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ORIGINAL EMPIRICAL RESEARCH

Implementation of market orientation in the subsidiaries of global companies: the role of institutional factors

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Abstract Drawing upon the market orientation literature and institutional theory, this study examines the factors that affect the implementation of market orientation in the subsidiaries of global companies, using data gathered from multiple informants and multiple sources in 79 subsidiaries located in 45 countries. Findings indicate that the market orientation of subsidiaries is positively related to the legal institutions, local competition in the host country market, and the market orientation of headquarters. The findings also indicate that the headquarters' market orientation has more pronounced effects on the implementation of market orientation for subsidiaries that strongly identify with headquarters. Moreover, the study demonstrates that cultural distance between home and host countries of the subsidiary strengthens the positive effects of competitive intensity on market orientation implementation. As such, this research addresses an important concern among researchers and managers that is related to how to increase the market orientation and, thereby, the performance of their subsidiaries located in foreign countries.

Keywords Market orientation · Global marketing strategy · Institutional theory

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Research in strategic marketing indicates that a firm's market orientation is a source of competitive advantage because it enables the firm to understand and respond to market requirements effectively (Day 1994; Hult and Ketchen 2001; Morgan et al. 2009). Recent meta-analyses confirm the importance of market orientation in affecting a wide range of performance outcomes (Ellis 2006; Kirca et al. 2005), and several studies strongly advocate that firms should adopt a market orientation to achieve a competitive advantage and enhanced performance (Hult et al. 2005; Zhou et al. 2008). As a result, the issues concerning the development of market orientation have increasingly attracted attention in the marketing literature in recent years (Gebhardt et al. 2006; Lam et al. 2010). Overall, the extant research indicates that, among the most frequently studied factors, top management emphasis, interdepartmental connectedness, and market-based reward systems positively affect a firm's market orientation. Cumulative results also indicate that centralization, interdepartmental conflict, and formalization impede the implementation of market orientation in organizations (Kirca et al. 2005).

Despite the progress, several gaps in our understanding of the factors that affect a firm's market orientation remain, offering venues for future research. First, the extant literature provides limited insights regarding the critical factors that affect the market orientation of global companies (cf. Nakata and Sivakumar 2001). As detailed in the integration-responsiveness framework of Doz and Prahalad (1991), global companies operate in multiple local markets with different market dynamics and, thus, have different incentives to respond to varying local market requirements (Ghoshal 1987). Moreover, subsidiaries of global companies must manage the task of coordinating their activities with headquarters in the corporate environment (Kostova 1999; Kostova and Roth 2002). From a theoretical

perspective, the broader issue of interest is the constant tension between the need for integration and the necessity for local responsiveness (Rosenzweig and Singh 1991). This tension has significant implications for market orientation research as subsidiaries are more likely to consider the host country environment, as well as the intra-organizational context within the global company, to successfully adjust their market orientation at the subsidiary level. However, we have limited insights regarding the effects of host country and intra-organizational factors on the market orientation of global company subsidiaries. Although several studies investigate the effectiveness of a market orientation in different environments, the issues related to whether and how these factors affect the market orientation of organizations have largely been ignored (e.g., Zhou et al. 2007). As such, global companies represent an important but neglected setting for market orientation research, which typically does not discriminate between headquarters and geographically dispersed subsidiaries.

Second, research in marketing has focused primarily on internal organizational factors, such as senior management actions (e.g., top management emphasis), structural factors (e.g., centralization), and organizational systems (e.g., market-based reward systems) (Jaworski and Kohli 1993), as drivers of market orientation arguably based on the fundamental assumption that the degree of market orientation is inextricably linked to organizational structures, systems, and processes (Kennedy et al. 2003; Kohli and Jaworski 1990; Ruekert 1992). Although the recent literature recognizes that the process of creating a market orientation may be triggered by external forces (e.g., financial threats, competitive moves, social pressures from outside organizations) (e.g., Gebhardt et al. 2006), how or, indeed, whether these mechanisms operate in a global context remains largely unexplored. The present research provides novel insights based on institutional theory regarding the role of the environment in shaping a firm's market orientation in global markets. Therefore, this study complements previous work in marketing with a focus on the external antecedents of market orientation. In this way, we highlight the significance of institutional factors in the context of market orientation for theory development and managerial practice.

Third, the theoretical boundaries of existing knowledge regarding the antecedents of market orientation are based on the untested assumption that the antecedents to market orientation have a uniform effect across both organizational and country levels of analysis. However, empirical evidence indicates that the factors which act as antecedents to market orientation in a particular country may not necessarily play the same role in facilitating or inhibiting a firm's market orientation in other environments (e.g., Bhuian 1998; Burgess and Nyajeka 2006; Cadogan et al. 2001, 2006). Therefore, it is by no means certain that the relationships involving market orientation and its antecedents are generalizable across various organizational and country contexts. In this study, we maintain that the effects of the drivers of market orientation depend on two theoretically relevant and critical factors: the identification with headquarters at the subsidiary level and the cultural distance between the home and host countries. As such, we investigate important theoretical and practical issues that have attracted limited attention in the extant market orientation literature.

The present research contributes to the literature on market orientation in several ways. Briefly, this study extends our current understanding of market orientation implementation by identifying important institutional factors. In so doing, we highlight the importance of the external environment of the firm and develop a conceptual framework that incorporates institutional theory in current market orientation research. This framework, when combined with the traditional approaches that focus on the internal organizational drivers of market orientation, provides a more holistic understanding of why some firms are more market oriented than others in the global marketplace. Our findings also provide a better understanding of the role of global company headquarters in developing market orientation at the subsidiary level. Moreover, we examine the conditions under which the importance of factors investigated in our study may be compromised or enhanced. Our study demonstrates that the effectiveness of the drivers of market orientation varies across organizational and country contexts, suggesting fruitful directions for future research. In the following sections, we first introduce the theoretical framework and present the study hypotheses. Then, a discussion of the methods employed to test the hypotheses is provided. Finally, the results and implications of the findings are presented.

Theoretical framework and hypotheses

Marketing researchers have increasingly acknowledged the importance of institutional theory in explaining firm behavior, since a theoretical perspective that accounts for the pressures of conformity and legitimacy in the organizational environment is critical for a more complete understanding of the causes and effects of organizational behaviors within marketing organizations (e.g., Grewal and Dharwadkar 2002; Handelman and Arnold 1999; Homburg et al. 1999). Consistent with this stream of literature, we examine the antecedents of market orientation in a global context using an institutional theory framework. From this perspective, the organizational environment comprises social and cultural meaning systems, which act as written

and unwritten rules of appropriate social conduct (cf. Kostova 1999; Kostova and Zaheer 1999). Organizations adhere to and comply with these meaning systems by reproducing or copying organizational structures and practices, as well as shared symbolic meanings attached to them, in efforts to gain legitimacy in their environment (Scott 2001). Organizational actions that conform to these socially constructed systems are rewarded by those constituents that have the capacity to support the organization (e.g., government, professional associations, customers). As such, institutional theory focuses on how social pressures from outside organizations (i.e., societal expectations of “proper” values, norms, and behaviors) influence the structures and practices of organizations (Grewal and Dharwadkar 2002; Handelman and Arnold 1999).

