNC resources while accumulating local market resources to maximize operational effectiveness. As such, MNCs develop differing strategic configurations for local market effectiveness.

The Miles and Snow strategic choice typology is still considered one of the most used and valuable in strategy literature (Song et al., 2007; Hambrick, 2003). The main reason we use the Miles and Snow typology is due to its industry-independent nature and that it corresponds and changes across multiple industries and countries (Desarbo, et al., 2005). The focus of the typology is that strategies will change to align with local management styles and with the environment of which it operates (Miles and Snow, 1978; Frambach et al., 2016).

There have been a number of typologies in the strategy literature e.g. Miller and Friesen, (1983), Mintzberg (1978), Porter (1985), Miles and Snow (1978), March (1991) that suggest that the external environment influences a firm's strategic configurations. We utilized Miles and Snow's strategic configuration for a number of reasons. The framework has been tested empirically in many studies (e.g. Anwar and Hasnu, 2016, Kald et al., 2000; Lin et al., 2014). The framework combines a number of variables that facilitate investigation in transitional economies; that of human resources, structures and processes (Rajagopalan, 1983). For example, Porter's framework ignores environmental characteristics which is a

key characteristic we are examining in transitional markets (Segev, 1989). Also we follow recent literature that utilizes this framework: e.g. research explored the strategic types in Poland to performance (Ingram et al., 2016), in the Netherlands in regard to customer orientation and performance (Frambach, Fiss and Ingenbleek, 2016), in China to performance (Luo and Park, 2001), in Saudi Arabia and how culture effects the strategic orientation (Roberston, Yaghmour and Kawther, 2015), how ownership type of a firm in China will be related to the strategic orientation (Peng, Tan and Tong, 2004), how the typology can be more effectively measured by a balanced scorecard in Iran (Khani and Ahmadi, 2012), how pay systems will differ based upon strategic orientation in Finland (Tenhiala and Laamanen, 2018), how the framework can be utilized through a real options approach (Riley, Mau and Hogan, 2016), performance and JVs in China (Luo, Tan and O'Connor, 2001), business ties and strategic orientation in China (Lee, 2018), etc.

As our research concerns knowledge management and strategic configuration in a transitional economy, we utilized the Miles and Snow typology as it has been used in the past for knowledge management (Di Benedetto and Song, 2003). The research suggests that the different strategic configurations will seek and utilize knowledge differently, for example market knowledge of competition and customers will be more important to defenders while prospectors will be more concerned about proactive new product development (McDaniel and Kolari, 1987; DeSarbo, Di Benedetto, Song, and Sinha, 2005).

We will now explore which of the strategies will be most likely chosen by subsidiaries in transitional economies that are characterized by market volatility and uncertainty. The *Defender* strategy focuses on attempting to maintain a stable environment with a stable form of organization (Slater et al., 2006; 2010). This type of strategy will

be difficult in transition economies, as the business environment is volatile. *Defenders* are more successful in stable industries and change does not favor this strategy (Boyne and Walker, 2010). The major risk is the inability to respond to change and shifts in the market environment. The firm will typically have centralized control and does not perform much scanning of the environment for new opportunities**.** The *Defender* orientation will have difficulty to adapt in transitional economies due to its uncertain evolving market.

A *Reactor* strategy is due to three reasons: 1) no clearly articulated strategy, 2) the organization's structure does not match the strategy, and 3) management maintains a strategy-structure despite overwhelming conditions to the contrary (Laugen et al., 2006). Thus, a reactor strategy may exist in transitional economies, but rarely would a subsidiary of an MNC choose such a strategy. The resources that are available to a subsidiary of a MNCs (ex. global management acumen, financial resources, etc.) as well as control mechanisms (ex. reporting to headquarters, knowledge transference, corporate strategy interactions, etc.) would not facilitate a reactor strategy.

Analyzer organizations attempt to take the best attributes of both the Defender and Prospector. This type of organizational strategy maintains their traditional products and customers while seeking new market opportunities and knowledge (Pinto and Curto, 2007). Typically, they utilize a second mover strategy through imitation and apply new products when competitors have shown success. Seeking both technological flexibility and stability, the *Analyzer* strategy maintains an equilibrium amongst both. The Analyzer should be more efficient as a second mover than the first mover, as it reduces the chances for failure in such an uncertain environment as countries in the transitional stage (Luo and

Park, 2001). Unfortunately, transitional economies change quickly, and capturing the first mover advantage will be important and the strategic orientation needs to match the environment. Waiting to see what works and then attempting to implement will cause the second mover in such a dynamic environment to fall too far behind to attempt to match a first mover advantage.

