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Archetypes of marketing mix standardization-adaptation in MNC subsidiaries

Fit and equifinality as complementary explanations of performance

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Abstract

Purpose – This paper aims to identify the archetypes of marketing mix standardization-adaptation in MNC subsidiaries and to examine the relationships between MNC subsidiary strategy, environment and performance through the theoretical lenses of fit and equifinality.

Design/methodology/approach – The authors use a mail survey to collect data from MNC subsidiary business units located in multiple countries. They apply a novel archetypal analysis method to identify the diverse archetypes of marketing mix standardization-adaptation in MNC subsidiaries. Finally, through cross-tabulation and regression analysis, they examine the relationships between MNC strategy, environment and performance.

Findings – They identify four archetypes of MNC subsidiary standardization-adaptation including a new archetype that is not recognized in the literature. This analysis finds partial support for both fit and equifinality, suggesting complementarity between the two theories.

Research limitations/implications – The study could be extended with longitudinal data to examine the dynamics in MNC marketing mix strategy and performance in response to the changing business environment.

Practical implications – The findings suggest that MNC subsidiary managers could deploy a broader set of international marketing strategy configurations than those currently prescribed to enhance performance.

Originality/value – The authors use a novel configuration-based archetypal analysis method and extend the theoretical typology of international marketing strategies pursued by MNC subsidiaries. The partial support for both fit and equifinality expands the theoretical lens through which we can examine the relationships between MNC marketing strategy, environment and performance.

Keywords Contingency theory, Archetypal analysis, Fit-equifinality, Integration-responsiveness, MNC subsidiary performance

Paper type Research paper

Introduction

"Is the world flat or curved" is a hotly debated issue in corporate boardrooms and at management conferences around the globe (Friedman, 2005; Ghemawat, 2017; Jullens, 2013).

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If the world is "flat", firms can apply the same strategy globally, simplifying their operations and reducing costs. If "curved", they must adapt strategy to the demands of local environments, creating complexity in operations and increasing their costs. Within the marketing function, the issue is typically framed as the degree to which a firm should standardize its marketing mix globally or adapt it to the local environment. Alternatively, the world might be "spiky" – combining features of both flat and curved worlds. In a spiky world, firms would use a *hybrid* strategy wherein some elements of the marketing mix are standardized and others adapted.

Evidently, firms find different ways to address this issue, depending on whether they consider their world flat, curved or spikey. In the food industry, for example, Nestlé sells largely standardized Nespresso coffee machines and capsules worldwide, while PepsiCo has developed a new spicy snack food called "Kurkure" specifically for the Indian market. In the mobile phone industry, Apple sells standardized devices worldwide, whereas Samsung markets a range of models with different specifications to suit consumers in various countries.

Notwithstanding the different strategies that firms pursue even within the same industry, often it does not make much difference to their relative performance. In other words, firms show equifinality, that is, they achieve superior performance even though the strategies they pursue do not, in theory, fit their business environment (Agic *et al.*, 2016). This is at odds with the contingency theory of organizations, which holds that a firm's strategy must fit the contingencies of its business environment, and that firms with a good fit outperform those that do not (Donaldson, 2001; Pekovic and Rolland, 2016). Consistent with this, the well-known integration-responsiveness (hereafter, IR) framework in international marketing proposes that certain strategies fit certain environments better than others (Prahalad and Doz, 1987), and, moreover, that firms which pursue strategies that fit market environment contingencies perform better than those that do not. Thus, a firm following a globally standardized strategy in markets with high global integration pressures would imply a good fit resulting in high performance, whereas one pursuing an adaptation strategy in the same environment would be a misfit and result in low performance. The alternative equifinality theory would suggest an adaptation strategy as a feasible option in an environment with high global integration pressures, resulting in a very different performance outcome. As the equifinality phenomenon is often observed in practice, but rarely explored in research, especially in the international marketing literature where the fit paradigm prevails, our paper aims to fill this gap in international marketing theory.

A core issue for both IB decision makers and scholars is (1) Does contingent fit or equifinality provide a better explanation of the performance of multinational companies (MNCs) across the many markets in which they operate? Note that here, MNC refers to a specific business unit rather than the firm as a whole, consistent with the original business-unit level IR framework of Prahalad and Doz (1987). This issue is still important to today's decision-makers because the global economy, the firms within it and the strategies they use constantly evolve in response to societal, technological and competitive trends. Decision makers need to continually reassess their marketing strategy; hence, better frameworks for doing so are potentially of benefit to them. Similarly, it matters to marketing scholars because it raises two related issues that are interwoven with our ability to address the core issue. (2) Does the existing marketing strategy typology adequately capture the various standardization-adaptation configurations that firms deploy in global markets? – because if not, it is difficult to assess the issues of fit versus equifinality with any confidence. And, (3) How should we conceptualize and model these strategies – using the standard covariational approaches

or the newer configurational approaches? Standard approaches engender a "one variable at a time" perspective, whereas configurational methods recognize that firm strategy is often woven across many distinct but interlocking elements.

Our first objective therefore is to re-examine contingency fit theory vs equifinality in explaining the performance of multinational firms. Given the prevailing view that fit leads to higher performance, there is a need to expand our theoretical lens to improve our understanding of the relationships between MNC environment, strategy and performance. However, we question whether current frameworks adequately capture the diversity of marketing strategy configurations deployed by MNCs in their global operations.

Our second objective is thus to develop a more comprehensive theoretical typology of the various marketing mix standardization-adaptation configurations that MNCs employ around the world. The idea that firms may standardize some elements of their marketing mix while adapting others has been implicit in the literature from the time of Buzzell (1968) but in our view has not been fully developed. Hybrids would seem to be appropriate for many firms, especially where the economics of production and customer response vary across the elements of the marketing mix. For example, Douglas and Wind (1987) identify the possibility of hybrids more explicitly but do not specify which hybrids exist. Bartlett and Ghoshal (1989) specify one hybrid but from a relatively small sample of firms, hence it is difficult to know how common it is. To arrive at a broader typology, we need an approach that not only identifies which hybrids exist, but their relative frequency compared with the pure forms.

Hence, our third objective is to conceptualize and model marketing mix standardization-adaptation strategy using a novel configurational approach. Existing studies examine marketing mix variables either: Individually and separately from one another (Cavusgil and Zou, 1994; Chung, 2009); or Collectively and interdependently as a single overall construct, e.g., "standardization-adaptation" (Zou and Cavusgil, 2002; Katsikeas *et al.*, 2006). We believe representing marketing strategies as configurations of marketing mix elements is more appropriate especially for identifying strategies not formally recognized in the literature. The idea of "configuration as strategy" has been integral to the corporate strategy literature for some time (Miller, 1996), but has rarely been applied in international marketing. Vorhies and Morgan (2003) introduced the idea to the marketing literature but focus on one domestic market. To our knowledge, only Lim *et al.* (2006) and Homburg *et al.* (2012) apply it to international marketing, and Agic *et al.* (2016) to strategic marketing.

We extend the work of these authors with broader coverage of the marketing mix elements and using a novel archetypal analysis (hereafter, AA) approach to identify the different marketing mix standardization-adaptation configurations that MNCs deploy in their subsidiaries around the world. Since organizations are large, complex, open systems (Katz and Kahn, 1978), and "Many systems problems concern structural or topologic properties of systems, rather than quantitative relations" (Bertalanffy, 1968, p. 21), we believe AA is better suited to our purpose, primarily because it uses the topology of the multivariate data to identify sharp, distinct, meaningful configurations (Elder and Pinnel, 2003). Indeed, AA is increasingly applied in the physical and social sciences, including a recent application in cross-cultural research (Venaik and Midgley, 2015).

Our paper makes three key contributions to international marketing theory and method. First, we advance the contingency fit theory of integration-responsiveness in international marketing by formally incorporating the phenomena of equifinality. For example, our

search for the term "equifinality" in twelve selected strategic management and marketing journals identified 231 articles. As shown in Table I, whereas the equifinality concept is applied extensively in management research, it is relatively rare in the marketing literature.

We next explored the key equifinality related themes in twelve recent articles, one each from the twelve journals in Table I. As shown in Table II, the equifinality concept is used to explain a wide range of phenomena, including, for example, managerial decision-making (Poulis and Poulis, 2016), investor perceptions of mergers and acquisitions (Campbell *et al.*, 2016), organization design (Lee *et al.*, 2015; Siggelkow and Rivkin, 2009), online purchase intentions (Pappas, 2018), national institutional systems and economic outcomes (Hotho, 2014; Judge *et al.*, 2014), marketing strategy, structure and performance (Olson *et al.*, 2005), organizational change (Judge *et al.*, 2015), corporate social responsibility and governance mechanisms (Oh *et al.*, 2018), organizational commitment (Solinger *et al.*, 2013) and dynamic capabilities (Peteraf and Bergen, 2003). However, as far as we are aware, the international marketing literature continues to focus on the fit paradigm underlying the IR framework, and does not explore the alternative equifinality viewpoint that is increasingly embraced in other fields, as illustrated above. Our paper contributes to international marketing theory by examining how fit and equifinality are enacted by MNC marketing managers as they configure the marketing mix standardization-adaptation in their subsidiaries around the globe.

