

Market Orientation and Performance: A Meta-Analysis and Cross-National Comparisons*

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ABSTRACT Quantitative evidence drawn from a meta-analysis of 56 studies (58 samples) conducted in 28 countries reveals that market orientation is a generic determinant of firm performance. However, stronger effects were found for studies set in large, mature markets and when market orientation was measured using Kohli, Jaworski and Kumar's (1993) MARKOR scale. The meta-analysis also revealed that the value of a market orientation weakens in proportion to the cultural distance separating the home market from the USA. This study thus extends previous research by: (1) providing evidence of measurement moderators that inhibit the generalization of results obtained from studies using different scales and performance variables; (2) establishing benchmark effect sizes for specific regions around the world; and (3) revealing that the managerial value of a market orientation is significantly affected by the cultural and economic characteristics of the host country.

INTRODUCTION

Scientists have known for centuries that a single study will not resolve a major issue. Indeed, a small sample study will not even resolve a minor issue. Thus, the foundation of science is the cumulation of knowledge from the results of many studies. (Hunter and Schmidt, 1990, p. 13)

A central idea in the marketing literature is the proposition that any firm that is able to raise its level of market orientation will improve its performance in the market place (Narver and Slater, 1990). Market oriented firms are defined by their superior understanding of customers' current and future needs and by their ability to offer solutions to those needs that are superior to rivals' offerings (Slater and Narver, 2000). The link between market orientation and performance was originally formalized in the twin papers of Narver and Slater (1990) and Kohli and

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Jaworski (1990). These authors provided the conceptual basis for a research agenda which came to be adopted by many marketing scholars working all over the world (Baker and Sinkula, 1999; Chan and Ellis, 1998; Ellis 2005; Farrell, 2000; Greenley, 1995; Harris and Ogbonna, 2001; Homburg and Pflessor, 2000; Hooley et al., 2000; Hult et al., 2003; Jaworski and Kohli, 1993; Matsuno et al., 2000; Moorman and Rust, 1999; Narver and Slater, 1990; Pelham, 1997; Pitt et al., 1996; Shoham and Rose, 2001; Soehadi et al., 2001; Subramanian and Gopalakrishna, 2001; Yau et al., 2000). Fifteen years later the result is a rich body of work examining a common hypothesis against a vast and multinational dataset.

Market orientation research is cumulative in nature. Yet past reviews of the literature have failed to provide a definitive answer to the question of whether market orientation is a truly generic determinant of firm performance (Chan and Ellis, 1998; Langerak, 2003; Shoham and Rose, 2001). Part of the problem is that previous reviews have been narrative, offering at best a broad-brushed summary of extant work. Results are typically classified into a few classes of effect size (e.g. strong, medium, weak or no effect). Another part of the problem stems from the failure to discriminate between bivariate findings linking market orientation with performance (r) from multivariate analyses incorporating other performance-enhancing factors. Strong market orientation effects are sometimes inferred on the basis of multiple coefficients of determination (R) even when bivariate r 's are absent (e.g. Subramanian and Gopalakrishna, 2001) or contrary (e.g. Mavondo, 1999).

A more effective alternative for assessing the generalizability of relationships is provided by meta-analysis, which has been defined as 'the statistical analysis of a large collection of analysis results from individual studies for the purposes of integrating the findings' (Glass, 1976, p. 3). Meta-analysis focuses on the aggregation and comparison of empirical findings drawn from different studies such that each study comprises an independent observation in the final sample of effect sizes. As such meta-analysis is a powerful tool for establishing empirical generalization in marketing (Farley et al., 1995; *Marketing Science*, 1995). Previous meta-analyses have been used, for example, to evaluate the predictive power of different drivers of new product success (Henard and Szymanski, 2001) and to examine the relationship between ad-evoked feelings and responses to advertising (Brown et al., 1998).

Meta-analysis requires that findings must be both conceptually comparable and configured in statistically equivalent forms (Lipsey and Wilson, 2001). Market orientation research satisfies both requirements. In the majority of replication studies, market orientation has been measured using items drawn from one of two instruments; namely the MKTOR instrument of Narver and Slater (1990) or the MARKOR instrument of Kohli et al. (1993). In addition, the majority of studies have adopted the correlation coefficient (r) as their measure of effect size. A common conceptual basis and effect size metric permit the meaningful comparison of results obtained in different settings.