Prospectors are very proactive and seek to find new knowledge and market opportunities, which creates a reputation as an innovator in product and market development at the expense of profitability (Slater et al., 2010). To do this the firm must constantly be scanning the environment to obtain knowledge to locate and develop product and market opportunities. The *Prospector* strategy will be chosen for two reasons by an MNC subsidiary: it has the resources to do so, and for global knowledge management. MNCs will have the resources (ex. Financing, personnel, R&D, etc.) to allocate to their subsidiaries to dominate the local transitional marketplace. These global firms will be more interested in developing the market for the long-run than for short-term profitability. Also, this strategic orientation will facilitate knowledge management as multiple, prototypical technologies and administrative flexibility is one of its characteristics.

> ***H_1:*** *For knowledge management purposes MNCs will choose the Prospector strategy more often than any other strategy in a transition economy.*

The Influence of Strategy on Knowledge Management Capabilities

For MNCs to be successful they must simultaneously be utilizing their existing knowledge while seeking and applying new knowledge (Gold, et. al., 2001). Management of internal as well as external knowledge is an integral part of the knowledge management process (Feraris et al., 2017). Past research suggests that there are similar aspects that are necessary for the knowledge management process to be successful in the transition

economies (e.g. create, transfer, use (Skyrme and Amidon, 1998; Kiessling et al. 2009; Ferrri et al., 2018), capture, transfer, use (DeLong, 1997)). The three elements of knowledge management capabilities can be viewed as: 1) knowledge acquisition, 2) knowledge conversion, and 3) knowledge application (Gold, et al., 2001).

Acquisition-oriented knowledge management

Acquisition-oriented knowledge management refers to those processes oriented toward the obtainment of knowledge (Gold et al. 2001). Inherent in the conceptualization of the acquisition of knowledge is the accumulation of knowledge (Gold et al. 2001; Sinkula et al., 1997). The acquisition of knowledge requires more than simply the sharing and collaboration of experiences, but also requires the organization to be able identify its importance, or lack there-of (Burmeister et al., 2018). Knowledge must be actively sought and converted and the firm must develop a strategic competency to do so (Harzing et al., 2016). Thus, the strategic orientation of an organization is theorized to be related to firm's employment of acquisition process of knowledge management.

Acquisition of knowledge for the Defender requires new knowledge for the purposes of changing or refining a firm's current products or processes (Wilden et al., 2018). The *Defender* will only have a limited knowledge acquisition process as the focus is on technological efficiencies. Acquisition of knowledge for the Prospector is very active as the management processes are developed towards obtaining new knowledge related to the competitive environment and the Prospector invests heavily in individuals and groups who scan the environment for potential opportunities (Wilden et al., 2018). The knowledge management acquisition process for Reactors is moderate without concerted efforts or a high a degree of experience in recognizing and capturing new knowledge. The Analyzer which

is a combination of Defender/Prospector will defend their product markets but also needs to react quickly to new products and innovations. This forces the Analyzer to split its resources, not focusing upon acquisition of new knowledge as much as the Prospector.

Conversion-oriented knowledge management

Conversion-oriented knowledge management processes refer to those processes oriented towards making existing knowledge useful (Gold et al. 2001). The underlying processes of conversion-oriented knowledge management processes include a firm's ability to organize, integrate, coordinate and disseminate knowledge (Andreeva and Ikhilchik, 2011). The conversion-oriented knowledge management process is easy in regard to explicit knowledge of statistics, numbers, percentages, etc., but becomes difficult due to the complicated local/global context of the information (Sheng et al., 2015). This research directly emphasizes that the knowledge conversion process is related to the strategic orientation of the firm.

The centrally controlled Defender orientation focuses on efficiencies afforded by economies of scale and scope. To achieve efficiencies, the knowledge conversion process that is developed is hierarchal, centrally controlled, cumbersome and slow (Desarbo et al., 2005). The Prospector's organizational framework is decentralized with very flexible knowledge sharing (vertical and horizontal) which assists in the knowledge conversion process (Boulianne, 2007). As a Prospector organization is driven towards knowledge acquisition, centralized bureaucratic structures and processes will not be present to create internal barriers in the ability to transfer knowledge, present in most MNCs or subsidiaries (Kearns, 2006; Barrios et al., 2012). Although research suggests that the Reactor strategy can be successful, often the conversion of new knowledge is hindered due to being

misunderstood as there is little common dialogue, and integration becomes difficult. The Analyzer's conversion of the acquired knowledge is through a complex matrix structure that balances the exploitation of firm-specific competitive advantages and exploration of host country-specific comparative advantages (Blumentritt and Danis, 2006). The dual nature of the Analyzer (maintaining a Defender position and a Prospector strategy) encourages firms to minimize the active seeking of new knowledge in an uncertain transitional economy.