Viewing the large, complex, open systems of MNCs through multiple polychromatic lenses of fit and equifinality (rather than a single monochromatic lens of fit) provides a more comprehensive perspective on the diverse strategy configurations that MNCs deploy in global markets with equal effectiveness. Specifically, whereas 29 per cent of our sample of 216 subsidiaries shows environment-strategy fit, 71 per cent supports equifinality, which would reflect a strategy-environment misfit if viewed through the lens of the IR framework. In addition, a nearly equal proportion of both fit and misfit cases (as defined within the IR framework) show high performance, supporting both contingency fit and equifinality theories.

Second, we extend the typology of international marketing configurations and identify a new and common hybrid configuration not formally recognized in the literature. We also establish the relative frequency of marketing mix standardization-adaptation configurations among MNC subsidiaries: 61 per cent of our sample pursues configurations of standardization (23 per cent) or adaptation (38 per cent), and 39 per cent pursues hybrid

Journal	No. of articles
Academy of Management Journal	38
Academy of Management Review	43
Administrative Science Quarterly	4
European Journal of Marketing	10
Journal of the Academy of Marketing Science	4
Journal of International Business Studies	18
Journal of Marketing	3
Journal of Management Studies	20
Journal of Management	27
Organization Science	31
Organization Studies	22
Strategic Management Journal	11
Total	*231*

Table I. Equifinality" in selected journals

Journal	Author(s)	Year	Equifinality theme in the paper
Academy of Management Journal	Poulis/ Poulis	2016	". . . when the goal is as broad as survival, enactive agency sprung from reflexive deliberation can help us achieve goals in multiple, *equifinal* ways, which undermine the predictive validity of the matching contingency approach (cf. Gresov and Drazin, 1997) by being reasonably misaligned" (p. 511)
Academy of Management Review	Campbell *et al.*	2016	"Our results provide compelling evidence that investor perceptions of M&A announcements are not only configurational in nature but also characterized by *equifinality* (or the presence of multiple paths to success)" (p. 163)
Administrative Science Quarterly	Siggelkow/ Rivkin	2009	". . . if there is widespread *equifinality* . . . such that many different organizational designs or attributes of top management teams produce the same levels of performance, then it becomes hard to specify what design or team composition maximizes performance" (p. 604)
European Journal of Marketing	Pappas	2018	"(complexity theory and configuration theory) build on the principle of *equifinality,* which suggests that multiple complex configurations of the same conditions can explain the same outcome" (p. 1680)
Journal of the Academy of Marketing Science	Lee *et al.*	2015	"Contrary to contingency theory, configuration theory allows for nonlinear relationships between different attributes, including elements of organizational design, and accommodates *equifinality*, meaning that the theory explicitly acknowledges that different configurations can lead to similar outcomes" (p. 79)
Journal of International Business Studies	Judge *et al.*	2014	"This finding regarding the *equifinality* of national institutional systems and their associated economic outcomes has important implications for the theories and methods utilized by IB scholars" (p. 382)
Journal of Marketing	Olson *et al.*	2005	"The concept of *equifinality* holds that superior organizational performance can be achieved through a variety of different strategies" (p. 50)
Journal of Management Studies	Judge *et al.*	2015	"Our results suggest that the antecedents of organizational capacity for change in entrepreneurial threshold firms are non-linear, interdependent, and *equifinal*" (p. 506)
Journal of Management	Oh *et al.*	2018	". . . our findings indicate the notion of *equifinality* that a similar level of CSR can be achieved with different combinations of governance mechanisms" (p. 2736)
Organization Science	Solinger *et al.*	2013	"*Equifinality* is a common systems theory principle, stating that similar end states can be achieved with different initial conditions and in many different ways. Our data, for instance, have revealed that the Learning to Love and High-Match scenarios might converge on a common high level of OC (organizational commitment)" (p. 1654)
Organization Studies	Hotho	2014	"This finding . . . demonstrates *equifinality* in specialization outcomes. In other words, the outcome suggests that different institutional complementarities may produce similar comparative institutional advantages" (p. 692)
Strategic Management Journal	Peteraf/ Bergen	2003	". . . dynamic capabilities are *equifinal* such that firms can develop these capabilities from many starting points and along different paths" (p. 1116)

Table II.
Summary of selected equifinality literature in management and marketing

configurations including 24 per cent that follow the new hybrid configuration uncovered by our research. Our third contribution is methodological: our novel AA is a useful additional tool to study strategy configurations based on the topography of the data. AA provides a small number of archetypal profiles that summarize complex configurations in a parsimonious and meaningful way.

The remainder of the paper is organized as follows. In the next section, we review and integrate the theories of fit and equifinality into a comprehensive metatheory. Next, we present our baseline hypothesis regarding different marketing mix standardization-adaptation configurations that we expect to find in our sample. Applying the logic of contingency fit and equifinality theories in the IR framework, we form hypotheses about the relationships between business environment, marketing strategy configuration and subsidiary performance. A discussion of our methodology follows, including an explanation of archetypal analysis. After presenting our results, we discuss the implications of our findings for scholars and managers, identify limitations that could be overcome in future research, and conclude with the contributions of our work.

Theory of fit and equifinality

Theory of fit

The development and application of the principles of fit are part of a long-standing tradition in management literature. Evolving from organizational theories that focused on "*the one best way to organize in all situations*" (Lawrence and Lorsch, 1967, p. 3, italics original), the contingency theory of fit explicitly recognizes the diversity of business environments and the need for different strategy configurations to achieve superior performance. According to Donaldson (2001, p. 7), the "fit-performance relationship is the heart of the contingency theory paradigm". In other words, firms that have a good strategic fit with their environment outperform those that do not have a good fit (Burns and Stalker, 1961; Chandler, 1962). Miles and Snow (1978) and Mintzberg (1979) expanded the concept of fit by incorporating a broader set of environmental and organizational variables that are jointly orchestrated to form a cohesive pattern.

With the growing significance of MNCs, Stopford and Wells (1972) extended the concept of fit to the international management domain with the well-known stages model of organization. Later, drawing on the integration-differentiation dimensions of Lawrence and Lorsch (1967), Prahalad and Doz (1987) and Bartlett and Ghoshal (1989) introduced the IR framework, which comprehensively captures the global business environment contingencies that drive MNC strategy and ultimately performance. Venkatraman (1989) organized the concept of fit into six broad categories. Three of these are criterion-free, namely, fit as matching, covariation and gestalts. The other three explicitly incorporate a criterion variable: fit as moderation, mediation, and profile deviation. Thus the concept of fit operates at two levels: direct fit, for example, how a particular strategy is most appropriate in a given business environment; and contingent fit, that is, how the fit between strategy and environment results in superior outcome such as performance.

Notwithstanding the popularity of the fit concept, it is clear that the idea of fit may be too rigid. For example, Child (1972) argues for the role of strategic choice that shapes the dynamic interchange between the firm and its environment. Miles *et al.* (1978, p. 547) observe that "for most organizations, the dynamic process of adjusting to environmental change and uncertainty – of *maintaining an effective alignment with the environment while managing internal interdependencies* – is enormously complex." (Italics original.) According to Schreyogg (1980), the inherent economic determinism and disregard for functionally equivalent alternatives underlying the contingency theory are misleading. Contingency

theory also suffers from tautological reasoning, with fit resulting in effectiveness, and conversely, effectiveness implying fit, and thus logically ignores equifinality (Schreyogg, 1982). We believe the theory of equifinality offers an alternative, complementary explanation for effective environment-strategy configurations that are often seen in practice but deemed inconsistent with the contingent fit paradigm underlying the IR framework.

Theory of equifinality

In developing general systems theory, Bertalanffy (1968) identified two types of systems: open and closed. Systems here refer to "sets of elements standing in interaction" (Bertalanffy, 1968, p. 38). For example, the MNC system comprises various national subsidiaries, diverse business/product divisions, and different functional departments such as marketing, finance, etc. interacting with one another to deliver products/services to the market. According to Bertalanffy (1968, p. 40):

> In any closed system, the final state is unequivocally determined by the initial conditions [. . .] If either the initial conditions or the process is altered, the final state will also be altered.

The theory of fit implicitly regards firms as closed systems since it postulates, for example, that a particular strategy is appropriate for a specific business environment, and that environment-strategy fit results in superior performance.

In contrast, in open systems, there is equifinality, i.e. "the same final state may be reached from different initial conditions and in different ways." (Bertalanffy, 1968, p. 40). Many phenomena in the real world can be thought of as open systems and are studied as such across diverse disciplines such as biology, psychology, economics and management:

> Every living organism is essentially an open system. It maintains itself in a continuous inflow and outflow [. . .] never being [. . .] in equilibrium but maintained in a so-called steady state. . . (Bertalanffy, 1968, p. 39).

Katz and Kahn (1978, p. 20) extend the notion of open systems to firms, pointing to the constant inflow and outflow of physical, human and financial resources as firms transact with multiple entities including suppliers and customers. The idea of open systems has also been applied to open innovation, both in theory and practice (Gassmann *et al.*, 2010). A large number of firms engage in open innovation to accelerate innovation speed and reduce the time lag between the laboratory and the real world. Different companies may have different approaches to open innovation, with partners ranging from suppliers to customers, which may result in the same outcome (low or high innovation). Conversely, firms may take the same approach to open innovation, but (for a variety of reasons) end up with different successful and unsuccessful innovation outcomes.