As DiMaggio and Powell (1983) have noted, the operationalization of institutional factors requires an understanding of the relevant organizational field and the types of factors that lead to legitimacy pressures. For global company subsidiaries, two organizational fields are particularly important: host country and intra-organizational environments (Kostova and Zaheer 1999; Westney 1993). First, the actions of subsidiaries are embedded in the broader host country market environment, which induces pressures that favor certain practices over others. Second, global company subsidiaries are embedded in an intra-organizational corporate environment, and there may be pressures from the headquarters to adopt certain organizational practices (Kostova and Roth 2002). Thus, the central theoretical issue of interest in global companies concerns the effects of the host country and intra-organizational factors on the relative values of different organizational forms and practices (Khanna and Palepu 2000). We investigate this important issue with a focus on the market orientation of global companies. As detailed subsequently, our predictions denote the extent to which host country institutional factors (i.e., legal institutions and competitive intensity) and intra-organizational factors (i.e., headquarters’ market orientation) affect the market orientation of global company subsidiaries.

We define market orientation from a behavioral perspective as the generation and dissemination of and response to market intelligence pertaining to current and future customer needs, competitor strategies and actions, channel requirements and abilities, as well as the broader business environment (Kohli and Jaworski 1990; Morgan et al. 2009). Thus, the implementation of market orientation refers to the extent to which market-oriented behaviors are developed in the subsidiaries of global companies. By adopting a behavioral perspective that draws upon the information processing perspective (Hult et al. 2005; Morgan et al. 2009), we examine market orientation as a tangible organizational practice that is clearly subject to the pressures of conformity and legitimacy described earlier. Building upon these concepts, we develop more detailed and testable hypotheses pertaining to the direct effects of legal institutions, competitive intensity in the host country market, and headquarters’ market orientation on the implementation of market orientation. Moreover, we also provide the theoretical arguments pertaining to the moderating effects of subsidiary identification with headquarters and cultural distance on these relationships. The conceptual framework presented in Fig. 1 summarizes the relationships investigated in this study.

Direct effects of institutional factors on subsidiaries’ market orientation

Consistent with institutional theory, we assume that the host country institutional environment consists of formal and

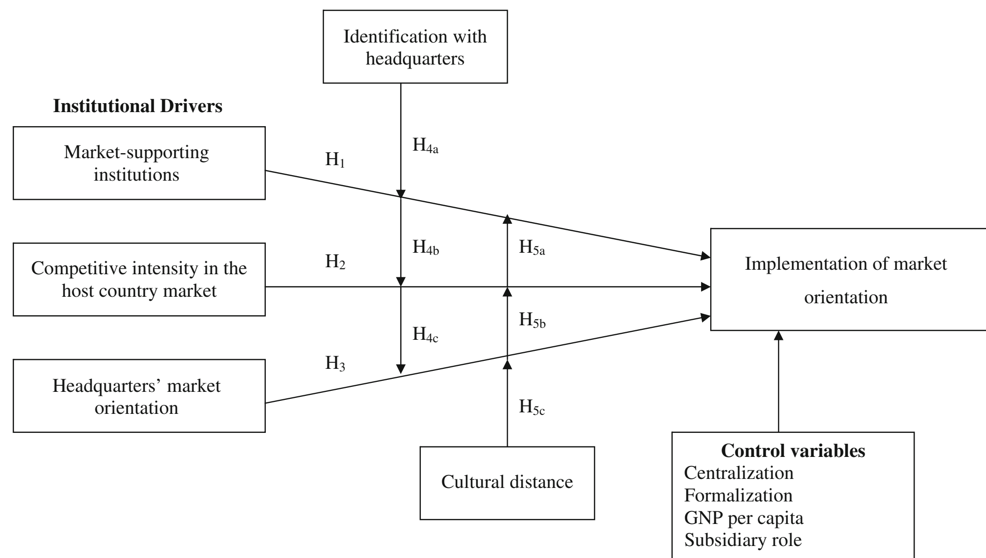

Fig. 1 Conceptual framework

informal rules, norms, and value systems emanating from the macro-level aspects of a society (cf. DiMaggio and Powell 1983; Kostova 1999; Scott 2001). Most institutional theorists recognize three broad sets of institutions and corresponding legitimacy concerns in institutional environments (Scott 2001; Suchman 1995): the regulative, normative, and cognitive institutions. First, the regulative institutions involve the capacity to establish and enforce formal rules and laws, and if necessary, impose sanctions. The emphasis of regulatory institutions is on conformity to laws and regulations through compliance. Second, the normative institutions refer to the infrastructure of society that introduces a prescriptive and evaluative dimension into social life. From this perspective, organizations gain legitimacy by choosing to adopt those practices that embody patterns that are congruent with the patterns dominant in the organizational environment. Third, the cognitive institutions refer to the widely shared social knowledge and cognitive categories (i.e., schemas, frames, stereotypes) used by major constituents in a particular environment. Cognitive institutions stress the central role played by shared meaning systems and the organizational legitimacy that comes from adopting these meaning systems (Scott 2001).

In our study, we include one key component of each of these institutions, namely legal institutions, competitive intensity, and headquarters' market orientation, to illustrate how regulative, normative, and cognitive institutions affect the market orientation of the subsidiaries of global companies, respectively (cf. Grewal and Dharwadkar 2002; Steenkamp and Geyskens 2006). To start, we focus on the effects of legal institutions on the market orientation of subsidiaries. The concept of legal institutions is based on the broader notion that formal and informal institutions play an essential role in successful market economies with their emphasis on the legal system that protects private property rights, a regulatory system and informal rules that reduce the efficiency costs of externalities, and a constitution that limits the powers of government (North 1990; Scott 2001). Consistent with this approach, we define the strength of legal institutions as the extent to which the regulatory system involves the capacity to establish formal rules, monitor society members' conformity to them, and, if necessary, impose sanctions (Scott 2001). Therefore, legal institutions focus on setting rules and regulations by using the threat of sanctions and/or by providing inducements to secure compliance.

Subsidiaries of global companies are likely to have more incentives to be market oriented in host country markets that have well developed legal institutions because of two primary mechanisms used by regulatory institutions to influence structures, practices and processes in organizations: imposition and inducement (Grewal and Dharwadkar 2002; Scott 2001). In host country markets, regulatory institutions are often sufficiently powerful to impose direct constraints, in the form of authoritative orders (e.g., contract law), or indirect constraints (e.g., consumer protection laws) that encourage subsidiaries to implement market oriented behaviors. In addition, legal institutions may also use coercive power when they perceive that subsidiary efforts are in conflict with the larger societal good. In this way, legal institutions enhance the social welfare, promote fair competition, or protect the members of society.

The second mechanism through which legal institutions encourage subsidiaries to implement market-oriented practices is through inducements. When regulatory institutions do not possess the power, authority, or political will to impose rules and regulations, these institutional bodies may be in a position to provide strong inducements for subsidiaries to conform to their wishes (Grewal and Dharwadkar 2002; Meyer and Rowan 1977). Inducement mechanisms may create behavioral changes by providing incentives (or disincentives) to subsidiaries for conforming (or not conforming) to the demands of the agency that is offering the inducement. Incentives provided in the form of subsidies and funding decisions by government and other institutional agents are examples of common inducement mechanisms. In short, legal institutions focus on the pragmatic legitimacy concerns of the subsidiaries of global companies in managing the demands of regulators and governments in host countries (cf. Grewal and Dharwadkar 2002).