The positive relationship between market orientation and business performance has been well-documented (Baker and Sinkula, 1999; Farrell, 2000; Harris and Ogbonna, 2001; Homburg and Pflessor, 2000; Hult et al., 2003; Jaworski and Kohli, 1993; Narver and Slater, 1990; Shoham and Rose, 2001). But the available evidence is far from conclusive with a number of studies reporting only weak or non-significant results (Chan and Ellis, 1998; Gray et al., 1998; Greenley, 1995; Han et al., 1998; Harris, 2001; Langerak, 2003). As others have noted, this disparity suggests that the relationship between market orientation and performance may be moderated by additional variables such as market or technological turbulence (Greenley, 1995; Han et al., 1998) and competitive intensity (Homburg and Pflessor, 2000; Jaworski and Kohli, 1993). But again, extant results are inconclusive with some scholars identifying a role for, say, competitive intensity (Harris, 2001) and others finding no such role (Subramanian and Gopalakrishna, 2001).

Chan and Ellis (1998) were perhaps the first to speculate that the research setting may influence the potency of the market orientation–performance link. These authors observed that the strongest market orientation effects were typically found in the USA; their own results, drawn from data collected in Hong Kong, along with results obtained in Britain (Greenley, 1995), Indonesia (Soehadi et al., 2001), New Zealand (Gray et al., 1998) and elsewhere, seemed to support this idea of an American-bias. But in recent years, strong, positive results have been recorded in a variety of non-US settings including Germany (Homburg and Pflessor, 2000), the Netherlands (Langerak et al., 2004), Australia (Farrell 2000), Spain (Lado et al., 1998) and elsewhere, disputing the notion that market orientation is a uniquely American concept.

Others have speculated that the market orientation–performance link may be amplified by the size of the home market or the level of economic development (Ellis, 2005, 2006). Yet definitive conclusions on all points are lacking. Individual studies examining multiple samples (e.g. using the MKTOR instrument in one sample and the MARKOR instrument in the other) can only go part-way towards resolving these issues (e.g. Moorman and Rust, 1999; Oczkowski and Farrell, 1998). In contrast, a unique strength of meta-analysis is the opportunity to directly examine the influence of various study design characteristics that may moderate the central hypothesis. Indeed, meta-analysis is useful for identifying ‘relationships and contingency effects that have not been (and could not be) assessed in the context of a single empirical study’ (Brown et al., 1998, p. 114). Consequently, this research sought to address the following three questions: (1) Is the market orientation–performance relationship universal across different country settings? (2) Is the market orientation–performance relationship affected by measurement issues? (3) Is the market orientation–performance relationship affected by contextual issues relating to culture, market size and economic development?

METHODS

Identifying Studies

To address these research questions, a meta-analysis of extant research investigating the market orientation–performance relationship was performed (Farley et al., 1995; Hunter and Schmidt, 1990; Lipsey and Wilson, 2001; *Marketing Science*, 1995). Two broad eligibility criteria were used to define the relevant population of studies. First, studies were included in the meta-analysis only if they measured market orientation using items inspired by either of the original Narver and Slater (1990) or Kohli et al. (1993) instruments. Second, studies were excluded from the analysis if they measured the performance of non-profit making enterprises (e.g. Balabanis et al., 1997; Kumar et al., 1998). In other words, the sampling aim was to include only those studies investigating the link between a consistently-defined measure of market orientation and business performance.

An attempted census of relevant research was facilitated by manually scanning published references and systematically searching the ABI/Inform and Emerald databases for empirical articles published from 1990 to 2004. This initial search yielded 223 papers published in journals such as the *Journal of Marketing*, *Journal of Marketing Research*, *Journal of the Academy of Marketing Science*, *International Marketing Review*, *European Journal of Marketing*, *Journal of Strategic Marketing*, *Journal of Business Research*, *Organization Science* and *Strategic Management Journal*. Discarding essays, literature reviews and other papers not reporting the collection of original data, led to the retention of 160 empirical studies examining antecedents, consequences, and moderators of market orientation. Added to this group was a small number of soon-to-be-published studies identified after a search on the Internet ($N = 15$). The next step was to identify – within this broader body of work – those studies conforming to the two eligibility criteria listed above. To be included in the meta-analysis, studies also had to report sample sizes, measurement procedures and zero-order correlations (or convertible equivalents) between the variables of interest. These criteria resulted in a final sample of 56 studies (and 58 samples) which contained sufficient information for further analysis. (Published studies included in the meta-analysis are identified in the References section.) Collectively these studies reported data collected from 14,586 firms based in 28 different countries. Sample sizes ranged from 24 (for Selnes et al.'s (1996) US sample) to 764 (Hult et al., 2003). The average sample size was 246.9.

Effect Size

Meta-analysis relies on estimates of a common effect size metric for each study. The Pearson product–moment correlation coefficient r was the most widely used metric in the sample studies and correlations linking market orientation and performance measures were harvested from each study. A number of authors

reporting either 'n.s.' results or analyses based solely on partialled multivariate statistics were personally contacted to solicit correlations directly (e.g. Homburg and Pflesser, 2000; Singh, 2003). Multiple coefficients of determination could also be used where market orientation was the sole predictor of performance (e.g. Agarwal et al., 2003; Chan and Ellis, 1998; Pitt et al., 1996).