Application-oriented knowledge management

Application-oriented knowledge management processes refer to those processes oriented toward the utilization of knowledge (Gold et al., 2001). Application-oriented knowledge management processes include the storage, retrieval, application, contribution and sharing of knowledge (Almeida 1996; Appleyard 1996; Gold et al. 2001). Effective storage and retrieval processes allow a firm to efficiently and effectively access knowledge for its application.

Utilizing the Defender's orientation, a top management team can incorporate new knowledge into technologies and is the most important part of the knowledge management as effective application of knowledge helps companies to improve their efficiency and reduce costs (Boyne and Walker, 2010). The application of knowledge for the Prospector is such that the entrepreneurial projects take precedence in the allocation of resources, as this is the Prospector's major strategic focus (Kabanoff and Brown, 2008). Reactors do not effectively apply any knowledge acquired to improve their efficiency and reduce costs. Analyzers key focus in transitional economies is the application of knowledge is to both maintain status quo

while tailoring products to meet the value proposition within the market. The application-based processes are those oriented toward the actual use of the knowledge (Gold et al., 2001).

Research has suggested that knowledge management could be effective in transitional economies (Ingram et al., 2016). Knowledge management has two components: using knowledge that is closely related to their preexisting knowledge basis (Stuart and Podolony, 1996) and exploratory search behaviors in a conscious effort to move away from preexisting knowledge basis and organizational routines (Miner et. al., 2001). The Analyzer focuses on defending existing product markets through routine, efficient operations (Defender) while quickly reacting to competitor's new product success and innovations (Prospector). Previous research suggests that this duality forces the Analyzer to acquire knowledge in the emerging marketplace to locate new market opportunities and to respond to the market while maintaining a firm core of traditional products (Luo and Park, 2001; Cui et al., 2006). However, as this environment requires new products, processes, and unique entrepreneurial skills are required, Prospectors should be the greatest pursuers' of knowledge. This becomes important for MNCs who are organic in nature and are orchestrating global knowledge management. Therefore, we propose:

> ***H_2:*** *MNCs utilizing the prospector strategy will pursue knowledge management in transitional economies more so than any other strategy.*

Knowledge Management and Performance in Transitional Markets

Although there is some research that suggests knowledge management does affect firm performance positively, our research wishes to explore knowledge management in the context of transitional markets to firm performance. Our research explores the Miles and Snow's (1978) typology initially from a knowledge management perspective but past

research suggest that all four strategic types have very little variance in regard to firm performance (e.g., Miles, Snow and Sharfman, 1993; Snow and Hambrick, 1980; Smith, Guthrie, and Chen, 1986). An incumbent firm may be pursuing a Defender strategy and be successful if they have a good knowledge management system, MNCs entering the market may utilize the prospector strategy and if they have a good knowledge management system will have good performance, etc. (e.g., McKee, Varadarajan, and Pride, 1989). Hence, our contribution is a direct relationship to knowledge management and performance in transitional markets. However, we still wish to explore whether strategic orientation affects firm performance in transitional economics.

Research on the business strategies (Prospector, Analyzer, Defender, Reactor) have shown that all four perform equally well (Slater and Olson, 2000; Desarbo et al., 2005). The variations in performance occur due to the implementation of the strategy, and a key variable maybe the success or failure of their knowledge management systems. Therefore, organizations following a particular strategy must make sure that they actually follow the strategy's prescriptions and be consistently applied by management (Sallee and Flaherty, 2003). A firm needs to align its internal processes, such as their knowledge management systems, with its business strategy in its efforts to sustain competitive advantage (Ingram et al., 2016). The typology is important for researchers as this is a view of organizations as completely integrated dynamically interacting with the external industry (Desarbo et al., 2005).

Therefore our focus in this research is the knowledge management practices of firms, as past research suggests that knowledge management may be performance enhancing (Inkinen, 2016), as innovation performance increases (Donate and de Pablo,

2015), the arts and crafts industry had better performance with knowledge management (Manfredi et al., 2018), and knowledge management in Italian firms produce greater performance (Giampaoli et al., 2017). Effective learning appears to be cumulative in nature and development of new knowledge in international markets is important for good performance (Nonaka and Takeuchi, 1995; Bartlett and Ghoshal, 1987).

The knowledge that is locally obtained especially in transition uncertain economies influences the ability of a firm to: adapt products to local product markets, identify technological changes that affects firm performance, and capitalize on market dynamism through new product developments (Afuah, 1998, McCann, 1991; Ghoshal, 1987; Ghoshal, and Bartlett, 1990). Knowledge acquisition can come from the direct experiences of the organization and its members, so effective knowledge management (acquisition, conversion, and application) should provide greater performance (Lyles, 1994). We therefore theorize:

> ***H_3:*** *Knowledge management will positively affect subsidiary performance in transitional economies.*

Our research hypotheses suggest that MNC subsidiaries will utilize the Prospector strategy in transitional marketplaces. This is due to the requirement to seek and exploit knowledge management opportunities in a dynamic ever-changing marketplace. To continue the literature stream, we also propose that firms pursuing the Prospector strategy will have greater subsidiary performance.