Further support for our arguments is implicit in several market orientation studies. For instance, Deshpande and Farley (2005) indicate that the marketing function has been of little value until recently in the former Soviet Union because contemporary marketing practices were discouraged by rules and regulations under the central planning apparatus of the Soviet Regime, in which legal institutions were fairly weak. Similarly, Qu and Ennew (2005) also report that companies have much less incentive to be responsive to customer needs in transitional economies, such as China, which lack an extensive network of laws and regulations that safeguard consumer rights. Finally, Ellis (2007) concludes that the formation of market orientation is affected by the location of a firm's marketing activities, which suggests that the development of market orientation is a function of the country characteristics in which firms are located. Therefore, we hypothesize the following relationship between the host country institutional environment and the market orientation of the subsidiaries of global companies:

H1: The strength of legal institutions positively affects the implementation of market orientation at the subsidiary level.

Competitive intensity (i.e., the degree of competition that a subsidiary faces) in the host county market is another key

variable that affects the market orientation of global company subsidiaries. In the marketing literature, Day and Wensley (1988) provide the theoretical foundation for how competitive intensity influences a manager's emphasis on a particular strategic orientation. Specifically, like any other company manager in the same industry, subsidiary managers in highly competitive local environments should be more likely to focus on generating and disseminating market-based information about their suppliers and customers, since success in competitive industry environments depends on differentiating products from rivals' substitutes, aggressiveness in discovering customers' wants and needs, and creating superior customer value to satisfy them faster than rivals (also see Kohli and Jaworski 1990; Pelham and Wilson 1996). In more competitive environments, the subsidiaries of global companies should focus more heavily on discovering the unique needs of customers, which provides subsidiaries more incentives to generate and disseminate market intelligence about customers. In addition, subsidiaries that operate in these markets are likely to modify their marketing mix continually to respond to their competitors' moves, as opposed to those that compete in markets with a low number of competitors.

Competitive intensity in the host country market should have positive effects on market orientation at the subsidiary level from an institutional theory perspective as well, because the intensity of competition affects the mental models or managerial representations of competitive advantage, further enhancing the need to be market oriented in these industries (Day and Nedungadi 1994). Given that operating in a foreign market environment involves high levels of uncertainty, subsidiaries will be more likely to use the norms, structures, practices, and processes of particular benchmarked organizations that are deemed legitimate (i.e., institutional acquisition mechanisms) in efforts to reduce uncertainty (Grewal and Dharwadkar 2002). When competitive intensity is high, subsidiary managers can observe the legitimate and dominant leaders in the market environment easily and mimic their norms and behaviors. In contrast, when competitive intensity is low, no legitimate model (nor norms and behaviors) may be available. Therefore, subsidiary managers should be more focused on the creation of superior value for buyers and, thus, be more market oriented in highly competitive environments. Accordingly:

H2: Competitive intensity in the host country is positively associated with market orientation implementation at the subsidiary level.

Another set of institutional pressures that is influential for global company subsidiaries is based on the intra-organizational environment that consists of other subsidiaries and the headquarters (Kostova and Zaheer 1999). In particular, common knowledge, as well as cognitive categories and frames of reference regarding market orientation in the intra-organizational environment, form the frames of reference that pertain to how subsidiaries treat their customers and respond to customers' needs and requirements (cf. Kostova 1999; Scott 2001). Subsidiaries conform to these internal pressures within the corporate environment because conformity with these norms enables them to increase their legitimacy within the global company. Therefore, behavioral compliance and imitation occur, since routines are assumed to be the proper way of doing business within the corporate environment (Scott 2001). The tendency to replicate existing practices may be substantial, especially for the foreign subsidiaries of global companies, since conducting business in a foreign country often poses relatively high ambiguity and uncertainty. Subsidiaries incorporate contextually "appropriate" behaviors to reduce uncertainty and to signal that they accept the shared social knowledge and cognitive categories used by significant constituents in that environment (Galaskiewicz and Wasserman 1989).

Based on the assumption that the headquarters is one of the most influential constituents in the intra-organizational environment, subsidiaries can be expected to implement a level of market orientation that emulates headquarters' market orientation. The subsidiary managers' perceptions regarding their headquarters' market orientation are particularly important in determining the extent of behavioral compliance at the subsidiary level, since managers' frames of reference are critical in their evaluation of the complex and ambiguous environment (cf. Day and Nedungadi 1994). Thus, subsidiary managers should adopt a level of market orientation that is similar to that of their headquarters in efforts to reduce ambiguity and uncertainty. Therefore, we expect the implementation of market orientation at the subsidiary level be related to subsidiary perceptions regarding headquarters' market orientation. Formally:

H3: Subsidiary managers' perceptions regarding their headquarters' market orientation is positively associated with market orientation implementation at the subsidiary level.

Moderating effects of subsidiary identification with headquarters

As detailed earlier, we expect that subsidiaries are likely to implement higher levels of market orientation in countries with well developed legal institutions because of imposition and inducement mechanisms. In this section, we propose that this relationship should be a function of the subsidiary identification with headquarters (i.e., the degree to which

subsidiary employees experience a state of attachment with the headquarters, such that they feel an integral part of the larger organization [Kostova and Roth 2002]). Specifically, we maintain that organizational identification is a powerful predictor of cooperative behavior, in-role performance, and organizational citizenship behavior (Riketta 2005), and members who identify strongly with the organization consider the successes and failures of the organization their own (Ashfort and Mael 1989; Tajfel and Turner 1985). Therefore, in subsidiaries that identify with the headquarters more strongly, organizational members should be more likely to comply with the requirements of the legal institutions because by doing so they can do what is best for their headquarters in the host country (i.e., to avoid the negative consequences of non-compliance). Moreover, subsidiaries that identify with headquarters should be more motivated to act on behalf of the parent organization because they are more intrinsically motivated to behave in a manner consistent with its interests (cf. Van Kippenberg and Sleebos 2006). Therefore, subsidiaries with strong identification should be more attentive to and motivated by the inducements provided by legal institutions as they would be more disposed to protect the interests of their parent organizations (cf. Scott and Lane 2000). Hence:

H4a: Subsidiary identification with headquarters moderates the effects of legal institutions on the implementation of market orientation at the subsidiary level, such that the positive effects of legal institutions on market orientation implementation are stronger for subsidiaries that identify with headquarters.

As predicted earlier, competitive intensity has a positive effect on market orientation at the subsidiary level because the intensity of competition affects the mental models or managerial representations of competitive advantage, enhancing the need to be market oriented in these environments (Day and Nedungadi 1994). In the context of global companies, we propose that subsidiary identification with headquarters moderates the competitive intensity-market orientation relationship because organizational identification is closely associated with the extent to which organizational members consider the successes and failures of the organization their own (Ashfort and Mael 1989; Tajfel and Turner 1985). Specifically, when subsidiary identification with headquarters is low, subsidiaries should be less motivated to behave in a manner consistent with the interests of their headquarters. Moreover, low levels of organizational identification should also result in less attention to the successes and failures of their own subsidiaries. Therefore, subsidiaries with low levels of organizational identification should be less likely to replicate the norms and practices of particular benchmarked organizations that are deemed legitimate in the competitive market environments (Grewal and Dharwadkar 2002). On the other hand, subsidiaries that identify with headquarters should be more likely to implement market-oriented practices when faced with a competitive environment because these subsidiaries would be more motivated to protect the interests of their headquarters. Thus:

H4b: Subsidiary identification with headquarters moderates the effects of competitive intensity on market orientation implementation at the subsidiary level, such that the positive effects of competitive intensity on market orientation implementation are stronger for subsidiaries that identify with headquarters.