A small number of studies ($N = 6$) were found to report correlations linking performance with various market orientation components (e.g. customer orientation and competitor orientation). In these cases the correlations across the components were averaged to arrive at a mean performance score for overall market orientation. More common ($N = 38$) was the practice of reporting correlations between market orientation and several performance variables. Where multiple performance effects were reported in a single study, a single mean effect was calculated. By relying on only one effect size per sample, the hope was to base the analysis on independent observations to the greatest extent possible (Brown et al., 1998).

Correcting for Measurement Errors

Reported effect sizes are subject to measurement error in the sense that unreliable measurements introduce unwanted noise into the analysis. Consequently, each effect size was corrected for measurement error following Lipsey and Wilson's (2001) procedures. That is, effect sizes were divided by the square root of the reliability of the market orientation measurement instrument. For studies failing to report reliabilities, a mean reliability relevant for each of the two instruments was substituted. (The mean reliability for the MARKOR instrument was 0.881; for MKTOR the mean reliability was 0.850.)

Correcting for Sampling Errors

The best estimate of an effect size is not the simple correlation across studies but a weighted average in which each correlation is weighted by the sample size of each study (Hunter and Schmidt, 1990). The rationale is that a correlation based on a large study offers greater precision than a correlation identified in a small study, because the larger study has a smaller sampling error. Again following Lipsey and Wilson's (2001) procedures, effect sizes were first corrected for measurement error before being converted using Fisher's Z_r -transform. The next step was to calculate the standard error and inverse variance weight of each effect size. These values could then be used to determine the weighted mean effect size, the standard error of the mean effect size, the upper and lower bounds of the 95% confidence intervals, and the homogeneity of the distribution of effect sizes.

Confidence Intervals and Homogeneity Analysis

A common practice in meta-analysis is to interpret the significance of mean effect sizes by using confidence intervals. A confidence interval establishes the degree of precision in the estimate of the mean effect size (Lipsey and Wilson, 2001). Unlike a standard significance test, confidence intervals are centred on observed values rather than the hypothetical value of a null hypothesis (Hunter and Schmidt, 1990). A 95% confidence interval that excludes 0 puts the odds of $p = 0$ beyond reasonable possibility and indicates that the mean effect size is statistically significant at $\alpha = 0.05$.

Confidence intervals will be wider for distributions that are heterogeneous, that is, where two or more population means have been combined into a single estimate of mean effect size. The hypothesis that the variance of a given sample of effects is homogeneous can be tested using the Q statistic (Lipsey and Wilson, 2001). Values of Q are compared against a chi-square distribution for $k - 1$ degrees of freedom, where k represents the number of effect sizes (Hunter and Schmidt, 1990). Samples that are found to have heterogeneous distributions become candidates for subsequent moderator analysis.

Coding the Studies

Prior to analysis, each study was coded for effect size, sample size, market orientation instrument and reliability, and the type of performance variables reported. In the market orientation literature, there is no consensus as to how organizational performance should be measured. Scholars have relied on a variety of both financial measures such as ROA (Narver and Slater, 1990) and sales growth (Pelham, 1999), as well as more market-specific measures, such as new product success (Baker and Sinkula, 1999) and market performance (Homburg and Pflessor, 2000). A lack of uniformity suggests that differences in observed effect sizes may partially reflect the nature of the dependent variable adopted in different studies. Consequently it became necessary to categorize the performance indicators used in each study in terms of their scope (i.e. business-level or market-specific) and measurement (i.e. objective versus subjective assessments). Business-level performance was defined as any generic, financial indicator applicable at the level of the firm (e.g. profits, ROI/A, sales growth, cash-flow). Market-specific performance was defined with reference to specific product markets (e.g. market share, new product performance, brand awareness, customer satisfaction or loyalty). Quantitative performance data was considered to be objective in the sense that it is potentially verifiable by outside parties. In contrast, subjective performance indicators are typically based on judgmental assessments anchored in terms of managerial expectations, goals or comparisons with competitors.

A number of studies mixed and matched both their indicators (35 studies combined business-level and market-specific indicators) and assessment methods

(twelve studies reported both objective and subjective data) confounding any easy classification schema. For these studies several effect sizes were calculated: an overall mean performance indicator (relevant for the main meta-analysis) and a supplemental set of categorical performance means (relevant for considering the effect size implications of relying on different measures of performance).