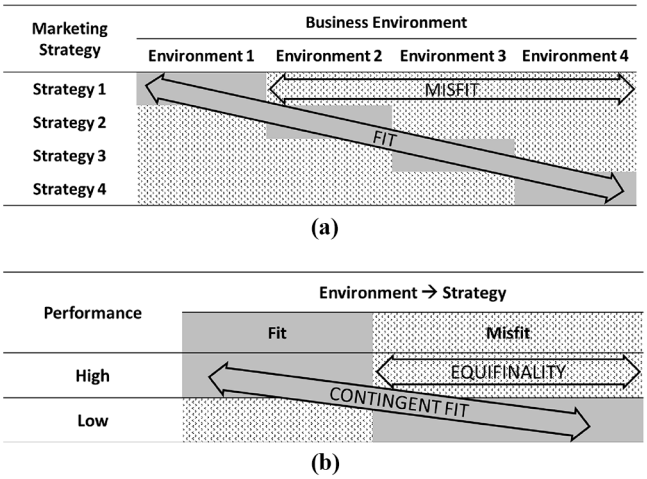
Multinational firms in particular are large, complex open systems because of the diversity of their products, markets, customers, competitors and the countries in which they conduct operations. Given the large number of potential contingencies that affect decision-making in MNCs, it is plausible that neither the traditional model of "one best way" nor the contingency model of "one fit way" adequately captures the complexities in MNC operations. Each firm will develop its own idiosyncratic "fit" based on its unique external and internal contingencies, resources and capabilities. For example, firms may be at different stages of growth and development trajectory, based on their age and experience in a specific market and industry. They may take different development paths driven by their history and the opportunities that are available or accessible. Perhaps, in recognition of this, "the concept of equifinality has become increasingly important to researchers interested in organizational structure, strategy, and design". (Gresov and Drazin, 1997).

Gresov and Drazin (1997) divide equifinal solutions into four types, based on the two dimensions of latitude of structural options (constrained vs unconstrained), and the degree of conflict in functional demands (low vs high). The four are: ideal profiles, suboptimal equifinality, tradeoff equifinality and configurational equifinality. Ideal profile arises when a firm faces a single functional demand that it can satisfy with one or a limited set of options. Suboptimal equifinality ensues when a firm faces multiple, conflicting demands that have to be satisfied with a single or a limited set of options. Conversely, tradeoff equifinality occurs when a firm faces a single functional demand but many alternatives are available to satisfy the demand. Finally, configurational equifinality occurs in situations when a firm is confronted with multiple, conflicting demands but also has multiple options to fulfil those demands; in which case, it can create multiple designs that are equally effective.

Our study of marketing mix standardization-adaptation configurations followed by MNC subsidiaries in diverse business environments falls within the realm of configurational equifinality. As noted in the introduction, firms operating in similar product markets perform equally well despite using different standardization-adaptation configurations (for example, Apple versus Samsung). Conversely, firms operating in different product-markets often succeed by pursuing similar standardization-adaptation configurations (for example, Nespresso coffee and Apple iphone). Our study therefore critically examines the notions of fit, misfit and equifinality within the IR framework, and its implications for subsidiary performance (Doty *et al.*, 1993).

Integrating fit and equifinality

Figure 1 summarizes and illustrates the concepts of fit and equifinality discussed here. Figure 1(a) shows four hypothetical business environments confronted by MNC subsidiaries (environments 1 to 4 in columns), and four hypothetical strategies that firms may pursue in response to these environments (Strategies 1 to 4 in rows). According to the fit theory, one best strategy fits each environment, represented by the diagonal arrow in Figure 1(a). For



Notes: (a) Environment-strategy configurations: fit and misfit; (b) contingent fit and equifinality in performance

Figure 1.
Theory of fit and equifinality

example, Strategy 1 is the best fit for environment 1, Strategy 2 for environment 2, etc. In addition, the contingent fit theory posits that firms that pursue the theoretical fit strategies outperform those that follow the misfit strategies. For example, as shown in Figure 1(b), the diagonal arrow represents the contingent fit theory wherein firms with strategies that fit the respective environments have high performance, while "misfit" firms that pursue strategies that do not fit their environment have low performance. We emphasize that although the terms "fit" and "misfit" may have different generic meanings as suitable/unsuitable respectively, they have precise connotations within the IR framework. Fit strategies are those that conform to the prescriptions laid out in the IR framework in terms of alignment with a specific business environment, whereas misfit strategies are those that do not follow this prescription.

In contrast, the equifinality theory posits that firms may also pursue theoretical misfit strategies, as represented by the off-diagonal elements in Figure 1(a). For example, Strategy 1 that is regarded as a misfit in environments 2 to 4 as per the fit theory may also be viable as per the equifinality theory. Furthermore, equifinality theory suggests that firms that pursue so-called theoretical "misfit" strategies can also be high performers. For example, as shown in Figure 1(b), a firm in the off-diagonal cell pursuing a theoretical "misfit" strategy can have high performance, just as a firm pursuing a theoretical "fit" strategy can have low performance. It is worth nothing here that current theoretical models of fit in international marketing (e.g. the IR framework) incorporate a limited set of contingencies, but in practice, MNCs operate in a complex, dynamic and uncertain world, and are confronted with a large number of contingencies that may be difficult to anticipate, measure and test both theoretically and empirically.

The concepts of fit and equifinality are sometimes confounded in the academic literature (Campbell *et al.*, 2016; Lee *et al.*, 2015), but there are notable differences, as illustrated by the examples above. Fit and equifinality operate at two distinct levels. At the level of firm strategy, the concept of fit implies that firms deploy different "fit" strategies under different environmental conditions, whereas equifinality implies that a particular strategy could potentially be deployed under different environmental conditions with equal effectiveness. At the second level of performance resulting from strategy-environment fit or misfit, the theory of fit suggests that firms with fit strategies have higher performance, whereas, equifinality implies that firms can achieve superior performance under conditions of both theoretical fit and misfit as prescribed in the IR framework. Thus, the equifinality theory is much broader in scope than the concept of fit. The notion of equifinality is consistent with the idea of "multiple equilibria" in institutional economics (North, 2005, p. 62), as "there is a continuum of theories that agents can hold and act upon without ever encountering events which lead them to change their theories" (Hahn, 1987, p. 324). In the next section, we use these theoretical insights to develop our hypotheses regarding fit and equifinal relationships between environment, strategy and performance in MNC subsidiaries.

Development of hypotheses

We first present our baseline hypothesis regarding the marketing strategy configurations that MNCs pursue in their worldwide operations. Next, we develop hypotheses about the relationships between environment, marketing strategy configurations and performance using both the fit theory underpinning the IR framework and the concept of equifinality.

Marketing strategy configurations in MNC subsidiaries

One of the core marketing strategy decisions in MNCs is the degree to which the various elements of the marketing mix should be standardized or adapted, an issue that has engaged marketing scholars and practitioners since Buzzell (1968). The debate essentially focusses on the relative advantages and disadvantages of standardizing or adapting the marketing mix, and the significant product, market and institutional barriers to standardization. Taking a more nuanced view, Douglas and Wind (1987) propose that standardization-adaptation logically follows one of three configurations depending on the circumstances of the firm:

(1) all elements of the marketing mix are standardized;

(2) all elements are adapted; and

(3) some elements are standardized and others adapted.

We refer to these three configurations as *pure standardization*, *pure adaptation* and *hybrid strategies* respectively. While Douglas and Wind give no indication of which hybrid configurations firms might use, Bartlett and Ghoshal (1989) specify a hybrid configuration characterized by a high level of standardization for product, a high level of adaptation for promotion and a moderate level of adaptation for price. Others have extended this work, both for the two pure strategies (Chung, 2010; Lim *et al.*, 2006) and for the Bartlett and Ghoshal hybrid (Harzing, 2000). From the above, we propose the following baseline hypothesis (BH) (Wu and Salomon, 2016), as the foundation for the remainder of our research.

> BH: MNCs follow one of three marketing strategy configurations: pure standardization in which all elements of the marketing mix are standardized; pure adaptation in which all elements of the marketing mix are adapted; and a hybrid strategy (Bartlett and Ghoshal) in which product is standardized, promotion is adapted and price is in the middle.

A second important consideration emerged with Jain (1989), who identified factors that may influence the degree of standardization-adaptation a firm may choose (e.g. cost, competition, customer and country factors). More recent research in marketing examines the issue of fit between marketing strategy and business environment and its impact on firm performance. For example, Schmid and Kotulla (2011) propose a situation-product strategy fit framework to predict the degree of product standardization-adaptation and its impact on firm performance. However, these studies select specific marketing and environmental factors relevant to their particular focus, without imposing an overarching theoretical framework (Chung, 2009). We use the IR framework as a broader, more theoretically grounded way to conceptualize and categorize business environments and the links between environment, strategy and performance.