> *H3a: Firms utilizing the Prospector strategy in transitional economies will have greater performance.*

Sample

Our ultimate sample was 131 foreign MNC subsidiaries located in Croatia. Our sample came from the FDI data which totaled 500 firms, but after incomplete questionnaires were deleted, we had 125 responses that were useable. We reduced the 500 firms to the top 300 MNCs who had the largest amount of FDI. We contacted the 300 firms with mailed questionnaires, and multiple follow-up phone calls and e-mails. Subsequently, 131 (43.7% response rate) responded. Our sample had firm average number of employees as 1075, firm average years of international experience as 20, with a vast range of industries (ex. agricultural, biotech, chemical, electric equipment, leather, naval technology, plastics, printing, rubber manufacturing and electronics). The respondents average age was 41, with 14 years of international experience, representing firms with over $1 million in average annual sales. In regard to the respondents' level of seniority; 27% were senior executives (e.g., Vice-President level or above) and 73% were senior managers. In regard to gender our ratio was 54/46% male/female.

Pre-test

We utilize past existing measures for all our variables that were from English speaking journals so initially develop the questionnaire in English. Accordingly, we pre-tested our survey instrument with English speaking international market researchers, and business professionals. We then translated the questionnaire through an external translator and back-translated by committee (cf., Brislin 1970; Sperber et al., 1994). When required we made minor adjustments to the survey instrument so the Croatian translation was appropriate (cf., Sperber et al. 1994).

Measures

Our strategic orientation was developed by utilizing Miles and Snow's (1978) typology of strategy. We used four descriptive paragraphs describing each of the strategies (Defender, Reactor, Analyzer, Prospector) in line with previous research (Snow and Hrebiniak, 1980; Lukas, 1999). Upon reading the descriptive paragraphs of each strategic orientation, our sample respondents, were asked to select one when they compared themselves to other firms in the industry.

From the foundation literature of knowledge management, our variables were based upon the three underlying dimensions, i.e., knowledge acquisition, knowledge conversion, and knowledge application (Gold et al. 2001). See Exhibit 1 for the items on the instrument. All were assessed on a 7 point, Likert-type scale derived from Gold et al. (2001).

----------Insert Exhibit 1----------

The hypothesized factor structure and parameter estimates are provided in Table 1. The model as a whole has satisfactory fit to the data (Chi-squared, p, GFI, RMSR, NFI, IFI), and the relevant first- and second-order factor loadings are large and significant. In sum, the model lends support to the conceptualization of knowledge management as a second order construct. Hence, the three dimensions of knowledge management were combined into an equally weighted composite score for hypothesis tests (cf., Heide and John 1992). We use factor analysis in Table 1 to show the second-order latent factor structure of knowledge management. After proving this structure, we simply take the average of 3 sub-dimensions of it, to enter into the regression models -to test our

hypotheses. In essence we created a composite score of three sub-dimensions with equal weights.

Insert Table 1 about here

Performance was conceptualized as consisting of both internal and competitive dimensions. Following Jaworski and Kohli (1993) performance was measured via a two-item scale assessing whether (1) the firms' overall performance last year was greater than expected and (2) the firm outperformed its major competitors in the last year. The correlation coefficient for the scale was .78.

Market dynamism consists of business practices that are occurring locally as well as how the local environment is changing. Utilizing past measures measuring market dynamism we used a 2-item, 7 point, Likert-type scale (Jap, 1999). Please see exhibit 1 for the items on the instrument. The correlation coefficient for the scale was .75.

To measure competitive intensity, we utilized past research to ascertain the environment's level of uncertainty and dynamism (Grewal and Tansuhaj, 2001; Jaworski and Kohli, 1993). The 4-item, 7-point Likert-type scale assessed competitive intensity based upon promotional wars, new competitive moves, general competitions and price competition. Coefficient alpha for the scale was .90.

Control Variables

Research suggests that firm size (measured as number of employees) would interact with a firm's knowledge management capabilities both positively and negatively, so controlled for firm size. Large firms will have superior resources and can organize according to the development of knowledge management (acquisition and conversion).

However, large firms, due to this bureaucracy, may be limited in their ability to apply knowledge. Smaller firms with have less resources (both human and systems) to have a superior knowledge management system that acquires and converts knowledge, but may be able to apply knowledge quickly due to the lack of bureaucracy and channels.