Finally, a number of additional characteristics were also recorded for each study and these included; the setting of the study (i.e. country), the cultural distance from the USA, the date of data collection, and the size and economic development of the home economy at the time of data collection. Unless otherwise stated, data collection was assumed to have taken place three years prior to the publication of each study. Cultural distance was established following the Kogut and Singh procedure (1988). Specifically, distance scores were calculated by combining the deviation between the study-country and the USA over each of the four cultural dimensions popularized by Hofstede (1980) after factoring in the variance observed on each dimension. While Hofstede's work has been criticized for the method used to construct the scales and its resulting low content validity (Ronen and Shenkar, 1985), his data are widely drawn upon by marketing scholars examining cultural differences (Mitra and Golder, 2002; Nakata and Sivakumar, 2001). Two reasons may explain this popularity. First, in contrast with the alternative practice of grouping countries into cultural clusters (e.g. Ronen and Shenkar, 1985; Sethi, 1971), Hofstede's quantification of cultural dimensions facilitates the calculation of numerical distance scores. Second, the number of replication studies based on Hofstede's original work is sufficiently great that an appendix for his recent (2001) book contains entries for 66 different nations. Few other cultural theories have been subjected to similarly widespread levels of testing (Nakata and Sivakumar, 2001). As far as this affects the present analysis, the culturally-closest country to the USA in the sample was found to be the United Kingdom while the most distant was Slovakia. Finally, economic data came from the World Bank (2004). Market size and economic development were proxied by Gross National Income (GNI) and GNI per capita respectively.

RESULTS OF THE META-ANALYSIS

Table I documents the observed and corrected correlations for the entire sample as well as for specific regions where market orientation studies have been conducted. The table also includes information regarding variance and homogeneity statistics, along with the associated confidence intervals for each corrected mean. The mean (corrected) effect size across the 58 correlations is 0.26 (CI = 0.25–0.28). As the associated confidence interval does not include zero, I conclude that the mean effect size is statistically significant. However, in practical terms the average correlation reveals that, globally, less than 7 per cent of the variation in firm performance is associated with market orientation.

Table I. Summary of the meta-analysis results for market orientation

	<i>Cumulative N</i>	<i>k</i>	<i>Observed r</i>	<i>Corrected r</i>	<i>SE_r</i>	<i>95% CI</i>	<i>Q_(k-1)*</i>
Overall sample	14,586	58	0.255	0.263	0.009	0.246–0.280	141.0 ₍₅₇₎
USA	3,134	15	0.312	0.355	0.019	0.318–0.391	16.7 ₍₁₄₎
Western Europe ^a	3,730	17	0.251	0.246	0.017	0.213–0.280	38.5 ₍₁₆₎
Eastern Europe ^b	2,937	6	0.182	0.195	0.019	0.157–0.233	14.1 ₍₅₎
Asia ^c	2,869	13	0.233	0.261	0.019	0.223–0.300	27.1 ₍₁₂₎
Australasia	1,639	5	0.222	0.239	0.026	0.188–0.289	4.5 _{ns}
Other ^d	277	2	0.296	0.336	0.062	0.214–0.458	0.4 ₍₁₎

Notes:

* $(k - 1)$ refers to the degrees of freedom. All values are significant at $p < 0.05$ unless otherwise indicated.

^a Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Malta, Netherlands, Norway, Sweden, Spain, United Kingdom.

^b Hungary, Poland, Romania, Slovenia.

^c China, Hong Kong, India, Indonesia, Taiwan, Thailand.

^d Israel, Zimbabwe.

The Q -statistic (141.0) captures the extent of variance in the dispersion of effect sizes around the mean. In this case the Q -statistic exceeds the critical value of 75.6 for a chi-square with 57 degrees of freedom, leading to the rejection of the hypothesis of homogeneity at $\alpha = 0.05$. The variance in this sample of effect sizes is greater than would be expected from sampling error alone suggesting that other variables may be moderating the relationship. This notion is reinforced by an examination of the mean effect sizes reported for each geographic region. All of the correlations are positive and none of the confidence intervals include zero indicating that a true, positive link between market orientation and performance exists in all regions. However, the data show that effect sizes are significantly stronger in the USA ($r = 0.36$, $CI = 0.32$ – 0.39) than elsewhere, supporting Chan and Ellis's (1998) original observation. Other regional differences are also noteworthy. Effect sizes reported in Western Europe ($r = 0.25$, $CI = 0.21$ – 0.28) are somewhat higher than Eastern Europe ($r = 0.19$, $CI = 0.16$ – 0.23), whereas effect sizes in Asia ($r = 0.26$, $CI = 0.22$ – 0.30) and Australasia ($r = 0.24$, $CI = 0.19$ – 0.29) are broadly similar. With the exception of the Australasian data, the Q -statistics remain significant for all regions, prompting a further search for moderators.