Fit in the IR framework

Prahalad and Doz's (1987) IR framework was one of the first to organize the complex, diverse, often-conflicting pressures that MNCs confront as they expand their activities around the globe. In their framework, the pressures of global integration (GI) – for example, the need to reduce cost through large-scale investments, the presence of global competitors in the firm's target markets, and the imperative for technological innovations – impel firms to conduct their activities on a global basis. In contrast, the pressures of local responsiveness (LR) – such as diverse government regulations, marketing infrastructure, and customer needs and segments across countries – require firms to manage their activities on a country-

by-country basis. Combining these two pressures, there are four possible types of business environments that firms operating in international markets may confront:

(1) an *international environment* in which both GI and LR pressures are low;

(2) a *global environment* with high GI pressures and low LR pressures;

(3) a *multinational environment* with high LR pressures and low GI pressures; and

(4) a *transnational environment* in which both GI and LR pressures are high (Ghoshal and Nohria, 1993).

The diversity of these pressures – across nations, industries and firms – generates significant heterogeneity in the marketing activities of multinational firms (Sheth, 2011). Note that while the terms international, multinational, global and transnational have different generic meanings, here these terms refer specifically to the different types of business environments confronted by MNC subsidiary business units, consistent with the original IR framework that underpins our study (Bartlett and Ghoshal, 1989; Ghoshal and Nohria, 1993; Prahalad and Doz, 1987). We next discuss each of the four environments in turn, deriving hypotheses from the literature as to which strategy configurations best fit each one, and then discuss the impact of fit on performance.

International environment → pure standardization. In some industries, firms may confront a simple international environment in which both GI and LR pressures are low (Prahalad and Doz, 1987). Due to low competitive pressures for cost reduction, firms can continue to offer their standard products sold in the home market to different markets around the world (Hill and Hult, 2017). In addition, given the low pressures for foreign market adaptation due to lack of customer-specific preferences or government demands to tailor the offerings to local needs (Ghoshal and Nohria, 1993), the benefits of change are likely to be limited. Hence, in an international environment, we posit that MNCs are likely to maintain the status quo, and prefer the simplicity of standardization to the complexity of adaptation. The domestic marketing mix is rolled out internationally through simple modes such as exporting. Standardization in an international environment may also be a proactive decision of managers to offer a unique experience to foreign customers seeking variety rather than adaptation to their tastes. For example, Vegemite, an Australian spread, is marketed worldwide based on the original formula developed in Australia, with little modification in the marketing mix around the world. We therefore propose:

H1a. MNCs operating in an international environment follow a marketing strategy configuration of pure standardization in which all elements of the marketing mix are standardized.

Global environment → pure standardization. The view that the world economy is becoming increasingly globalized is broadly shared by many businesses around the globe. According to Levitt (1983, p. 93), driven by high GI pressures of technology, "The world's needs and desires have been irrevocably homogenized. This makes the multinational corporation obsolete and the global corporation absolute." Similarly, Friedman (2005) considers "the world is flat" because improved communication technologies have largely homogenized people's preferences, resulting in a global market for standardized products and services. Others argue in favour of standardization in response to high GI pressures of global competition (Sheth and Parvatiyar, 2001), and the need to reduce costs by setting up large, global scale production facilities in a single location to serve world markets (Yip, 1989). Chung (2009, p. 820) concludes that "firms can probably employ a standardized product and promotion strategy in order to improve their performance[. . .]." Mellahi *et al.* (2016) found

that Brazilian MNEs use uniform, global best practices in both their developed and developing country subsidiaries. Indeed, firms such as Apple can standardize their activities and decision-making because customer needs for such products vary little across the globe. Hence, we propose:

H1b. MNCs operating in a global environment follow a marketing strategy configuration of pure standardization in which all elements of the marketing mix are standardized.

Multinational environment → pure adaptation. Given the diversity of business environments, it is equally plausible that some firms operate in a multinational environment in which the LR pressures are high but the GI pressures are low, which impels them to adapt to the unique circumstances of the countries in which they operate. In mapping the different functions of multinational firms on the IR framework, Prahalad and Doz (1987, p. 36) consider marketing to be the least integrated and most responsive of all the functions. Similarly, Jain considers standardization to be "difficult and impractical" (1989, p. 71). Although differences in consumer tastes, preferences and purchasing power are some of the most common reasons for adaptation of products, national regulations can also affect marketing mix decisions such as promotion, pricing and labelling (Prahalad and Lieberthal, 2003). Underdeveloped infrastructure such as "inadequate availability of transportation, communications, physical, financial, natural, and human resources, especially in emerging markets" also forces firms to adapt their marketing mix on a country-by-country basis (Sheth and Parvatiyar, 2001, p. 19).

Indeed, Ghemawat (2007, p. 60) is a strong critique of the view that "economics matters more and more and politics less and less" and considers that "Buying into this version of an integrated world – or worse, using it as a basis for policymaking – is not only unproductive. It is dangerous." The key driver of adaptation is the persistent diversity and distance between national markets, which makes simple, standard strategies ineffective (Sheth, 2011). Chung (2010) finds broad support for adaptation of the marketing mix for firms operating across different host country markets. And many firms in the insurance business extensively adapt all elements of their marketing mix to fit both market and regulatory requirements across different countries. We therefore propose:

H1c. MNCs operating in a multinational environment follow a marketing strategy configuration of pure adaptation in which all elements of the marketing mix are adapted.

Transnational environment → Bartlett and Ghoshal hybrid strategy. While early research on marketing mix standardization-adaptation views international marketing strategy in terms of either standardization or adaptation, recent work examines how standardization-adaptation varies across different elements of the marketing mix in response to different environmental pressures (Bahadir *et al.*, 2015; Ghemawat, 2017). When both the GI and LR pressures are high, the complex and often-conflicting nature of the transnational environment has an asymmetric impact on different marketing activities resulting in varying levels of standardization-adaptation across the marketing mix. As most empirical studies theorize consistent standardization across the marketing elements (Chung, 2010), we follow Bartlett and Ghoshal (1989) and propose a specific hybrid configuration for this environment in which economies of scale in production drive product standardization, whereas promotion must adapt to fit local customs, media infrastructure, and the use of local heroes and icons in branding. Pricing is in the middle as it is subject to conflicting pressures

of global positioning requiring standardization and local affordability requiring adaptation. We therefore propose the following regarding the Bartlett and Ghoshal hybrid:

H1d. MNCs operating in a transnational environment follow a hybrid marketing strategy configuration in which product is standardized, promotion is adapted, and pricing is in the middle.

Figure 2 summarizes the fit model of business environment-marketing strategy configurations and the related *H1a* to *H1d* we test here.

Contingent fit and performance. In addition to the notion of fit between environment and marketing strategy, as captured in *H1a* to *H1d*, management theorists posit a contingency theory of fit, that is, firms that have a good environment-strategy fit outperform those that do not have a good fit (Donaldson, 2001; Zeithaml *et al.*, 1988). Fit is conceptualized in terms of alignment, for example, between the level of complexity in two or more aspects of organization such as strategy and environment (Ghoshal and Nohria, 1993). A large body of literature provides empirical support for fit (Bahadir *et al.*, 2015; Homburg *et al.*, 2012; Pekovic and Rolland, 2016). Yip (1989) showed how strategic advantage accrues to international firms that have a good fit between their globalization strategy and the globalization potential of the industry and the environment in which they operate. In the context of the marketing function, Katsikeas *et al.* (2006) found that marketing standardization leads to high levels of performance when the strategy is aligned with the environment. Bahadir *et al.* (2015) show how different environmental contingencies in emerging versus developed country markets moderate the marketing mix-performance relationships. Using an alternative configurational approach, Homburg *et al.* (2012) find certain environment-strategy combinations perform better and therefore have a better overall fit. Following the contingency theory of fit, we propose:

H2. MNCs with marketing strategy configurations that fit with their respective environments (as theorized in *H1a* to *H1d*) perform better than firms that do not have a good fit.

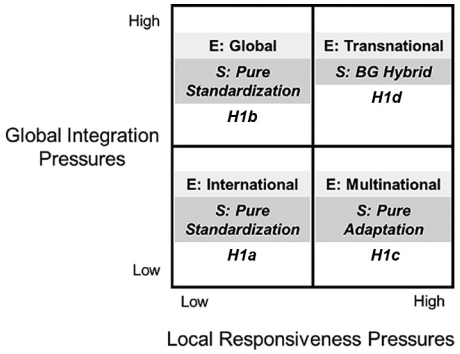


Figure 2.
A "fit" model of business environment-marketing strategy configurations

Notes: (E – business environment; S – marketing strategy configuration; BG –Bartlett and Ghoshal
Source: Adapted from Bartlett and Ghoshal (1989), Prahalad and Doz (1987)

In summary, combining the arguments underpinning *H1* and *H2*, we would expect to find that:

- A pure standardization strategy is more common and performs better in international and global environments.
- A pure adaptation strategy is more common and performs better in a multinational environment.
- The Bartlett and Ghoshal hybrid strategy is more common and performs better in a transnational environment.