Earlier we hypothesized that subsidiaries can be expected to implement a level of market orientation that emulates headquarters' market orientation (i.e., H3). The literature indicates that organizational identification with headquarters facilitates compliance with institutional pressures coming from headquarters (Kostova and Roth 2002). Thus, subsidiaries that identify with the headquarters should emulate their headquarters to the extent that they perceive themselves as similar to the headquarters in efforts to gain internal legitimacy (Strang and Meyer 1993). When subsidiary identification with headquarters is high, subsidiary managers should be more motivated to implement behaviors associated with distinctive practices favored by the headquarters (Kostova and Zaheer 1999). Moreover, members who identify with the organization are more likely to engage in activities beneficial to the organization and to conform to group norms and values in efforts to maintain and promote a strong organizational identity (Ashfort and Mael 1989; Riketta 2005). Accordingly, stronger identification with headquarters should enhance the effects of headquarters' market orientation on the implementation of market orientation at the subsidiary level. Formally:

H4c: Subsidiary identification with headquarters moderates the effects of headquarters' market orientation on the market orientation implementation at the subsidiary level, such that the positive effects of headquarters' market orientation on subsidiaries' market orientation are stronger for subsidiaries that identify with headquarters.

Moderating effects of cultural distance

Differences in national culture systems or the relative cultural distance between countries have been an important topic in the study of global companies (Tihanyi et al. 2005). In essence, cultural distance represents the sum of factors creating on the one hand a need for knowledge, and on the other hand barriers to knowledge flow and hence other

flows between the home and target countries (Brouther and Brouthers 2001). Researchers often theorize that, as the cultural differences between a global company's home and a host country market increase, the underlying ability of the company to operate effectively in the host market decreases (Gomez-Mejia and Palich 1997). Increased operational difficulties resulting from cultural distance are, in general, derived from the lack of understanding of the norms, values, and institutions that afford social exchange across markets. In addition, cultural distance is often associated with higher levels of complexity and uncertainty, which hamper managerial decision making in distant markets (Tihanyi et al. 2005).

In the context of market orientation implementation, we hypothesize that home-host country cultural distance strengthens the direct effects of legal institutions and competitive intensity on the implementation of market orientation at the subsidiaries. Specifically, the positive effects of legal institutions and competitive intensity on market orientation should be more pronounced when the relative cultural distance between home and host countries is high because high cultural distance implies higher levels of complexity and uncertainty at the subsidiary level. As detailed previously, subsidiaries are likely to use imposition, inducement, and acquisition mechanisms, which involve using the laws, regulations, and norms that encourage the adoption of particular structures, practices, and processes in the host country environment in efforts to reduce uncertainty (Grewal and Dharwadkar 2002). Therefore, the effects of heightened uncertainty due to high cultural distance should enhance the positive effects of legal institutions and competitive intensity on the implementation of market orientation as subsidiaries are more disposed to comply with and conform to the laws, regulations, and norms that are dominant in the culturally distant host country environments. Therefore:

H5a: The home–host country cultural distance moderates the effects of legal institutions on market orientation implementation at the subsidiary level, such that the positive effects of legal institutions on market orientation are stronger when the home–host country cultural distance is high.

H5b: The home–host country cultural distance moderates the effects of competitive intensity on market orientation implementation at the subsidiary level, such that the positive effects of competitive intensity on market orientation are stronger when the home–host country cultural distance is high.

On the other hand, the cultural distance between the home and host countries should weaken the link between the headquarters' market orientation and the implementation of market orientation at the subsidiary level because the effects of heightened uncertainty due to high cultural distance should minimize the need to emulate the headquarters. As detailed earlier, a positive headquarter market orientation–implementation relationship is expected because, from an institutional perspective, subsidiaries emulate their headquarters to signal that they accept the shared social knowledge and cognitive categories used by the headquarters (cf. Galaskiewicz and Wasserman 1989). We expect this relationship to be weaker when the cultural distance between the home and host countries is high because subsidiaries in culturally distant markets should be less likely to incorporate the "appropriate" behaviors in the intra-organizational environment of the global company context. Hence:

H5c: The home–host country cultural distance moderates the effects of headquarters' market orientation on the market orientation implementation at the subsidiary level, such that the positive effects of headquarters' market orientation on subsidiary market orientation are weaker when the cultural distance between the home and host countries is high.

Research methods

Data collection procedures

Multiple sources and multiple informants per unit of analysis were employed in the data collection process in efforts to reduce common method variance (Podsakoff et al. 2003; Rindfleisch et al. 2008). The data were collected using surveys completed by two sets of key informants, including (1) country experts (i.e., commercial specialists) for the legal institutions variable, and (2) managers from the foreign subsidiaries of three global companies operating in a high-tech manufacturing industry. In addition, secondary data sources were employed to obtain data for the cultural distance and GNP per capita variables. In the first survey sample, the country expert data included responses from commercial specialists working for US embassies abroad. A total of 676 officials from US embassies in 78 countries were contacted to collect data for the legal institutions variable. A survey that included the measure was distributed to potential informants as an e-mail attachment following multi-wave data collection procedures (Dillman 2000). From the commercial specialists, a total of 198 completed questionnaires from 73 countries were obtained, representing a response rate of 29% at the individual informant level, with 94% of the countries being represented. Notably, multiple responses were obtained from 79% of the US embassies in our sample.

The subsidiary survey sample was comprised of individuals from the foreign subsidiaries of three US-based

global companies. These companies have been operating in a high-tech manufacturing industry in a large number of foreign markets for over 40 years with globally consistent brands and products. Three US companies within a single industry were employed to control for the complex effects of company nationality and sources of variation due to industry effects. In determining the final set of companies, the number and variety of foreign markets in which the companies were operating were considered to maximize the number of subsidiaries and countries from which the data were collected. Another important reason for selecting these three companies was that, although the managers at the headquarters perceived their headquarters to be market oriented, the implementation of market orientation at the subsidiary level was a continuous concern for these companies. Finally, only wholly-owned subsidiaries of multinationals were included in the study because headquarters–subsidiary relationships might be different for other forms of ownership (Anderson and Gatignon 1986).

Databases containing the names and addresses of subsidiary managers included in the subsidiary sample were compiled through company contacts, as well as extensive library and Internet searches. The subsidiary sample included 1,276 contact names from 138 subsidiaries located in 65 different countries. Overall, 142 completed questionnaires were received from 83 subsidiary locations in 45 countries. Responses from four subsidiary locations were excluded from further analysis since respondents indicated that these subsidiaries had very limited marketing activity directed toward their local markets.[1] Fifty-seven managers wrote back that they were unable to respond because the survey was inappropriate given their experience or responding to surveys was against corporate policy. Excluding the non-deliverable mailings, the overall effective response rate was 14%. Although this response rate is slightly below average survey response rates at the individual manager level (i.e., 15–20%) (Menon et al. 1996), the overall effective response rate at the subsidiary level was satisfactory since responses were obtained from 57% of subsidiary locations (79 of 138 subsidiaries) and 69% of countries (45 of 65 countries). The procedures recommended by Armstrong and Overton (1977) were employed to examine non-response bias, which indicated that respondents were not significantly different from non-respondents, and non-response bias was negligible.