Our final two control variables used in past research is industry and length of operations. Past research indicates that industry will directly affect knowledge management capabilities and controlled for industry (Hitt and Ireland, 1985). According to past research the MNC subsidiaries were classified as consumer durable, consumer non-durable, capital, and producer. The last control variable is the length of operations in international business of the subsidiary. The years in operating in a global business environment will affect the reasons for acquisition and the knowledge management system development as subsidiaries. Newly formed subsidiaries may lack the knowledge management capabilities to be effective within a MNC.

Analysis and Results

Table 2 presents the descriptive statistics and Pearson correlation coefficients for the study variables. We also ran four tests for heteroscedasticity: Levene's test, histogram, normal P-P plot of regression standardized residual, and a scatterplot. Upon review of these empirical tests and that Levene's test of the null hypothesis of equal variances is rejected we conclude that there is a difference between the variances in the population. As expected, MNC subsidiary managers perceived the Croatian market to be dynamic ($\overline{X}$ = 4.60) and highly competitive ($\overline{X}$ = 5.04). The correlation matrix (where each strategic orientation is coded as 0,1) shows a moderate positive association between the Prospector orientation and the environmental dimensions (r_{MD} = .437, r_{CI} = .369). The

Defender and Reactor orientations were found to be negatively associated to both market dynamism and competitive intensity (r_{MD} = -.233, r_{CI} = -.196, r_{MD} = -.296, r_{CI} = -.359, respectively). Further, the Analyzer orientation was not found to be significantly associated with either market dynamism or competitive intensity.

Insert Table 2 about here

H1 states that successful MNCs will use a Prospector strategy in transitional economies. Our discriminant analysis analyzed the environment and strategic orientations constructs. Our results are highly significant (see Table 3): overall Wilks' lambda was significant (Λ = .72, $\chi^2(6,124)$ = 38.88, $p < .001$), indicating that the predictors of the four strategic orientations were differentiated. Table3 presents the within-group correlations between the predictors and the discriminant function as well as the standardized weights. All results indicate that the discriminant function is consistent. The Prospector orientation had the highest mean scores ($\overline{X}$ = .723) followed by Analyzers ($\overline{X}$ = -.125), Defender ($\overline{X}$ = -.666) and Reactor ($\overline{X}$ = -.749) orientations. The results support H1 and the relationship proposed.

Insert Table 3 about here

To test the theoretical correlation between knowledge management capabilities and strategic orientation we used the ANCOVA method and controlled for industry, years in international business and firm size. H2 suggests that the prospector strategy will pursue knowledge management in transitional economies more so than any other strategy. Our results suggest discriminant validity as show in Table 4 in knowledge management

capabilities across strategic orientations (F=6.001, df=3/67, p=.001, η^2=.212). The results also indicate that the control variables were not significant: firm size (F=.395, df=1/67, p=.523); number of years of international operations (F=1.510, df=1/67, p=.223); industry (F=.655, df=1/67, p=.421).

Insert Table 4 and 5 about here

Furthering our methodology, we performed post hoc tests with ANOVA on strategic orientation and knowledge management capabilities. Our results were significant (F=12.756, df=3/108, p<.001, η^2=.262) suggesting that the Prospector orientation was most highly correlated with knowledge management capabilities in relation to the 3 other strategic orientations Analyzer ($\overline{X}_{P\text{-}A}$ = .9822, p < .002), Defender ($\overline{X}_{P\text{-}D}$ = 1.785, p < .001) or Reactor ($\overline{X}_{P\text{-}R}$ = 1.454, p < .001). We also performed Tukey analysis to examine the difference across groups.

Next, regression analysis was used to test the relationship between knowledge management capabilities and performance theorized in H_3. To minimize spuriousness of results, the previously mentioned covariates were incorporated into the regression analysis. Results indicate that the knowledge management capability is strongly associated with firm performance (*B*=.521, t=5.037, p<.000). The covariates of firm size (*B*=.008, t=076, p=.940), years of international experience (*B*=.003, t=031, p=.975) and industry (*B*=.036, t=357, p=.722) were found not to significantly influence performance. Overall, the regression equation explains 27.0% of the variation in firm performance. The results support the theorized relationship between knowledge management capabilities and firm performance as presented in **H_3**.

We performed mean plot comparison analysis and found that the Prospector strategy performed better than the other three strategic configurations. We then ran a Tukey analysis for significance between the different strategic configurations. We found significance between the Prospector to Defender and Reactor in regard to strategic orientation and performance, however, although the plot in Table 6 suggests greater performance than that of the Analyzer, the Tukey test did not suggest a significant difference. Hence, though H3a has some support, statistically H3a is rejected.