An alternative perspective: misfit and equifinality

We next look at the alternative "open systems" perspective on environment, strategy and performance and set up competing hypotheses to those above. MNCs are large, complex systems that interact with individuals and organizations around the world for inputs and outputs. The open exchange of products, services, finance and information between the MNC and entities outside the firm occurs both in the headquarters and in each of the multiple national subsidiaries of the firm. Given the nature of its operations, MNCs are quintessentially open systems characterized by equifinality: "Organizations as a special class of open systems have properties of their own, but they share other properties in common with all open systems" (Katz and Kahn, 1978, p. 33). And "In open systems [. . .] the principle of equifinality applies; it holds true at the biological level, and it is more conspicuously true at the social level" (Katz and Kahn, 1978, p. 32). In the context of our study, equifinality implies that, in addition to the environment-strategy fit posited by the IR framework, it is plausible that a particular strategy can be pursued by firms operating in different business environments, and that, conversely, firms operating in a particular business environment may pursue different strategies.

For example, whereas the fit theory suggests that MNCs operating in international and global environments pursue a pure standardization strategy, equifinality would imply that a pure standardization strategy could also be pursued by MNCs operating in multinational and transnational environments. Similarly, firms operating in, for example, a global environment may not only deploy the fit strategy configuration of pure standardization, but also so-called misfit configurations such as pure adaptation and BG hybrid. This is the essence of differentiation that MNCs aim to achieve *vis-à-vis* local and global competitors in international markets. Moreover, equifinality implies that the different so-called "misfit" environment-strategy configurations can deliver performance that is as effective as with the fit configurations.

Note that the term "misfit" here simply means that the marketing mix configurations used by MNC subsidiaries in different environments do not exactly follow the prescriptions laid down by the IR framework. In other words, using the equifinality theory, we simply posit that:

- MNCs can and do pursue strategies that do not fully confirm with the fit-based IR theoretical framework.
- Pursuing such theoretical misfit, i.e. nonconformist strategies can also deliver superior performance.

Although equating "misfit" with ineffectiveness is a common tautological error in the fit literature (Donaldson, 2001), we directly address the problem by separately testing the fit

theory-based *H1* and *H2* above against our alternative equifinality theory-based *H3* and *H4* discussed below.

Consistent with early observations by Child (1972, p. 12) that comparable organizations often vary in how they operate, and these variations do not affect their success or failure, several recent studies in marketing strategy find support for equifinality in relationship between organizational resources, capabilities, business environment, and firm performance (Agic *et al.*, 2016; Frambach *et al.*, 2016). In contrast, although equifinality is investigated broadly in the international business literature (Judge *et al.*, 2014; Kim, 2013; Martin, 2013), as far as we are aware, there is no study that examines equifinality in MNC marketing environment-strategy link using the IR or another framework, even though the equifinality phenomenon is often observed in the strategy and performance of large MNCs.

For example, both Apple and Samsung are highly successful MNCs in the mobile telephony business though they pursue very different marketing strategy configurations. Apple offers a small range of global products, whereas Samsung offers a wide range, with some products designed specifically for the niche, price-sensitive developing country markets such as China and India. On the other hand, Nespresso coffee and Apple phones have largely standardized offerings worldwide, even though their business environments are different, one being a consumable food product and the other a durable communication device. Yet for all the evidence of equifinality in international marketing, equifinal relationships between MNC environment, strategy and performance are rarely examined in the mainstream literature. Hence, we propose a set of hypotheses regarding equifinal MNC environment-strategy "misfit" configurations and performance outcomes based on empirical observations and our intuition about the equifinality phenomenon in practice, drawing on the literature in marketing and management cited above:

H3. MNCs pursue a particular marketing strategy configuration in varying business environments, even if such equifinal environment-strategy configurations are considered "misfit" within the IR framework.

H4. MNCs with "misfit" environment-strategy configurations as per the IR framework can achieve high performance, that is, they show equifinality in performance.

Figure 3 summarizes our *H1* to *H4* that we derive from the theories of fit and equifinality.

Methodology

Data collection and research procedures

To test our hypotheses, we require a sample of MNC subsidiaries operating around the globe, thus potentially confronting different business environments and using different strategies towards standardization-adaptation. We chose a questionnaire survey as an appropriate way to collect data from our global sample. Secondary databases are not suitable for our study as they do not provide detailed information we need to test our hypotheses about the business environmental pressures of global integration and local responsiveness, marketing mix strategy of standardization-adaptation and performance at the level of the subsidiary business unit (Meyer and Su, 2015).

Unit of analysis. The country subsidiary is where the pressures of global integration and local responsiveness come together to influence marketing decision makers. However, MNC subsidiaries often operate in more than one area of business. To focus our study and reduce the time cost to the responding manager, we chose a business unit within the subsidiary as our unit of analysis. We define a business unit as an organizational unit with separate and

Marketing Strategy	Business Environment			
	International	Global	Multinational	Transnational
Pure Standardization	*H1a*	*H1b*	*H3*	*H3*
Pure Adaptation	*H3*	*H3*	*H1c*	*H3*
BG Hybrid Strategy	*H3*	*H3*	*H3*	*H1d*

(a)

Performance	Environment → Strategy	
	Fit	Misfit
High	*H2*	*H4*
Low	*H4*	*H2*

(b)

Notes: (a) Environment-strategy configurations: fit and misfit; (b) contingent fit and equifinality in performance

Figure 3.
Summary of our hypotheses

independent marketing and profitability objectives. Our key informant was the head of this business unit. Informants were asked to answer for their product-market with the highest annual sales revenue, assuming this to be most representative of the business unit's activities.

Sample. We used the Dun and Bradstreet Worldbase to select a stratified random sample of MNC business units. To ensure sufficient variance in strategy configurations and business environments, our strata include manufacturing and services sector, consumer and business-to-business markets, and developed and developing countries. Assuming small-to-modest effect sizes on the phenomena under investigation, simulations of statistical power suggest the need for responses from 200 such business units to adequately test our hypotheses (Faul *et al.*, 2007). The literature suggests response rates between 6 and 16 per cent are likely for international surveys (Dikova, 2009; Harzing, 1997). Hence, to achieve our target of 200 we mailed to 1,128 subsidiaries, with a separate questionnaire for each business unit in the subsidiary. The actual response rate was 14 per cent (153 subsidiaries) covering 229 business units. Excluding outliers and cases with significant missing values, our final dataset contains 216 cases that were used to test our hypotheses. These business units are split approximately 50:50 between those operating in consumer and business-to-business markets. Although they are located in 35 countries, their parent firms are mainly Japanese, UK, and US MNCs, with a median of 22,000 employees worldwide and 325 employees in the subsidiary. Key informants average 10 years' experience in the company and 40 years of age.

Tests to identify any biases in the data. Although surveys are a standard approach to research in many disciplines, they inevitably raise concerns about potential biases, in particular common method bias and non-response bias. A potential bias is whether our use of a common seven-point scale may lead to "yea-saying". However, factor analyses demonstrate there is no common factor loading on all these measures. In fact, they separate clearly into the seven components of the marketing mix. Further, the questionnaire itself contains a broader set of questions on other topics and with several different formats. This approach can also reduce common method bias (Podsakoff *et al.*, 2003). Although we cannot

rule it out, common method bias is unlikely in these data. A second potential bias is due to non-response. To test for this bias we compare our responding subsidiaries with the original sample on three criteria: the number of countries, how long the subsidiary is established, and the number of employees. We have responses from subsidiaries in 60 per cent (36 of 60) of the countries we sample, so any bias due to the countries we include or exclude is likely to be small. The median length of establishment and size of our responding subsidiaries is 30 years and 325 employees versus 21 years and 250 employees for non-respondents. Overall, while our data set represents slightly older and larger subsidiaries, we believe it is adequate for our purposes.

Construct measures

Building on the prior literature, we measure marketing standardization-adaptation with 25 questionnaire items that we group into seven components or "7Ps". The 7Ps include the 4Ps of marketing program, namely, product, price, place and promotion, plus an additional component – product positioning, and the 2Ps of marketing process, namely, policies and people. We measure each item using a seven-point Likert scale. We have four items for each of the four components of product, price, place and promotion, and three items each for positioning, policies and people (see Appendix for details). It is these seven components that become inputs for our archetypal analysis, allowing us to identify strategy configurations from reliable measures of the 7Ps.

We measure the business environment with 19 questionnaire items representing the two sets of pressures confronted by MNCs – global integration (9 items) and local responsiveness (10 items). We also use a 7-point Likert scale. Following Coltman *et al.* (2008), we conceptualize global integration and local responsiveness as two second-order formative constructs, each composed of three components that do not necessarily correlate with each other. Each of the six underlying components itself is measured with multiple reflective items. *Global integration* is an index formed from three such components: rate of technological change (4 items), intensity of global competition (3 items) and necessary scale of investment (2 items). Similarly, *local responsiveness* is an index formed from three components: influence of local government regulations (4 items), quality of local marketing infrastructure (4 items), and heterogeneity of customers in the local market (2 items). (See Appendix for details). We measure business unit performance reflectively with three items: market share, sales growth and return on investment. As measures of performance are not always available at the business unit level or comparable across organizations, we used a rating scale, from lowest to highest in the local market. Business units which rate high on our performance construct thus perform well in the local market; those rating low perform poorly. Whilst self-reports of performance may be subject to bias, there is evidence of their general reliability (Venkatraman and Ramanujam, 1986). (See Appendix for details).