Measurement

A list of measures employed for this study and their sources are provided in the "Appendix". A review of the prior literature revealed that scales for market orientation implementation, legal institutions, competitive intensity, subsidiary identification with headquarters, cultural distance as well as the control variables (i.e., formalization, centralization, subsidiary autonomy), had already been developed and tested in multiple research settings. For instance, the implementation of market orientation was measured using the market orientation scale items available in Homburg and Pflesser (2000) and Jaworski and Kohli (1993). The measure for legal institutions was adopted from the regulatory institutional profile scale reported in Kostova and Roth (2002). This scale was modified to reflect the extent to which laws and regulations provide support for market orientation in a country. Competitive intensity was assessed using the measures employed previously by Jaworski and Kohli (1993). Subsidiary identification with headquarters was measured using the scale adopted from Kostova and Roth (2002). For the headquarters' market orientation scale, a shorter version of the market orientation scale was developed to capture the extent to which subsidiary managers perceive their headquarters to be market oriented. To develop this scale, we generated an initial pool of items based on Jaworski and Kohli (1993). Then, the appropriateness of scale items was discussed in a series of focus groups and in-depth interviews conducted with eight academicians and nine subsidiary managers. These pre-tests provided valuable insights regarding the overall questionnaire content and format as well.

In addition to the multi-item scales presented in the "Appendix", we used objective data to measure the cultural distance between the home and host countries. Cultural distance measures were obtained by using the Cultural Distance Index as described by Kogut and Singh (1988),

$$\mathrm{CD}_j = \sum_{i=1}^{4} \left\{ \left(\mathrm{I}_{ij} - \mathrm{I}_{iu}\right)^2 / \mathrm{V}_i \right\} / 4$$

where I_{ij} stands for the index for the ith cultural dimension and jth country, V_i is the variance of the index of the ith dimension, u indicated the United States, and CDj is cultural difference of the jth country from the US Cultural index values (i.e., I_{ij}) for the individualism/collectivism, power distance, uncertainty avoidance, and masculinity/femininity dimensions obtained from Hofstede (2001).

Finally, GNP per capita of the host country was used to control the effects of economic factors, which might also

[1] The countries and the number of subsidiaries from each country included in the final sample were as follows: Argentina (2), Australia (5), Austria (1), Belgium (2), Brazil (1), Bulgaria (1), Canada (2), China (3), Colombia (1), Czech Republic (3), Denmark (3), Ecuador (1), Finland (1), France (1), Germany (4), Greece (1), Hong Kong (1), India (1), Indonesia (1), Ireland (2), Italy (2), Jamaica (1), Japan (1), South Korea (1), Lithuania (1), Malaysia (2), Netherlands (1), Norway (2), Philippines (1), Poland (2), Portugal (3), Romania (1), Russia (3), Singapore (2), Slovakia (1), Slovenia (1), South Africa (2), Spain (1), Sweden (2), Switzerland (2), Taiwan (1), Thailand (2), Turkey (3), United Arab Emirates (1), United Kingdom (3).

affect subsidiaries' market orientation (cf. Ellis 2007). The effects of subsidiary autonomy were also controlled, since subsidiary autonomy may affect the implementation of market orientation. In other words, in global companies with decentralized subsidiaries, a subsidiary's action may be less dependent on its headquarters, undermining the importance of the intra-organizational factors in our model.[2] For this scale, we used a single item measure based on Birkinshaw et al. (1998). Finally, centralization and formalization variables were included to control for the effects of internal organizational factors on subsidiaries' market orientation (cf. Jaworski and Kohli 1993). For centralization and formalization, scales employed by Menon et al. (1999) were used.

Data analyses and results

Measurement analysis

Measurement analyses were based on two groups of related sets of measures: (1) the legal institutions measure and (2) the measures in the subsidiary survey (i.e., implementation of market orientation, competitive intensity, headquarters' market orientation, identification with headquarters, centralization, and formalization). This approach was preferred based on theory and the data collection approaches, as well as the large number of constructs and measures employed in the study. Objective measures obtained from secondary sources (i.e., cultural distance and GNP per capita) and the subsidiary autonomy measure for which we employed a single item were not included in measurement analyses.

For the legal institutions scale, the data collected from the commercial specialists were used in confirmatory factor analysis to obtain insights regarding the dimensionality and validity of this scale. After the deletion of the italicized item shown in the "Appendix", the confirmatory factor analysis results indicated that the overall fit of a one-factor model was satisfactory [$\chi2$= 5.99 with six degrees of freedom (d.f.) (p=0.17), RMSEA= 0.06, TLI=0.99, CFI=0.99)] (Hu and Bentler 1999). Furthermore, all the item loadings on the respective constructs were significant (smallest t-value=12.79). For the legal institutions scale, the Cronbach's coefficient alpha (0.91), composite reliability (0.82), and average variance extracted (0.51) estimates were above recommended threshold levels (Netemeyer et al. 2003).

Next, the dimensionality and validity of the scales employed in the subsidiary survey were assessed using confirmatory factor analysis with the dataset obtained from the subsidiaries of three multinationals which comprised the sample. The fit of the initial six-factor measurement model to the data was not satisfactory [$\chi2=991.75$, d.f.=579 ($p<0.01$), (RMSEA=0.08, TLI= 0.82, CFI=0.83)]. The purification of items was conducted on the basis of confirmatory factor analysis and reliability test results (e.g., modification indices and reliability statistics), as well as substantive evaluations (e.g., breadth of theoretical content, clarity of meaning, and comprehensibility of the item). After the deletion of the six italicized items shown in the "Appendix", the fit of the final model to the data was adequate for the six-factor correlated measurement model [$\chi2=610.26$, d.f.=419 ($p<0.01$), (RMSEA=0.06, TLI=0.90, CFI=0.91)]. In addition, the loadings for all indicators were significant (t-values all >5.42) and no substantial cross-loadings were observed across the different constructs. Moreover, and as reported in Table 1, the Cronbach's coefficient alpha, composite reliability scores, and average variance extracted estimates for these scales were above recommended threshold levels (Netemeyer et al. 2003).

We assessed discriminant validity of our scales using the procedures recommended by Gerbing and Anderson (1988). Specifically, confirmatory factor analysis models were estimated with two factors involving each possible pair of constructs. We ran two models for each pair: one model where the phi (Φ) coefficient was constrained to 1.0 and a second model where the phi coefficient was estimated freely. A chi-square difference test was then performed on the nested models to assess if the unconstrained model provided a better fit to the data. The critical value for chi-square difference ($\Delta\ \chi^2\ _1>3.84$) was exceeded in all cases for the constructs of interest (i.e., χ^2 difference values ranged from 10.72 for formalization and competitive intensity to 55.92 for identification with headquarters and market orientation implementation). Thus, evidence was provided that the scales and their items had acceptable levels reliability and validity to conduct further analyses.

In our study, common method bias was minimized using different sources for measures of the predictor and criterion variables, as well as multiple responses per subsidiary (Rindfleisch et al. 2008). However, there still exists a possibility of common method bias in our data since respondent ratings on some measures were obtained from the same source (i.e., subsidiary managers). We checked this potential problem with the test recommended in Cote and Buckley (1987), which involves the estimation of three confirmatory factor models. Model 1 was the method-only model in which all items were loaded on one factor [$\chi2=1590.69$, d.f.=434 ($p<0.01$), (RMSEA=0.13, TLI=0.38, CFI=0.43)]. Model 2 was a trait-only model in

[2] We would like to thank an anonymous reviewer for pointing out this issue.