---------Insert Table 6 and 7 about here----------

Discussion and Conclusion

As theorized, and empirically supported, in this study, Prospectors in the transitional economy of Croatia develop advanced knowledge management capabilities, inclusive of knowledge acquisition, conversion and application, to allow them to more appropriately exploit opportunities in the highly uncertain and dynamic environment. Through the development of knowledge management capabilities Prospectors are able to optimize resource investments while coordinating efficiently and effectively with their MNC. The ability of MNC subsidiaries to capitalize on market opportunities requires that the MNC subsidiary have effective knowledge management capabilities.

Past research has suggested that knowledge management will be required in transitional economies (Ingram et al., 2016) due to the ever-changing nature of the consumer and institutions such as found in Croatia; which has the greatest of all strategic changes of the CEECs (Stoicic, Hashi and Telhai, 2011). The Prospector strategy seeks to find new knowledge and develops a brand image as an innovator, which will be

especially important in a transitional economy whereby new products are entering the market and consumer demands are changing quickly (Slater et al., 2010).

The Prospector strategy will be required to utilize existing knowledge while seeking new knowledge to be successful (Gold et al., 2001). This will require employees, who may still be influenced by the previous socialist-type marketplace, to be trained as to how to manage knowledge from both an internal as well as external viewpoint (Feraris et al, 2017; Andreeva and Kianto, 2012). Much of this knowledge may be tacit knowledge (non-codifiable embedded within an individual) and organizations will be required to develop internal systems to transfer this knowledge (Klafke et al., 2016). Identification of external knowledge and then the development of systems, starts first from employee identification and then transmission throughout the firm to leverage innovation and to create superior firm performance (Ferraresi et al., 2012; Lee, Kim and Kim, 2011).

Miles and Snow's framework has been used to explore knowledge management in the past (Di Benedetto and Song, 2003) and our research utilized this framework in a transitional marketplace to ascertain which strategic orientation would be more successful as knowledge management enablers and processes create better firm performance (Mills and Smith, 2010). Knowledge management capabilities of a subsidiary MNC will not only be established to focus on the local market, but must also have a global viewpoint as cross-border flows will also impact the local subsidiary (Gaur, Ma and Ge, 2019). Hence the local subsidiary must have a comprehensive knowledge management structure to absorb new knowledge from many different arenas (ex. Local, global, individual, etc.) and to be able to apply quickly. Our research, in accordance with past research, suggests that the Prospector strategy is the best to perform this function.

Clearly there is substantial interaction between the MNC subsidiary's environment and the MNC subsidiary's strategic orientation. Most notably, the environment studied here was at the competitive and consumer market level. As more firms in the marketplace adopt a Prospector orientation, market development becomes accelerated. For example, as more firms in a market engage in a prospector orientation they continually strive to introduce new products into the market. As such, individual product lifecycles become shorter as newer products are introduced into the market. Existing products are pushed from the growth stage to the maturity stage of the product life cycle, enhancing the overall competitive intensity due to reduced margins. At the same time, the introduction of new products not influences consumer demands that can significantly alter business practices. As such, strategy may not only be enacted based upon the perceived environment, but the enactment of strategy influences the environment.

Our research explored knowledge management capabilities and the resultant performance and found that firms in transitional economies with superior knowledge management systems will have greater performance. Our research suggested that the prospector strategy would the most used to attain these knowledge management systems, so also explored if the prospector strategy would also illustrate the highest firm performance. Past research suggests that all four strategies will have good performance, as that is why a particular firm chose that strategy (e.g., Miles, Snow and Sharfman, 1993; Snow and Hambrick, 1983; Smith, Guthrie, and Chen, 1986), but we wanted to explore if this was true in a dynamic transitional marketplace. Our empirical results suggest that the prospector strategy was superior to the other three strategies in regard to performance (although only statistically significant to that of the defender and reactor strategies). These

findings are intuitive as a prospector strategy will develop superior knowledge sharing routines that will provide superior performance (Youssef, Haak-Saheem and Youssef, 2017).

Managerial Implications

The managerial implications to our research are numerous. MNCs must change their strategic configuration based upon the local market conditions to successfully compete. Each market has differing institutions and consumer tastes, and MNCs must determine the strategic configuration that not only can focus on the local environment, but also fit into their global strategy. To facilitate the strategic orientation, knowledge management systems must be an important ingredient and be incorporated into the structure. In transitional economies, these knowledge management systems become even of more import, as the dynamic environment of the marketplace makes knowledge acquisition, conversion and implementation a critical component.

As such, knowledge management requires employees with the training and acumen to identify important knowledge. Often this knowledge may be tacit and embedded within individuals. Transitional market employees often still have a disposition that is not conducive for knowledge transference, and MNC subsidiaries need to be aware that managers must create an atmosphere of trust and encouragement for new ideas and innovative tactics.