Validity and reliability. Table III provides summary statistics and correlations among the variables used in our study. As shown in the table, all variables have acceptable reliability. Average variance extracted is well over 50 per cent for all variables (range from 58 per cent to 85 per cent) and composite reliability (measured with internal consistency) ranges from 0.81 to 0.95. For each variable, we also assess discriminant validity by comparing the square root of average variance extracted with its correlation with all other variables. Measures have adequate discriminant validity if the square root of average variance extracted for a variable is greater than the correlation of the variable with all other variables. As shown in Table III, all variables in our study satisfy this validity criterion.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Product (4)[a]	*0.80*[b]													
2 Price (4)	0.27**	*0.79*												
3 Promotion (4)	0.36**	0.17*	*0.84*											
4 Positioning (3)	0.35**	0.25**	0.43**	*0.92*										
5 Place (4)	0.36**	0.43**	0.41**	0.43**	*0.79*									
6 Policy (3)	0.22**	0.21**	0.40**	0.48**	0.45**	*0.84*								
7 People (3)	0.19**	0.21**	0.43**	0.40**	0.48**	0.74**	*0.89*							
8 Technological change (4)	−0.21**	−0.02	−0.09	−0.06	0.05	−0.02	−0.08	*0.82*						
9 Global competition (3)	−0.47**	−0.11	−0.15*	−0.13	−0.17*	−0.10	−0.10	0.36**	*0.83*					
10 Scale of investment (2)	−0.27**	0.08	0.02	−0.07	0.15*	−0.06	−0.05	0.41**	0.32**	*0.84*				
11 Government regulation (4)	0.02	−0.11	0.11	0.06	0.09	0.02	0.05	0.17*	−0.04	0.07	*0.85*			
12 Infrastructure (4)	0.11	−0.06	0.08	−0.01	−0.06	−0.01	0.06	−0.14*	−0.14*	−0.05	0.05	*0.83*		
13 Customers (2)	0.06	0.11	0.14*	0.09	0.04	−0.01	−0.01	−0.06	0.02	0.12	0.07	0.06	*0.89*	
14 Performance (3)	0.05	0.15*	0.03	0.07	0.12	−0.00	−0.02	−0.03	−0.03	−0.01	−0.16*	−0.09	−0.08	*0.76*
Mean	3.79	5.98	5.48	5.13	5.11	5.83	5.28	4.47	4.49	4.48	3.90	2.81	3.49	4.99
Standard deviation	1.78	1.18	1.37	1.67	1.44	1.14	1.65	1.38	1.56	1.64	1.72	1.18	1.43	1.10
Average variance extracted	0.64	0.62	0.70	0.85	0.70	0.62	0.80	0.68	0.69	0.70	0.72	0.69	0.80	0.58
Composite reliability	0.88	0.87	0.90	0.95	0.87	0.86	0.92	0.89	0.87	0.82	0.91	0.90	0.89	0.81

Notes: *$p < 0.05$; **$p < 0.01$ (2-tailed); [a]Numbers in brackets indicate the number of items used to measure the variable; [b]diagonal entries in italic are the square root of average variance extracted for variables measured with multiple items

Table III.
Descriptive statistics, correlations, reliability and validity

Archetypal analysis

Archetypes are common in everyday language, literature and the arts, and in the strategy and organization literature. For example, according to Miles and Snow (1978, p. 29): "When competing organizations within a single industry are observed ... *patterns* of behaviour begin to emerge which suggest that these various organizational forms can be reduced to several *archetypes*" (italics added). Lim *et al.* (2006) identify three archetypes from their study of business school cases – global marketer, infrastructure minimalist and tactical coordinator. In our study, the archetypes are the different configurations of marketing mix standardization-adaptation that MNC business units use within a country. However, to identify such archetypes we need the appropriate statistical technique.

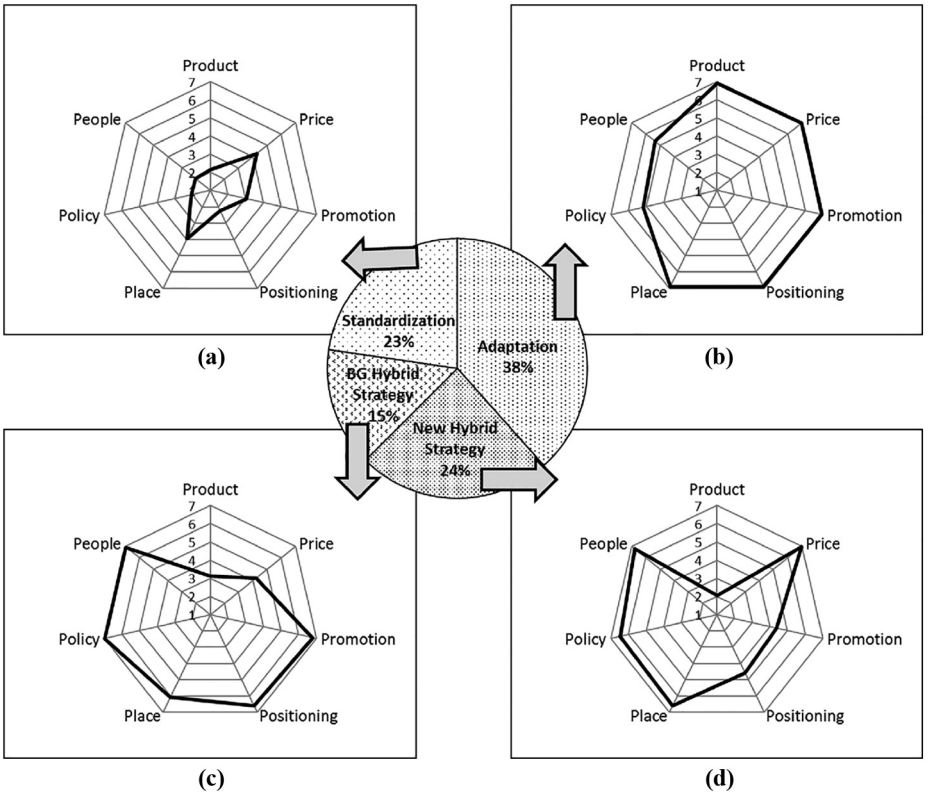
Cutler and Breiman (1994) introduce archetypal analysis as a formal statistical technique precisely for identifying archetypes from multivariate data. Since its introduction, the use of AA has steadily grown in the physical sciences (Chan *et al.*, 2003) and more recently in the social sciences (Elder and Pinnel, 2003; Venaik and Midgley, 2015). AA is a statistical method that identifies a small number of configurations – archetypes – that best describe the data on the variables used for AA. In addition to the archetype profiles, the output of AA includes a table of scores between 0 and 1 reflecting the degree to which each case is associated with each archetype. Each case is then classified in the archetype with which it has the maximum association.

Although AA is not a cluster analysis method, its output has similarities, namely a small number of configurations that summarize the data. However, the major difference between AA and other techniques such as cluster analysis and latent class analysis is that AA defines its configurations in terms of the unique topology of all the available data. Largely because of this topological approach, AA provides a number of advantages over other techniques. These include sharper and more differentiated solutions (Elder and Pinnel, 2003), imposing no strong "model" on the data (Li *et al.*, 2003), and being robust to noise in the data (Chan *et al.*, 2003). We believe AA is the ideal technique to identify the various marketing standardization-adaptation configurations in our data. First, it is explicitly designed to identify configurations. Second, AA classifies each of our sample business units into one of the configurations identified through AA. Third, inspection of the profile of the archetypes themselves allows us to draw conclusions as to whether these configurations are consistent with our baseline hypothesis. By applying AA to our 7Ps data, we find four distinct archetypal configurations of marketing mix standardization-adaptation that are pursued by our sample of MNC subsidiaries. (Technical details about applying AA to the 7Ps and validating our AA solution are available from the authors on request.)

Results

Test of baseline hypothesis on marketing strategy configurations

Figure 4 shows the marketing standardization-adaptation profiles of our four archetypes across the 7Ps. These we present as radar plots, one for each archetype. All radars use the same scaling from 1 to 7, where 1 (center) means standardized and 7 (outer edge) means adapted. We also show the percentage of our sample that associates maximally with each archetype. Table IV provides a summary of the archetype profiles on the 7Ps. In the standardization archetype [Figure 4(a)], all components of the marketing mix are standardized (except price and place which are in the middle). In contrast, in the adaptation archetype [Figure 4(b)], all components of the marketing mix are adapted, except people and policy which are a little distant from the outer edge. The third archetype resembles the Bartlett and Ghoshal hybrid configuration in which product is standardized, promotion is adapted, and price occupies the middle position [Figure 4(c)] (Bartlett and Ghoshal do not



Notes: (a) Standardization (23%); (b) adaptation (38%); (c) BG hybrid strategy (15%); (d) new hybrid strategy (24%); 1 = standardized, 7 = adapted

Figure 4. Configurations of marketing strategy archetypes in MNC subsidiaries

	Marketing mix (7Ps)						
Strategy archetypes	Product	Price	Promotion	Positioning	Place	Policy	People
Standardization	2.1	4.3	3.0	2.2	3.9	2.1	2.0
Adaptation	6.9	7.0	6.9	6.9	6.9	5.1	5.3
BG hybrid strategy	3.1	4.2	6.8	6.6	6.1	7.0	6.9
New hybrid strategy	2.0	7.0	4.4	4.6	6.6	6.5	6.8

Notes: 1 = standardized; 7 = adapted

Table IV. Marketing strategy archetype profiles on the 7Ps

specify where the other components of the marketing mix may lie on the standardization-adaptation continuum.) These three marketing strategy configurations are broadly consistent with theory and in total represent 76 per cent of our sample. Our Baseline Hypothesis is largely supported.