Table 1 Descriptive statistics and intercorrelations among constructs

	Variables	1	2	3	4	5	6	7	8	9	10
1	Market orientation implementation	–									
2	Legal institutions	0.29**	–								
3	Competitive intensity	0.21*	−0.03	–							
4	Headquarters' market orientation	0.48**	0.16	−0.14	–						
5	Identification with headquarters	0.30**	−0.03	0.22*	0.46**	–					
6	Cultural distance	−0.21*	−0.40**	0.17	−0.16	0.02	–				
7	Centralization	0.26*	0.17	0.46**	0.20*	0.25*	0.12	–			
8	Formalization	0.04	−0.07	0.41**	−0.05	0.22*	0.20	−0.01	–		
9	GNP per capita	0.07	0.63**	−0.16	0.02	−0.11	−0.44**	−0.11	−0.24*	–	
10	Subsidiary role	−0.06	−0.04	0.29**	−0.04	0.08	0.27**	0.25*	−0.35**	−0.11	–
	Mean	4.92	5.09	4.57	5.40	4.43	1.97	3.66	4.27	21,211	4.81
	Standard deviation	0.93	1.02	0.89	1.12	1.16	1.37	1.00	0.92	11,887	1.37
	Cronbach's coefficient alpha	0.91	0.87	0.82	0.89	0.86	–	0.82	0.83	–	–
	Composite reliability	0.82	0.76	0.83	0.71	0.82	–	0.69	0.68	–	–
	Average variance extracted	0.51	0.65	0.55	0.68	0.53	–	0.62	0.62	–	–

Means and standard deviations calculated using aggregate data

*$p<0.05$, **$p<0.01$

which each item was loaded on its respective scale [$\chi2=610.26$, d.f.=419 ($p<0.01$), (RMSEA=0.06, TLI=0.90, CFI=0.91)]. Model 3 was a trait and method model in which a common factor linking all the measurement items was added to Model 2 as a second order latent variable [$\chi2=1442.01$, d.f.=428 ($p<0.01$), (RMSEA=0.14, TLI=0.45, CFI=0.50)]. Comparing these three models, Model 2 demonstrates a better fit to the data than Model 1 and Model 3. This finding indicates that the trait rather than the common method factor explains most of the variance. Therefore, we conclude that common method bias did not pose a serious threat to the interpretation of the results.

The next steps in the data analysis involved the aggregation of the data obtained from subsidiary managers to the subsidiary level to obtain aggregate subsidiary scores on each variable. In addition, we also aggregated the data obtained from commercial specialists to the country level to obtain aggregate scores for the legal institutions scale (cf. Kumar et al. 1993). Before aggregating the data, perceptual agreement across informants was sought for each scale using the procedure recommended by Burke and Dunlap (2002). This procedure involves the calculation of average deviation indices for each scale to assess the extent of perceptual agreement across informants for each country and subsidiary separately (Burke and Dunlap 2002). Since high average deviation indices represent substantial disagreement among informants, the responses of those informants whose scores deviated excessively from the mean score were deleted when the inter-rater reliability index was above critical values for any one scale.[3] For this purpose, Burke and Dunlap's (2002) critical value for practical significance (i.e., c/6, where c is the number of scale points in a Likert-type scale) was employed as a cutoff value. Since all measures employed 7-point scales, the critical cutoff value was 1.17. The inter-rater reliability was within acceptable ranges after the deletion of responses obtained from six subsidiary managers and two country experts, suggesting high levels of perceptual agreement across informants. The last step of the data aggregation procedures involved the calculation of mean scores (i.e., summated scores) for each scale by taking an average across responses of the key informants (Kumar et al. 1993). The correlations among variables are presented in Table 1. The means and standard deviations for each scale are provided under the correlation matrix.

Testing of hypotheses

The aggregated data (i.e., summated scores) at both the subsidiary and country levels were employed in a series of hierarchical regression analyses to estimate the path coefficients for the hypothesized relationships. Results of the hypothesis tests are presented in Table 2. To begin, the variance inflation factors for each regression coefficient

[3] Responses of informants from subsidiaries were deleted only when average deviation indices were above critical values for more than two scales.

Table 2 Regression analysis results

Variables	Hypotheses	Model 1	Model 2	Model 3
Control variables				
Centralization		0.31*** (2.69)	−0.02 (−0.13)	−0.04 (−0.30)
Formalization		0.13 (1.03)	−0.03 (−0.24)	−0.10 (−0.83)
GNP per capita		0.11 (1.00)	−0.09 (−0.65)	−0.14 (−1.03)
Subsidiary role		−0.16 (1.32)	−0.11 (−1.09)	−0.03 (−0.25)
Independent variables				
Legal institutions	H_1	–	0.28** (2.15)	0.30** (2.22)
Competitive intensity	H_2	–	0.33*** (2.60)	0.38*** (2.94)
Headquarters' market orientation	H_3	–	0.48*** (4.74)	0.50*** (4.25)
Identification with headquarters	–	–	–	0.02 (0.16)
Cultural distance	–	–	–	−0.23* (1.88)
Moderator variables				
Legal institutions X identification with headquarters	H_{4a}	–	–	−0.04 (−0.37)
Competitive intensity X identification with headquarters	H_{4b}	–	–	0.03 (0.27)
Headquarters' market orientation X identification with headquarters	H_{4c}	–	–	0.26** (2.58)
Legal institutions X cultural distance	H_{5a}	–	–	0.06 (0.62)
Competitive intensity X cultural distance	H_{5b}	–	–	0.24** (2.14)
Headquarters' market orientation X Cultural distance	H_{5c}	–	–	0.05 (0.48)
Maximum VIF value		1.23	1.95	2.19
R^2		0.10	0.37	0.48
Adjusted R^2		0.05	0.31	0.35
F value		2.07*	6.03***	3.81***
ΔR^2		–	0.26	0.09
Partial F value		–	30.67***	12.85***
Degrees of freedom		4/74	3/71	9/62

Standardized regression coefficients are reported (t-values are in parentheses)

*$p<0.10$, ** $p<0.05$, ***$p<0.01$

ranged from a low of 1.15 to a high of 2.19, suggesting that the variance inflation factors in each regression were at acceptable levels (Hair et al. 1998). Histogram and normal probability plots were visually inspected and revealed no departure from the assumption that the data were multivariate normal (Hair et al. 2006). Moreover, examination of the studentized residuals and Cook's D test did not indicate any outliers. Also, the Durbin-Watson check for independence of error terms was not significant in the regression models. In addition, we also performed the Levene test for homoskedasticity for the dependent variable's uniform variance across values for each control and independent variable. The results were not significant ($p>.10$).

As summarized in Table 2, the Model 1 regression analysis results indicate that the control variables (i.e., centralization, formalization, GNP per capita, and subsidiary role) explain five percent of the variance in the implementation of market orientation (F-value=2.07, $p<0.10$). Adding the independent variables (i.e., legal institutions, competitive intensity in the host country, headquarters' market orientation) in Model 2 increased the adjusted-R^2 value by 0.26 percent ($\Delta F=30.67$, $p<0.01$). Thus, Model 2 shows that legal institutions ($\beta=0.28$, t-value= 2.10, $p<0.05$), competitive intensity ($\beta=0.34$, t-value= 2.61, $p<0.01$), and headquarters' market orientation ($\beta=0.50$, t-value=4.30, $p<0.01$) are positively related to market orientation implementation at the subsidiaries of global companies, in support of H1, H2, and H3.