Moderator Analysis

The variation in results across the different regions, combined with the significant Q -statistic for the overall sample, suggests that moderators influence the market orientation–performance relationship. Two sources of influence are commonly considered as moderators in meta-analyses, namely measurement factors and the research context (Brown et al., 1998). Specific measurement and contextual factors

are limited to those factors which can be coded from the extant studies and which also have some theoretical justification for consideration as moderators (Henard and Szymanski, 2001).

In the context of market orientation literature, potential moderators include the following *measurement factors*: the scale used to measure market orientation (i.e. MKTOR versus MARKOR), objective versus subjective performance assessments, and the scope of performance considered (e.g. business-level indicators versus market-specific indicators). *Contextual factors* include: the cultural setting of the study (e.g. East versus West, distance from the USA), the size of the firm's dominant market, and the level of development of that market. A brief justification for each of these factors is outlined in Table II.

To assess the influence of the hypothesized moderators, studies were divided into mutually exclusive groups on the basis of the underlying moderator (e.g. studies using MKTOR versus studies using MARKOR). The mean effect sizes and corresponding confidence intervals between groups were then compared. Total variance (Q) was also partitioned into a within groups (Q_W) and between groups (Q_B) component. A non-significant Q_W statistic indicates that the variability within each category is homogeneous; a statistically significant Q_B statistic indicates a significant between-groups effect (Lipsey and Wilson, 2001). For moderators scaled as continuous variables, the sample was initially split on the median scores for the purposes of comparing the effect sizes of high and low groups. The results of this analysis are presented in Table III.

Table III reports the portion of variance explained between (Q_B) and within (Q_W) the different moderator groups. The results show that the between-groups homogeneity statistics (Q_B) are significant in all but one case (performance scope). In short, the differences in mean effect size between the categories are substantive for six of the seven moderators, extending beyond what would be expected from sampling error alone. However, all of the within-groups statistics (Q_W) are significant indicating that even after partitioning into categories, considerable variation remains within the distribution of effect sizes. None of the proposed moderators in isolation can adequately account for all of the variance observed in the sample.

Measurement Moderators

Market orientation scale. Studies measuring market orientation using items inspired by Kohli et al.'s (1993) MARKOR scale returned significantly higher effect sizes ($r = 0.32$, CI = 0.29–0.36) than those inspired by Narver and Slater's (1990) MKTOR instrument ($r = 0.25$, CI = 0.23–0.27). These findings are similar to Oczkowski and Farrell's (1998) Australian study. In their study, Oczkowski and Farrell found the MKTOR instrument outperformed the MARKOR instrument in only two out of twelve performance comparisons. In nine cases the MARKOR

Table II. Justification behind the moderator variables

<i>Measurement factors</i>	<i>Contextual factors</i>
<p><i>Market orientation instrument</i></p> <p>The MKTOR instrument of Narver and Slater (1990) has a strong nomological link with customer value. In contrast, the MARKOR instrument of Kohli et al. (1993) is more narrowly defined in terms of intelligence gathering and disseminating activities, activities which may be less well linked with performance (Oczkowski and Farrell, 1998). Consequently, performance effects may be greater when market orientation is measured with MKTOR rather than MARKOR (e.g. Moorman and Rust 1999).</p>	<p><i>Host culture</i></p> <p>The two dominant market orientation instruments were designed and validated with the context of a US-business culture. Results from other settings (e.g. Greenley, 1995; Soehadi et al., 2001) suggest that these instruments may be culturally-bound. English is the lingua-franca of international business. Translating MARKOR and MKTOR into other languages may reduce the reliability of these instruments resulting in 'noisier' measures of market orientation and weaker correlations with performance.</p>
<p><i>Business-level versus market-specific performance</i></p> <p>Market orientation scales generally make no provision for the firm's activities in many diverse product-markets. Consequently, performance outcomes that are defined in terms of specific markets (e.g. new product success, market-share) may result in tighter correlations with market orientation than more global assessments defined at the level of the firm (e.g. ROA, total sales).</p>	<p><i>Market size</i></p> <p>Large home markets expose firms to potentially more sources of MO-enhancing intelligence (e.g. more diverse customers, greater competitive pressures, etc). In contrast, smaller markets often compel firms to export increasing the distance between the firm and its sources of market intelligence (Ellis, 2004).</p>
<p><i>Objective versus subjective performance data</i></p> <p>Subjective performance data reflect the imperfect information and biases inherent in judgmental assessments of any kind. In contrast, objective data are, by definition, accurate and bias-free. Consequently, reliance on subjective data may lead to dissimilar correlations with market orientation vis-à-vis objective data (Harris, 2001).</p>	<p><i>Economic development</i></p> <p>Mature economies are characterized by stable demand, intense competition, short channels and sophisticated buyers. In such settings, market oriented firms will perform better. However, a market orientation may be less valuable in a developing economy characterized by sellers' markets, uncertain demand, and rapid growth (Ellis, 2005). In conditions of strong demand, for example, 'an organization may be able to get away with a minimal amount of market orientation' (Kohli and Jaworski, 1990, p. 15).</p>

instrument made a superior explanatory contribution to regression models with various performance indicators as the dependent variables.