Interestingly, we also find a fourth, new hybrid configuration that does not appear in the literature [Figure 4(d)]. Comparing the two hybrid profiles, BG and new, we find product is standardized in both, but price and promotion switch positions in terms of their level of adaptation. That is, price is less adapted than promotion in the BG hybrid, but more adapted in the new hybrid. In addition, whereas Bartlett and Ghoshal make no comment on the positioning component of the marketing mix, it is interesting to note that the level of adaptation of positioning is the same as that for promotion in both the archetypes. In particular, for our new hybrid, positioning occupies the middle along with promotion, suggesting a similar level of global standardization in the choice of market position, message and media, consistent with marketing theory. The new hybrid configuration is seen in 24 per cent of our sample. In contrast, the Bartlett and Ghoshal hybrid, which is discussed formally in the MNC strategy literature, appears in only 15 per cent of our sample. Overall, our AA approach extends international marketing theory in new directions by identifying a broader range of strategy choices available to MNC managers than is recognized in prior theory.

Tests of hypotheses on environment-strategy fit and misfit

Four types of environment. We use the mid-point of the scales to measure global integration and local responsiveness indices to classify the local environments into the four cells shown in Figure 1 (Ghoshal and Nohria, 1993). From these splits, 54 of our business units face an *international* environment, 110 a *global* environment, 17 a *multinational* environment and 35 a *transnational* environment. The majority of our subsidiary managers (51 per cent) thus consider their business pressures as global, a result that is consistent with increasing globalization of the world economy. Only 16 per cent of MNC subsidiaries regard their business environment as transnational, which is at odds with the contemporary view (first articulated by Bartlett and Ghoshal (1989)) that the MNC business environment is becoming increasingly transnational with high pressures of both global integration and local responsiveness.

Environment-strategy fit. To test *H1a* to *H1d* on environment-strategy fit, we cross-tabulate our four marketing strategy archetypal groups against the four types of business environments (Table V). The overall Pearson Chi-square test is significant ($p < 0.01$), which suggests that the environment-strategy configurations are significantly related. However, a closer examination of the cell frequencies in Table V shows that not all of these relationships are in line with the fit hypotheses. The cells in bold correspond to our four strategy-environment fit *H1a* to *H1d*. The other cells (in italics) refer to misfit between strategy and environment. As shown in the table, in an international environment, 24 per cent (13/54) of the subsidiaries pursue a fit strategy of standardization, marginally supporting *H1a*.

Table V. Distribution of MNC subsidiaries: marketing strategy by business environment

	Business environment				
Marketing strategy	International	Global	Multinational	Transnational	Total
Standardization	**13**	**28**	*0*	*8*	49
Adaptation	*28*	*30*	**12**	13	83
BG hybrid strategy	*5*	*16*	*2*	**9**	32
New hybrid strategy	*8*	*36*	*3*	*5*	52
Total	54	110	17	35	216

Notes: BG – Bartlett and Ghoshal. Environment-strategy fit = cells in bold; Misfit = cells in italics

Similarly, in a global environment, 25 per cent (28/110) of the subsidiaries pursue a standardization strategy, again marginally supporting *H1b*. In contrast, in a multinational environment, 70 per cent (12/17) of our subsidiaries pursue adaptation strategy and no subsidiary pursues standardization strategy, strongly supporting *H1c*. Finally, 26 per cent (9/35) of the subsidiaries in a transnational environment pursue a fit strategy of BG hybrid, thus marginally supporting *H1d*. Overall, 29 per cent (62/216) of our business units have a marketing strategy configuration consistent with the fit *H1a* to *H1d*.

Environment-strategy misfit. We next test our *H3* relating to misfit and equifinality. As shown in Table V, misfit refers to the cells in rows (excluding the fit cells in bold). For example, among the subsidiaries pursuing a standardization configuration, 16 per cent (8/49) do so in a transnational environment, which is contrary to the fit paradigm, but consistent with equifinality. Similarly, among the subsidiaries pursuing an adaptation configuration, 86 per cent (71/83) do so in the "misfit" international, global and transnational environments as per the IR framework, albeit following equifinality. Among the subsidiaries using the Bartlett and Ghoshal hybrid configuration, 72 per cent (23/32) deploy a BG hybrid strategy in the international, global and multinational environments, and deemed "misfits" within the IR framework but again suggesting equifinality. And all subsidiaries using the new hybrid configuration support equifinality, as this specific configuration is not recognized in the literature, and hence no environment is known to fit this strategy. Overall, nearly 71 per cent (154/216) of our sample pursues strategies that would be considered "misfit" when viewed through the lens of the IR framework, but are consistent with the theory of equifinality, thus strongly supporting *H3*.

Tests of hypotheses on performance

Our final set of hypotheses relates fit with performance, a cornerstone of contingency theory. To ensure robustness, we use three methods to test fit-performance relationship. First, we do a simple chi-square test. Next, we do a dummy variable fit-misfit test with controls using ordinary linear regression, followed by a continuous variable formulation including interactions. All results are consistent. Table VI cross-tabulates the performance of our subsidiaries (high or low) against their environment-strategy fit or misfit conditions. High performance means above the median and low performance means below or equal to the median performance. (We also checked with a median split where the four cases with median performance are included in the high performance category, and found similar results.) The overall Pearson chi-square test for the two by two (2×2) grid is not significant. As shown in the table, 48 per cent (104/216) of the sample supports the fit *H2* (the diagonal cells in bold), that is, the fit firms have high performance and the misfit firms have low performance. However, 52 per cent (112/216) of the sample supports equifinality *H4* (the off-diagonal cells in italics in Table VI), that is, the misfit firms have high performance and the fit firms have low performance.

	Environment → Strategy		
Performance	Fit	Misfit	Total
High	**28**	*78*	106
Low	*34*	**76**	110
Total	62	154	216

Notes: Contingent fit = cells in bold; Equifinality = cells in italics

Table VI. Distribution of MNC subsidiaries: contingent fit and equifinality in performance

Next, we use a dummy variable ordinary linear regression to test *H2* and *H4*. As there is no significant difference between the mean and variance of performance across the four environments or across the four strategies, we apply this regression to the total sample of 216 business units. (One-way tests demonstrate equality of means and Levene's test demonstrates homogeneity of variances.) Here we code as 1 for each business unit where there is fit between environment and strategy we hypothesize, and −1 otherwise (i.e. effects coded relative to overall mean performance). If *H2* is correct, we would expect this dummy variable to have a significant positive coefficient, signalling that fit outperforms misfit. If *H4* is correct, this dummy variable will be non-significant. To reduce the chance of spuriously confirming the fit-performance relationship when in fact it is due to some other factor, we include multiple control variables in our model obtained from prior research (Venaik *et al.*, 2005). These are age and size of subsidiary, sector (manufacturing versus services), market (consumer versus business to business), marketing mix innovation, inter-unit learning, subsidiary autonomy and inter-unit networking.

We first test whether our data fit the assumptions of ordinary linear regression, namely those on skewness, kurtosis, linearity and heteroscedasticity (Pena and Slate, 2006). The ordinary linear model is acceptable on all tests. While the overall equation is significant (F = 2.23 with 15 and 200 degrees of freedom, $p < 0.01$, *R*-square = 14.4 per cent), the coefficient for the dummy variable is not ($t = -0.26$) (Table VII.) This last result does not support *H2* but supports *H4*. One control – marketing mix innovation – is significant ($t = 3.19$, $p < 0.01$), as is the transnational environment ($t = -2.54$, $p < 0.05$). In the transnational environment, it seems MNC subsidiaries are unable to respond effectively to the conflicting pressures of high global integration and high local responsiveness, adversely affecting their performance.

Finally, we test continuous variable formulation of this model, using the archetypal membership scores for the three strategies (excluding the new hybrid to avoid the structural collinearity caused by these scores summing to a constant across all four archetypes) and continuous values for the global integration and local responsiveness measures, and forming second and third order interactions for the key hypotheses. This model gives better results, with overall equation significant (F = 2.98 with 21 and 194 degrees of freedom, $p < 0.001$), and a higher *R*-square of 24.4 per cent. Besides one control – marketing mix innovation – being significant as in the previous test ($t = 3.15$, $p < 0.01$), there are a few other significant main and interaction effects (Table VIII). Standardization has a significant positive effect on performance ($t = 2.92$, $p < 0.01$), consistent with the efficiency gains due to standardization. Among the two-way interactions, standardization under high LR pressures results in significantly lower performance ($t = -3.65$, $p < 0.001$), which is consistent with the fit theory. However, standardization under high GI pressures also leads to lower performance ($t = -2.72$, $p < 0.01$) which is inconsistent with the fit theory, but in accord with the equifinality hypothesis. Similarly, the three-way interaction between standardization and the GI and LR pressures is significantly positive, which is inconsistent with the fit theory that posits this outcome for the BG hybrid strategy. However, the three-way interaction between BG hybrid and the GI and LR pressures is not significant. Overall, the results again support both fit and equifinality.