In Model 3, we conducted moderated regression analyses using the procedures recommended by Aiken and West (1991). Specifically, we mean-centered the variables employed in the study before creating the interaction terms to minimize multicollinearity. Findings based on the moderated regression analysis in Table 2 (Model 3) indicate that the introduction of independent and interaction effects involving subsidiary identification with headquarters and cultural distance to Model 2 explains significant variance in the implementation of market orientation at the subsidiary level (adjusted-$R^2=0.36$, F-value=4.10, $p<0.01$). Moreover, the results suggest that the inclusion of interaction

terms contributes an additional four percent to explained variance ($\Delta F=12.85$, $p<0.01$).

Overall, the moderator analysis results indicate that the product of subsidiary identification with headquarters and headquarters' market orientation is positively related to market orientation implementation at the subsidiary level ($\beta=0.26$, t-value=2.58, $p<0.05$). Therefore, in support of H4c, our findings demonstrate that when the subsidiaries identify with headquarters, the positive effects of headquarters' market orientation on the implementation of market orientation at the subsidiary level are even stronger. However, the interaction terms representing the moderating effects of subsidiary identification with headquarters on the effects of legal institutions and competitive intensity on market orientation implementation were not significant ($\beta=-0.04$, t-value=−0.37; $\beta=0.03$, t-value=0.27, respectively). Therefore, H4a and H4b are not supported. As detailed in Table 2 (Model 3), the results also indicate that the product of cultural distance and competitive intensity is positively related to the implementation of market orientation at the subsidiary level ($\beta=0.24$, t-value=2.14, $p<0.05$). Thus, our findings also demonstrate that the positive effects of competitive intensity on market orientation are stronger when subsidiaries operate in culturally distant markets, in support of H5b. Nevertheless, H5a and H5c were not supported, as the interaction term representing the moderating effects of cultural distance on the legal institutions–subsidiary market orientation and headquarters' market orientation–subsidiary market orientation relationships were not significant ($\beta=0.06$, t-value=0.62; $\beta=0.05$, t-value=0.48, respectively).

Discussion

While market orientation has generated substantial attention in the marketing literature, the extant marketing research provides limited insights regarding the critical factors that affect the market orientation of global companies. Our study seeks to fill this important gap by examining the effects of institutional factors on the implementation of market orientation in the subsidiaries of global companies. Based on analysis of data gathered from multiple respondents and samples from 79 subsidiaries located in 45 countries, we find that legal institutions, competitive intensity in the host country market, and headquarters' market orientation have direct effects on the market orientation of global company subsidiaries. Moreover, our findings suggest that these effects are moderated by the identification of the subsidiary with the headquarters, as well as by the cultural distance between the home and host countries. As such, the present study provides useful insights for researchers and managers regarding the challenges that global companies face when implementing market-oriented practices across diverse country markets. Specifically, our study builds and extends the market orientation literature in the following ways.

First, our findings lend support to the contention that global companies should consider both the host country environment and the intra-organizational factors within the global company when they implement marketing strategies at the subsidiary level. Our results show that foreign subsidiaries have different incentives to be market oriented in their host countries due to the nature of the legal institutions, as well as the intensity of competition in the host country market. In addition, we find that subsidiaries must manage the task of coordinating their activities with headquarters in the intra-organizational environment as market-oriented practices of the headquarters seem to have persistent effects on subsidiaries. Collectively, these findings extend the marketing literature with their focus on the confluence of the country environment and intra-organizational factors in shaping the market orientation of global company subsidiaries.

Another important contribution of the present research concerns how it complements previous work in marketing with a new set of drivers of market orientation based on institutional theory. Specifically, our findings indicate that compliance, conformity, and imitation occur when market-oriented practices are transferred within and across organizations due to institutional pressures, because routines within the host country and corporate environments are followed as they are assumed to be the proper way of doing things (Scott 2001). Thus, social pressures from outside the organization seem to provide an alternative mechanism for enhancing a firm's market orientation. As such, contrary to the assertion that the degree of market orientation is inextricably linked to organizational structures, systems and processes (e.g., Kennedy et al. 2003; Ruekert 1992), our findings indicate that external factors may also have significant impact on shaping a firm's market orientation.

Third, our findings also contribute to the understanding of the role of cultural distance in market orientation implementation. The costs, risks and uncertainty associated with overcoming cultural distance are well known to scholars studying the internationalization process of the firm (Johansson and Vahlne 1977; Tihanyi et al. 2005). In the context of market orientation, our findings demonstrate that the positive effects of competitive intensity on market orientation are more pronounced when subsidiaries operate in culturally distant markets because subsidiaries are more likely to incorporate contextually appropriate behaviors in the intra-organizational environment since high cultural distance yields higher levels of complexity and uncertainty. As such, the results of this study contribute to a growing body of literature

that investigates the generalizibility of the effects of the antecedents of market orientation across organizational and country levels of analysis (Cadogan et al. 2001, 2006; Kirca and Hult 2009).

Future research may focus on the potential moderating effects of cultural distance or other theoretically relevant country-level variables to investigate whether the antecedents to market orientation play the same role in facilitating or inhibiting a firm's market orientation in others.

Fourth, in recent years, marketing researchers have witnessed a surge of interest in how organizational members (e.g., sales employees) develop organizational identification and relationships involving organizational identification and several key marketing variables (e.g., customer-related outcomes, employee performance, organizational performance) (e.g., Lam et al. 2010; Wieseke et al. 2009). In particular, Lam et al. (2010) found organizational identification to be important in diffusing a market-oriented culture from top management to frontline employees. In a similar vein, we find that headquarters can enhance their subsidiaries' market orientation by creating a corporate culture in which employees feel a part of the global corporate family and can easily identify with headquarters. As such, our study is the first in marketing to apply the organizational identification concept at a different hierarchical level (i.e., subsidiary) and to examine its effects on the implementation of market orientation.

The findings of our study do not provide support for the moderating effects of cultural distance and identification with headquarters. One plausible explanation for these results may be related to the low sample size for the total number of countries included in our sample (N=45), which may have affected the power of our analyses negatively. Alternatively, it is also possible that subsidiary interactions with their host country environments might be more dynamic and pro-active than previously assumed in traditional institutional frameworks (cf. Kostova 1999; Kostova and Roth 2002) and subsidiary managers might actively manage the pressures that originate from a variety of institutional domains of global company subsidiaries. In other words, subsidiary managers might deliberately choose to calibrate the market orientation of their subsidiaries to that of their headquarters, despite local competitive and legal pressures, which may explain why the interaction terms that involve these local factors were not significant. Clearly, additional research is warranted regarding the role of local subsidiary managers in the transfer of marketing practices within global companies.