Limitations and Future Research:

Our research focused on the transitional marketplace of Croatia as the setting, and although many aspects may be generalizable to other transitional economies, each country has different institutional norms, culture, and historical precedence. For example, Stojcic,

Hashi and Telhaj's (2011) research explored Central and Eastern European Countries (CEECS) (i.e. the Czech Republic, Slovakia, Poland, Bulgaria and Croatia) and found many differences amongst the countries. For example, labor efficiency amongst the countries was illustrated to be statistically significant, which will directly affect performance, regardless of knowledge management practices.

In regard to knowledge management, there are so many units of analysis, that focusing on any particular country may cause difficulty in generalizability. For example, there is the local management and their aptitude (such as global experience, education, experience, etc.), the MNC themselves (ex. Years' experience, size, globalization, implementation of previous knowledge management systems, brand name, mode of market entry, etc.), as well as the country variables (ex. Scale of development, institutional factors, governmental issues and changes in policies, etc.). Although impossible to control for all prevailing variables, researchers will need to attempt to incorporate as many as possible in their models.

Another limitation to our study may be the use of Miles and Snows' model in a transitional economy. Although the model has been tested successfully over a long period of time, most of the research was focused in developed countries. Although we have seen the model now applied throughout the world (ex. Ingram et al., 2016; Frambach, Fiss and Ingenbleek, 2016; Luo and Park, 2001; Roberston, Yaghmour and Kawther, 2015; Peng, Tan and Tong, 2004), the international business research field has suggested that many models and theoretical foundations developed in developed-markets may not be applicable to developing or transitional countries, and either new theories, or a mixture of theories, may need to be applied to explain phenomena.

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TABLE 1

Knowledge Management Second-Order Factor Structure

First-Order Factor Loadings	Knowledge Acquisition	Knowledge Conversion	Knowledge Application
KAC1	.699 [a]		
KAC2	.792 (8.200)		
KAC3	.838 (7.373)		
KAC4	.666 (10.170)		
KC1		.760 [a]	
KC2		.850 (10.103)	
KC3		.855 (10.170)	
KAP1			.652 (8.667)
KAP2			.900 (10.258)
KAP3			.729 [a]
KAP4			.856 (9.755)
Second-Order Factor Loadings	Knowledge		

Descriptive Statistics				
	Minimum	Maximum	Mean	Std. Deviation
KA TOT	1.6	7	4.319	1.3955
KC TOT	1	7	4.1	1.478
AP TOT	2	7	4.44	1.244
LY Perf	1	7	3.78	1.712

TABLE 2
Means, Standard Deviations and Correlations

	Mean	S.D.	1	2	3	4	5	6	7	8	9	10
1. Prospector	.37	.48										
2. Analyzer	.31	.47	-.513**									
3. Defender	.11	.31	-.263**	-.233**								
4. Reactor	.21	.51	-.310**	-.275**	-.141							
5. Market Dynamism	4.60	1.54	.437**	-.135	-.233**	-.269**						
6. Competitive Intensity	5.04	1.70	.369**	-.037	-.196**	-.356**	.511**					
7. Knowledge Management	4.31	1.32	.449**	-.088	-.293**	-.279**	.490**	.301**				
8. Performance	3.78	1.71	.240**	-.010	-.212*	-.098	.428**	.357**	.551**			
9. Number of Employees	1075	5974	-.08	.128	-.047	-.008	-.189*	.042	.098	-.112		
10. Experience	14.41	9.10	.167	-.089	-.218*	.145	.117	.262*	.139	-.010	.121	
11. International Experience	20.00	20.31	-.121	.003	.097	.018	-.1448	-.176	-.075	-.056	-.004	.048

** Correlation is significant at the .01 level

* Correlation is significant at the .05 level

TABLE 3
Discriminant Analysis of the Environment-strategy Alignment

Variables	Correlation Coefficients	Standardized Coefficients
Dependent		
Strategy		
Independent		
Competitive Intensity	.647	.859
Market Dynamism	.554	.801
Eigenvalue	.366	
Canonical Correlation	.518	
Eta-square	.268	

TABLE 4

Analysis of Variance Results of Strategy-knowledge Management Capabilities Linkage

	Sum of Squares	df	Mean Square	F	Sig.
Strategy	23.676	3	7.892	6.001	.001
Firm Size	.519	1	.519	.395	.532
Years of International Experience	1.986	1	1.986	1.510	.223
Industry	.861	1	.861	.655	.421
Error	88.108	67	1.315		
Total	1575.575	74			

TABLE 5

Multiple Regression Results Knowledge Management Capabilities to Performance Linkage