Objective versus subjective performance. Across the sample, market orientation was found to have a significantly stronger correlation with subjective performance ($r = 0.27$, $CI = 0.26-0.29$) than objective performance ($r = 0.22$, $CI = 0.18-0.26$).

Table III. Mean effect sizes and confidence intervals for moderator sub-groups

	<i>Cumulative N</i>	<i>k</i>	<i>Observed r</i>	<i>Corrected r</i>	<i>SE_r</i>	<i>95% CI</i>	<i>Q_{W(k-j)}^a</i>	<i>Q_{B(1-j)}^b</i>
<i>Measurement moderators</i>								
Scale	11,763	43	0.243	0.248	0.010	0.229–0.267	128.8 ₍₅₆₎	12.2 ₍₁₎
	2,823	15	0.288	0.325	0.020	0.286–0.363		
Performance scope	14,622	56	0.238	0.248	0.009	0.231–0.266	251 ₍₈₉₎	0.9 _(n.s.)
	10,071	35	0.263	0.262	0.011	0.240–0.283		
Performance measure	2,929	16	0.210	0.218	0.020	0.178–0.257	175.8 ₍₈₉₎	76.1 ₍₁₎
	13,608	51	0.268	0.275	0.009	0.257–0.293		
<i>Contextual moderators</i>								
Culture	8,503	37	0.272	0.285	0.011	0.262–0.307	129 ₍₅₆₎	12 ₍₁₎
	5,806	19	0.217	0.228	0.014	0.201–0.255		
Cultural distance from	7,468	28	0.278	0.286	0.012	0.262–0.309	131.2 ₍₅₅₎	9.8 ₍₁₎
USA	6,942	29	0.230	0.236	0.013	0.212–0.261		
Market size	8,585	29	0.218	0.222	0.011	0.200–0.244	108.9 ₍₅₆₎	32.1 ₍₁₎
	6,001	29	0.292	0.322	0.013	0.295–0.348		
Economic development	8,197	28	0.225	0.228	0.012	0.206–0.251	120.2 ₍₅₆₎	20.8 ₍₁₎
	6,389	30	0.283	0.308	0.013	0.282–0.333		

Notes:

^a *Q_{W(k-j)}* refers to the residual pooled within-groups share of the variance with $(k-j)$ degrees of freedom, where k and j denote the number of effect sizes and categories respectively.

^b *Q_{B(1-j)}* refers to the residual variance between-groups with $(1-j)$ degrees of freedom.

All values are significant at $p < 0.05$ unless otherwise indicated.

These findings by no means challenge the widely-shared view that subjective and objective performance indicators are related (e.g. Agarwal et al., 2003; Cravens and Guilding, 2000; Han et al., 1998; Pelham and Wilson, 1996). Rather, they reinforce Harris's (2001) conclusion that studies based on different performance assessments do not produce identical findings. As the meta-analytic evidence shows, studies based on subjective assessments return stronger effects than studies based on objective performance data.

Business-level versus market-specific performance. The overlapping confidence intervals associated with the weighted mean effect sizes for business-level and market-specific performance indicate that there is no significant difference between the two measures of performance. Market orientation has a similar effect on performance whether measured at the business-level ($r = 0.25$, CI = 0.23–0.27) or in terms of market-specific indicators ($r = 0.26$, CI = 0.24–0.28). This conclusion adds support to Homburg and Pflesser's (2000) finding that market orientation affects both market- and financial-measures of performance.

Contextual Moderators

Cultural distance. Extant research was divided into two camps on the basis of country of origin. The first camp contained research conducted in the Western hemisphere (i.e. North America, Australasia and Western Europe); the second camp contained research conducted in the Eastern hemisphere (i.e. South and East Asia and Eastern Europe). Effect sizes for research originating in the West ($r = 0.28$, CI = 0.26–0.31) were found to be significantly higher than for research originating in the East ($r = 0.23$, CI = 0.20–0.26).

These cultural differences are maintained when defined in terms of cultural distance from the United States. Studies set in countries broadly similar to the USA (i.e. low cultural distance) returned significantly stronger results ($r = 0.29$, CI = 0.26–0.31) than studies set in more culturally distant countries ($r = 0.24$, CI = 0.21–0.26). Taken together, both findings reveal that market orientation has a significantly stronger impact on performance in the West than in the more culturally distant nations of Asia and Eastern Europe. This original finding demonstrates how meta-analyses are useful for revealing contingency effects that would go unnoticed in single-setting studies. However, comparative research is now needed to explore the reasons behind the cultural effects identified here.