From a managerial perspective, our findings have significant implications for both executives at the subsidiaries of global companies and their headquarters. Specifically, as we find that both the host country institutional environment (i.e., the legal institutions and competitive intensity) *and* intra-organizational factors (i.e., headquarters' market orientation) are significant factors that affect the implementation of market orientation at the subsidiaries of global companies, subsidiary managers should carefully manage the tension between the need for consistency within the corporate environment and the necessity for responsiveness to local market needs (cf. Doz and Prahalad 1991; Ghoshal 1987). Also, from the headquarters' perspective, the results imply that global managers at headquarters should carefully promote the image of the headquarters within the company as a role model in order to successfully transfer this strategic organizational capability from headquarters to their foreign subsidiaries. In addition, top managers in headquarters who want to accelerate the implementation of market orientation at the subsidiary level must first sell the headquarters itself to the public in the intra-organizational environment of the global company by nurturing the identification of the subsidiaries with their headquarters.

Another significant implication of our findings for managers both at the subsidiary and headquarters levels pertains to the moderating effects of cultural distance between the home and host countries on the competitive intensity–market orientation implementation relationship. Our findings imply that in culturally distant markets the competitive intensity of the foreign market environment motivates subsidiaries to adopt much higher levels of market orientation. This finding suggests that global company headquarters and subsidiary managers would find it easier to implement market orientation in these country markets. On the negative side, this finding also implies that subsidiaries are more inclined to develop low levels of market orientation due to the nature of competitive pressures in their host country market. Thus, managers may need to make additional efforts and require more resources in culturally similar foreign markets characterized by low levels of competitive intensity in the implementation of market orientation at the subsidiary level.

Study limitations and extensions

The present research has several limitations that both warrant caveats and provide opportunities for further research. First, although using a sample of subsidiaries from a single industry and three multinationals from the US has some advantages in limiting variation in the data due to company, industry, and home country characteristics, this approach also limits the generalizibility of

findings to other industries and to other multinationals from outside the US. Moreover, this approach also limits the variability on the country-level variable (i.e., legal institutions) given that these companies operate in a limited number of foreign markets. In this study, we collected data from 45 countries and could obtain some variation on the legal institutions variable. But this low sample size has certainly affected the power of our analyses negatively, as detailed above. Therefore, it would be desirable to collect data from a much larger sample of countries, which would probably lead to more significant results overall.

Further research should also focus on other product and service industries, as well as non-profit organizations. Similarly, additional research is warranted in efforts to investigate how country institutional environment and intra-organizational factors affect the market orientation of the subsidiaries of non-US multinationals. At the outset, the implementation of market orientation may be a challenging problem, especially for managers of those subsidiaries that do not perceive their headquarters to be market oriented and that do not identify with headquarters (e.g., a US subsidiary of a multinational company from developing country markets). Future research should investigate internal and external factors that affect the implementation of market orientation using this type of unique samples.

Another limitation of the present research is related to the difficulty in establishing causal relationships since cross-sectional data were employed to test the hypotheses. Nevertheless, we believe that our cross-sectional data exhibit validity comparable to results obtained from longitudinal data, since we conducted our research in a well-established research domain relying upon strong theoretical bases (i.e., market orientation and institutional theory) and we included several control variables in efforts to consider rival explanations (see Rindfleisch et al. 2008). Regardless, research using longitudinal data and cross-lagged analysis might shed additional light on the relationships investigated in this study. Third, our conceptual framework features only two key moderators. Our findings seem to suggest that there exist different underlying mechanisms through which cultural distance and identification with headquarters affect the relationships of interest in this study. Additional research could explore the effects of other theoretically relevant organizational and country level variables on the relationships investigated in this study. Finally, a limited set of potential antecedents of market orientation was included in this study in efforts to reduce survey length. Future research should focus on other organizational drivers of market orientation (e.g., top management emphasis, reward systems) and their interactions with cultural distance and/or organizational identification in efforts to provide a better understanding of the implementation of market orientation in a global context.

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Appendix A

Table 3 Study measures

Construct and source	Operational measure of construct[a]
Legal institutions[b] (cf. Kostova and Roth 2002)	1. In (country), there are laws and regulations that protect consumers.
	2. Government organizations enforce consumer rights in (country).
	3. Laws and rules force firms to respond to customer complaints effectively.
	4. Laws and rules in business are strictly enforced.
	5. The laws and government regulations in (country) penalize firms that violate agreements with their customers, business partners or suppliers.
Implementation of market orientation[b] (cf. Homburg and Pflesser 2000; Jaworski and Kohli 1993)	1. *We frequently collect information concerning general trends (e.g., emerging lifestyles) that might affect our business.*
	2. We are fast to detect fundamental shifts in our industry (e.g., competition, technology).
	3. We regularly meet with customers to find out what products or services they will need in the future.
	4. We are fast to detect changes in our customers' product preferences.
	5. *We often poll end users to assess the quality of our products and services.*

Table 3 (continued)

Construct and source	Operational measure of construct[a]
	6. We arrange regular interdepartmental meetings to discuss market trends and developments.
	7. Marketing personnel here spend considerable time discussing customers' needs with other departments.
	8. *When something important happens to a major customer or market, the whole subsidiary quickly hears about it.*
	9. Data on customers are regularly disseminated throughout this subsidiary
	10. We are fast in responding to the changes in the market.
	11. If a major competitor launches an intensive marketing campaign, we would response immediately.
	12. Departments often get together to plan responses to changes taking place in our business environment.
	13. We periodically review our product development efforts to ensure that they are in line with what customers want.
	14. When we find that customers would like us to modify a product or service, the departments involved make concerted efforts to do so.
Headquarters' market orientation[c]	1. In this subsidiary, we believe that headquarters knows a great deal about how to treat customers.
	2. There is a lot of talk about customer-focused management in corporate headquarters.
	3. Corporate headquarters collect and use market intelligence extensively.
	4. At corporate headquarters, it is generally believed that to be successful subsidiaries have to implement customer-focused strategies.
	5. Corporate headquarters sets a concrete example of a customer-focused company.
Identification with headquarters[b] (Kostova and Roth 2002)	1. In this subsidiary, we represent headquarters.
	2. A problem solved for headquarters means a problem solved for us at this location.
	3. We see our success as related to the success of headquarters.
	4. A failure in headquarters is our failure too.
	5. The way you would describe the headquarters would also describe us at this subsidiary.
	6. We think of our subsidiary as being part of the corporate family.
Competitive intensity[b] (Jaworski and Kohli 1993)	1. In this market, competition is very intensive.
	2. Our competitors readily match anything that we offer to the market.
	3. Price competition is a major characteristic of this market.
	4. In this market, one hears of a new competitive move almost every day.
Centralization[b] (Menon et al. 1999)	*1. In this subsidiary, decisions tend to be made at high levels.*
	2. Employees feel like they are their own boss in most matters.
	3. How things are done around here is left up to the person doing the work.
	4. People are allowed flexibility in getting work done.
Formalization[b] (Menon et al. 1999)	1. There is a standard operating procedure for almost all major decisions.
	2. Plans must be rigidly followed during implementation.
	3. There are rules and procedures for most activities in this subsidiary.
Subsidiary autonomy (Birkinshaw et al. 1998)	1. This subsidiary is primarily an implementer of strategies developed at headquarters.
Cultural distance (Kogut and Singh 1988)	Hofstede's (2001) cultural dimensions index.

[a] Italicized items were excluded from further analysis on the basis of factor analyses and reliability test results, as well as substantive and empirical criteria

[b] Seven-point scale where 1 = Strongly disagree and 7 = Strongly agree

[c] Seven-point scale where 1 = Not at all and 7 = To a great extent

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