Dependent Variable: Subsidiary Performance

Independent Variable	Standardized Coefficients	t-value	p-value
Knowledge Management	.551	5.037	.000
Firm Size	.008	.076	.940
Years of International Experience	.003	.031	.975
Industry	.036	.357	.722

$F(4, 71)=6.567$, $p<.000$, $R^2=.270$, Adjusted $R^2=.229$

Table 6: Performance to Strategic Orientation:

Legend: 1-Prospector 2- Analyzer 3- Defender 4 - Reactor

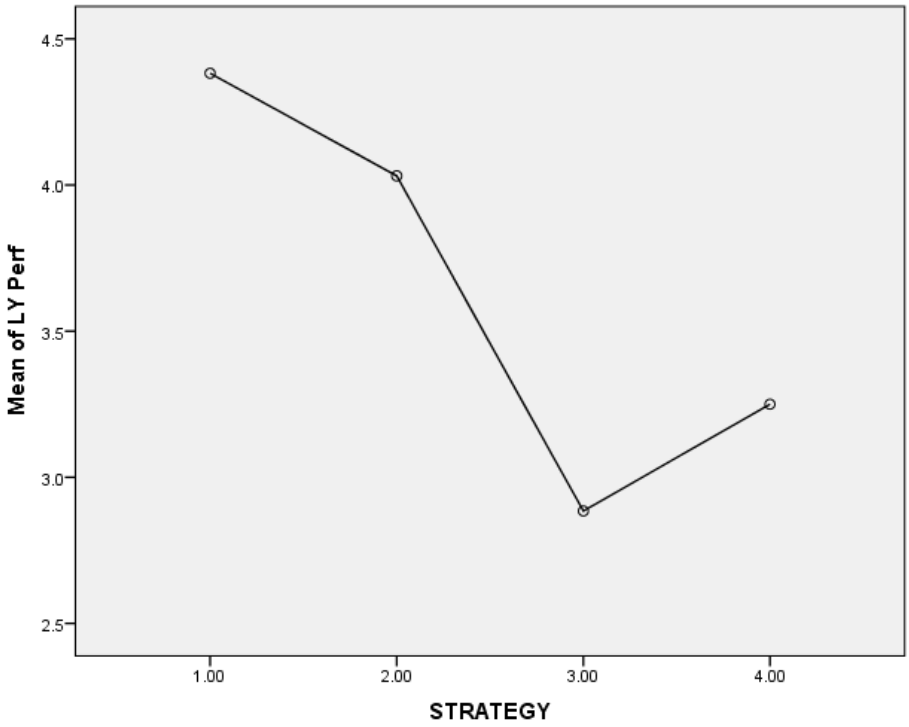

Table 7: Significance of Differences in Strategic Orientation

Multiple Comparisons

Dependent Variable: Perf

(I) STRATEGY		(J) STRATEGY	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	Prospector	Analyzer	.351	.400	.816	-.69	1.40
		Defender	1.498*	.530	.029	.11	2.88
		Reactor	1.132	.444	.059	-.03	2.29
	Analyzer	Prospector	-.351	.400	.816	-1.40	.69
		Defender	1.147	.534	.146	-.25	2.54
		Reactor	.781	.450	.311	-.39	1.96
	Defender	Prospector	-1.498*	.530	.029	-2.88	-.11
		Analyzer	-1.147	.534	.146	-2.54	.25
		Reactor	-.365	.568	.918	-1.85	1.12
	Reactor	Prospector	-1.132	.444	.059	-2.29	.03
		Analyzer	-.781	.450	.311	-1.96	.39
		Defender	.365	.568	.918	-1.12	1.85

*. The mean difference is significant at the 0.05 level.

Exhibit 1: Knowledge Management Measures

Knowledge Management	Measures (All derived from Gold et al., 2001)
Acquisition-oriented	Your Firm: (7-point likert scale) (1) has processes for generating new knowledge from existing knowledge (2) uses feedback from customers and business partners to improve subsequent products and services (3) has processes for integrating different sources and types of knowledge, (4) has processes for acquiring knowledge about its business partners (5) has processes for exchanging knowledge with its business partners
Conversion-oriented	Your Firm: (7-point likert scale) (1) has ways of converting knowledge into the design of new products or services (2) has processes for integrating different sources and types of knowledge (3) has processes for organizing knowledge (4) has processes for converting competitive intelligence into plans of action
Application-oriented	Your Firm: (7-point likert scale) (1) applies knowledge learned from mistakes (2) takes advantage of new knowledge (3) applies knowledge learned from experiences (4) uses knowledge to solve new problems
Market Dynamism	Measures (Derived from Jap, 1999) (1) the environment demands on our firm are constantly changing (2) the business practices in our industry are constantly changing.