Market size. Does the size of the home market amplify the market orientation–performance relationship? Comparing the mean effect sizes from studies set in small and large economies reveals that market size exerts a strong and significant moderating effect. Effect sizes in large markets ($r = 0.32$, CI = 0.29–0.35) were found to be larger than effect sizes in small markets ($r = 0.22$, CI = 0.20–0.24).

Indeed, the difference between these two groups of studies was greater than any other moderator group suggesting that market size is among the most prominent sources of variation influencing cross-national effect sizes.

Economic development. Finally, a moderating role for economic development was also observed. Specifically, the market orientation–performance link was found to be significantly stronger for studies set in mature markets ($r = 0.31$, $CI = 0.28–0.33$) than for studies set in developing economies ($r = 0.23$, $CI = 0.21–0.25$). Insofar as economic development is a loose proxy for other, known, moderators, these results broadly confirm the view that as economies mature (i.e. market turbulence diminishes and competitive intensity increases), the performance effects of a market orientation become more salient (Ellis, 2005; Harris, 2001; Homburg and Pflesser, 2000).

Weighted least squares regression. As three of the moderators were continuous in nature (cultural distance, market size and economic development), a weighted least squares regression equation was estimated for each to further assess their relationship with the sample of effect sizes. In each equation the predictor variable was regressed on the corrected effect size with the inverse variance weight set as the weight variable (Lipsey and Wilson, 2001). The models associated with cultural distance (F -value = 9.36, $p < 0.01$), market size (F -value = 10.43, $p < 0.01$) and economic development (F -value = 7.78, $p < 0.01$) were all found to be statistically significant indicating that these contextual factors moderate the market orientation–performance relationship. The cultural distance model had an R^2 of 0.14 and the β coefficient was negative indicating that the market orientation–performance relationship weakens with increasing distance from the USA. The market size and economic development models both had positive β coefficients and returned R^2 values of 0.16 and 0.12 respectively. These findings indicate that cultural distance, market size and economic development explain between 12 and 16 per cent of the variation observed in effect sizes across studies.

DISCUSSION

This study presents quantitative evidence verifying the universal nature of the link between market orientation and performance. The idea that firms can boost their performance by fostering a culture that responds to changing customer needs with solutions that are superior to rivals, is demonstrably generic. In any given setting, rewards will accrue to those companies that are more market oriented than their rivals. However, the strength of the link between market orientation and performance was found to be significantly affected by a number of methodological and contextual factors. This study thus extends previous research by: (1) providing evidence of measurement moderators that inhibit the generalization of results

obtained from studies using different scales and performance variables; (2) establishing benchmark effect sizes for specific regions around the world (Farley et al., 1995); and (3) revealing that although market orientation is universally important, its value to the firm is significantly affected by the cultural and economic characteristics of the host country. These findings suggest a number of potentially fruitful avenues for theory development and the design of new studies.

In general, the results suggest that further research into the market orientation–performance relationship is warranted and particularly within those geographic regions that have been under-represented in past studies. In this survey the best-represented country was the USA with fifteen separate effect sizes identified. Further replicative research in this country will possibly offer only diminishing returns. In contrast, only one study was identified for all of Africa and no effect sizes were obtained from Latin America. Countries in South and Central Asia were also under-represented with no studies identified from this region outside of India. Given the inverse correlation between effect size and the cultural distance separating a study's setting from the USA ($r = -0.38$), additional research in these areas would no doubt broaden our understanding of the culturally-moderated effects of market orientation. Specifically, do these results reflect measurement issues (e.g. the scales rely heavily on terminology invented in the USA), value differences, or other factors?

The issue of how culture affects the adoption of the marketing concept has been the subject of some debate (Birgelen et al., 2002; Deshpande et al., 2000; Nakata and Sivakumar, 2001; Redding, 1982). While it is generally agreed that cultures can be distinguished in terms of work goals, values, and job attitudes (Ronen and Shenkar, 1985), it is less clear how these differences affect firms' ability to be market oriented. Drawing on Hofstede's (1980) cultural dimensions, Nakata and Sivakumar (2001) provide an extensive list of propositions cataloguing how values associated with both Western and Eastern societies affect the interpretation of the marketing concept, its adoption and implementation. Their premise is that cultural values often have contradictory effects. The generation, dissemination and utilization of market intelligence, for example, is thought to be positively related to both extreme levels of masculinity and femininity. (Masculine societies value achievement and competition, suggesting a link with market oriented strategies that are grounded in comparative performance assessments. Feminine societies emphasize cooperation resulting in greater openness towards and sharing of market intelligence within the market oriented company.) This leads Nakata and Sivakumar (2001, p. 270) to conclude that 'no national culture is innately superior or inferior in materializing all aspects of the marketing concept'. While this may be so, the results of the meta-analysis reveal that Western firms in general, and American firms in particular, enjoy tighter links between market orientation and performance, when market orientation is measured using the MARKOR and MKTOR instruments. These results support

some of Nakata and Sivakumar's (2001) propositions (e.g. those linking the traditionally Western values of individualism and low power distance with the generation and dissemination of market intelligence respectively), but certainly not all of them.

The implication for multinational firms is that in this age of global markets, national cultural characteristics remain significant shapers of consumer behaviour. This means that local practices and attitudes relating to selling, after-sales service, management, design and competition still need to be accommodated when implementing market oriented strategies (Birgelen et al., 2002; Redding, 1982). This conclusion seems at odds with the emphasis given in the popular press to the forces of globalization. But the effects of local culture on market orientation remains a relatively under-studied topic worthy of closer attention.

The findings of this meta-analysis also highlight the need to give attention to the power-implications of alternative research designs. In short, studies set in small, developing countries that aim to assess the effects of market orientation on objective measures of performance, will require significantly greater statistical power than studies set in large Western economies aiming to measure the effects of market orientation on subjective performance. This implies either the design of larger samples or the relaxation of significance levels (Sawyer and Ball, 1981). Even where non-statistically significant results are obtained, observed correlations still have practical significance from a meta-analytic point of view and should be reported.

The market orientation link with performance was found to be positively influenced by both the size ($r = 0.40$) and level of economic development ($r = 0.35$) of the domestic economy. This original finding has a number of implications for scholars working in small, developing nations. First, to what extent are firms in small economies hampered in their attempts to cultivate a market orientation? Social network theorists suggest that any innovation, such as the adoption of market oriented behaviours, will be shaped by the scope and reach of one's interpersonal network (Burt, 2000). Small, sparse networks offer fewer stimuli resulting in fewer innovative behaviours. Larger markets mean many and diverse customers amplifying both the sources of market intelligence and the chances that the market oriented firm will perceive and act upon such intelligence. Firms in small markets lack this opportunity and may be compelled to export as a means of expanding the market. Yet exporting implies a greater cultural, geographic, and temporal distance separating the firm from its customers raising the costs of acquiring market intelligence and implementing timely responses (Ellis, 2004; Gauzente, 2001). Consequently, it may be more costly for exporters in small economies to develop a market orientation than non-exporters in larger markets.

Second, why does a given level of market orientation provide fewer benefits to firms in small versus large economies? One possible explanation is that small-economy firms are more likely to be active in many markets and this activity will

introduce additional strategic performance-influencing variables into the equation (e.g. currency fluctuations, longer channels, etc). In contrast, non-exporters domiciled in large markets may benefit from tighter linkages between their market orientated activities and the results of those activities.

Finally, if market orientation effects are correlated with economic development, how much incentive is there for firms in developing economies to pursue a market orientation? Developing economies are typically characterized by rapid growth, the presence of sellers' markets and strong demand, in short, conditions in which firms may be able to 'get away with' a minimal amount of market orientation (Kohli and Jaworski, 1990, p. 15). This situation is reversed in more advanced economies where the existence of buyer's markets, stable growth and intense competition, rewards those firms that are more oriented towards market needs than rivals. All this seems to suggest that managers in Africa, South America and Central Asia will be better off investing their resources in other performance-enhancing activities; the returns from being market oriented may be very limited. Supporting this claim is evidence from Russia (Golden et al., 1995), Hungary (Hooley and Beracs, 1997), Ukraine (Akimova, 2000) and elsewhere that shows that developing country firms can reap the benefits of marketing without necessarily being market oriented. For firms in developing countries, performance may be more closely tied to the firm's management of the marketing mix, the usefulness of its market research, the appropriateness of its positioning strategies, and the nature of its marketing goals (e.g. Fahy et al., 2000; Galbraith and Holton, 1955; Huszagh et al., 1992; Marcus, 1959; Shama, 1992). In other words, in settings characterized by strong demand and ill-defined market boundaries, an orientation towards *markets* may offer fewer rewards than a concern for superior *marketing* (Ellis, 2005).

In conclusion, the results of this meta-analysis reveal that the positive relationship between market orientation and performance is moderated by measurement and contextual factors. Like a map, this survey provides a synthesis of what is known about market orientation and reveals a number of geographic, conceptual and methodological areas which remain relatively unexplored. The next step is for scholars to develop theory explaining the various moderator effects revealed here. In terms of the contextual moderators (cultural distance from the USA, market size, and economic development), a number of research questions and tentative hypotheses have been put forward. As such, this meta-analysis is not an end in itself, but a guide for future researchers.

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