In sum, we find:

- Nearly equal proportion of subsidiaries with high and low performance under both the IR fit and misfit conditions in the crosstab (Table 6).
- Fit does not have a significant positive effect on performance (Table 7).
- Some interactions support fit whereas others support equifinality (Table 8).

Variable	Unstandardized coefficient	*t*-value
(Intercept)	2.23	3.27**
FIT Dummy[a]	−0.03	−0.26
Controls[b]		
Standardization strategy	−0.03	−0.20
Adaptation strategy	−0.01	−0.09
BG hybrid strategy	−0.11	−0.88
Global environment	−0.04	−0.41
Multinational environment	−0.05	−0.28
Transnational environment	−0.30	−2.54*
Sector (manufacturing)	−0.01	−0.11
Market (consumer)	−0.09	−1.22
Subsidiary age (log)	0.09	1.01
Subsidiary size (log)	0.06	1.38
Marketing mix innovation	0.24	3.19**
Inter-unit learning	0.09	1.26
Subsidiary autonomy	0.03	0.31
Inter-unit networking	0.05	0.91
Equation Statistics		
R-square	14.4%	
F with 15 and 200 degrees of freedom	2.23**	

Notes: *$p < 0.05$; **$p < 0.01$ (2-tailed); [a]Simple dummy variable (1, −1). The contrast is between the performance of "fit" and "misfit" strategies. Where each of our four hypothesized "fit" environment-strategy combinations occurs in the data we code the dummy variable as 1. Thus we code 1 for international environment-standardization strategy, 1 for global environment-standardization strategy, 1 for multinational environment-adaptation strategy, and 1 for transnational environment-BG hybrid strategy. In all other cases we code this variable as −1; [b]for the strategy and environment controls, the fourth category (new hybrid strategy and international environment respectively) is used as reference, hence not included in the model estimation to avoid collinearity

Table VII.
Dummy variable test of "fit" versus "misfit" strategies and performance

Thus, our results provide partial support for both contingent fit and equifinality theories. Although the various marketing strategy configurations reflect differences in the strategic choices of firms in response to myriad internal and external conditions including the business environment, mostly they do not result in systematic differences in performance.

Discussion

Many authors use the idea of archetypes to develop or illustrate theory in the strategy (Miller, 1993), organization (Miles and Snow, 1978) and international business (Homburg *et al.*, 2012; Lim *et al.*, 2006) literature. Our AA methodology uses the topology of the data to provide new insights into the range and frequency of the marketing strategy configurations commonly followed by MNC subsidiaries around the globe. Our marketing strategy configurations shown in Figure 4 confirm and extend prior literature on marketing mix standardization-adaptation. The standardization and adaptation configurations, which characterize the early literature (but not emphasized in later work) are found in 61 per cent of our sample thus making them still of relevance to many MNC managers. The BG hybrid, which is emphasized in recent literature, constitutes only 15 per cent of our sample and is the smallest of the four archetypes. Besides these three configurations from the literature, we also find a new hybrid archetype in 24 per cent of our sample. This new hybrid stands in sharp contrast with the BG hybrid on price, promotion and positioning, with less control on

Variable	Unstandardized coefficient	*t*-value
(Intercept)	−0.68	−0.16
Main effects		
Standardization strategy	17.02	2.92**
Adaptation strategy	3.46	0.57
BG hybrid strategy	−2.17	−0.34
GI pressures	0.79	0.92
LR pressures	1.44	1.14
2-way interactions		
Standardization × GI	−3.17	−2.72**
Adaptation × GI	−0.66	−0.51
BG hybrid × GI	0.36	0.27
Standardization × LR	−6.46	−3.65***
Adaptation × LR	−1.39	−0.82
BG hybrid × LR	0.69	0.37
GI × LR	−0.33	−1.33
3-way interactions		
Standardization × GI × LR	1.23	3.51***
Adaptation × GI × LR	0.29	0.82
BG hybrid × GI × LR	−0.12	−0.30
Controls		
Sector (manufacturing)	−0.02	−0.20
Market (consumer)	−0.08	−1.06
Subsidiary age (log)	0.14	1.55
Subsidiary size (log)	0.07	1.68
Marketing mix innovation	0.23	3.15**
Inter-unit learning	0.10	1.44
Equation Statistics		
R-square	24.4%	
F with 21 and 194 degrees of freedom	2.98**	

Table VIII. Continuous variable test with two-way and three-way interactions

Notes: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$ (2-tailed); BG – Bartlett and Ghoshal; GI – global integration; LR – local responsiveness; Dependent variable: MNC subsidiary performance

price and relatively more global control of positioning as well as promotion than the BG hybrid.

Our results do not fully support the contingency-based fit between environment, strategy and performance, as encapsulated in the IR framework. We find that business units pursue the same strategy configuration under widely different environmental conditions, which shows that misfit (as prescribed in the IR framework) arising from equifinality is a common phenomenon among MNC subsidiaries. Interestingly, a lack of environment-strategy fit does not adversely affect performance *vis-à-vis* the fit group, providing further support for equifinality. Although a lack of strong support for fit seems at odds with the contingency literature (Donaldson, 2001), it is in line with recent thinking that acknowledges the role of choice and chance in changing the inevitable course dictated by fit: "Determinism, strictly speaking, denies *any* possibility of freedom of choice and, by implication, strikes a fatal blow at the heart of our discipline" (de Rond and Thietart, 2007). (Italics original.) We present below some of the plausible reasons in support of equifinality in our study.

One reason is industry dynamics. Business environments change due to changes in competitive strategy, customer preferences and regulatory conditions across the diverse countries in which MNCs operate. Some firms may lead and others may lag in developing strategies that fit their changing environment, resulting in equifinality rather than fit between MNC strategy and environment in cross-sectional data. In addition, innovative firms use disruptive technologies to gain first mover advantage *vis-à-vis* competitors, and push the strategy frontier in new and hitherto unknown directions. This may result in misfit strategies for competitors until they catch up with the first mover in addressing the new business imperatives. As the business environment evolves through complex interactions between exogenous factors that are outside a firm's control and endogenous actions of firms, strategy-environment fit may be elusive and inherently unattainable by all firms at a given point in time. It is therefore not surprising that we find instances of fit, as well as equifinality in MNCs operating in a complex, dynamic and diverse global business environment.

The prevalence of heterogeneity in firm strategies with similar performance outcomes could also be due to path-dependency and lock-in by historical events analogous to the situation of technology adoption and survival among competitive options. Arthur (1989, p. 128) examines "the dynamical process that "selects" an equilibrium from multiple candidates, by the interaction of economic forces and random "historical events", and "shows how dynamically, increasing returns can cause the economy gradually to lock itself in to an outcome not necessarily superior to alternatives, not easily altered, and not entirely predictable in advance." In addition, from a competitive perspective, firms in the same business often pursue a differentiation strategy to achieve unique positioning in the multidimensional product attribute space *vis-à-vis* competitors. Such a differentiation strategy may also be followed to serve diverse market segments with different value drivers. Moreover, if all firms within an industry pursue fit strategies, there would be little competitive differentiation in the marketplace. Thus, performance differences may arise due to myriad actions of multiple competitors in the marketplace rather than determined simply by the degree of fit with a dynamic business environment that is often not fully known *a priori*.

Another explanation for equifinality is that alternative strategy configurations that seem incompatible in theory are potentially fungible in practice in the contemporary world. According to Wilden *et al.* (2016), equifinality can allow firms with different configurations of dynamic capabilities to be equally effective. For example, in an age of efficient communication and global supply chains, adaptation to local conditions could be achieved with centralization (rather than autonomy as assumed under the fit paradigm) through fast and comprehensive flows of information and communication between the headquarters and subsidiaries. Likewise, if adaptation requires a large amount of resources that are available in the headquarters or other parts of the MNC network, these can be organized more effectively by the headquarters rather than a small, resource-deficient, weakly interconnected autonomous subsidiary. For example, the development of the Gillette Guard – a no-frills, low cost, low price 11-cent razor – for the Indian market required large-scale adaptation, but it was centralized at corporate headquarters as it required significant technological and marketing resources that were beyond the capacity of the local subsidiary.

Finally, there is a need to recognize the critical role of human managers and their individual intuition and cognition in the design and implementation of MNC strategy (Maitland and Sammartino, 2015). MNC managers are essentially boundedly rational agents operating in uncertain environments (Williamson, 1975). Thus, the theory of fit that implicitly assumes "perfectly rational agents with rational beliefs in strategic situations." (Hahn, 1987, p. 331) may not completely capture all managerial decision-making situations.

Poulis and Poulis (2016, p. 503) question the "law of requisite variety" underlying the theories of contingency and fit, and highlight the role of human agency in managing complex systems such as multinational firms and their subsidiaries. Similarly, in his critique of contingency theory, Schreyogg (1982, p. 74) asserts that "contingency theories have not included the designer in their framework". In the same vein, Wilden *et al.* (2016) stress the existence and fundamental role of managerial heterogeneity in strategy design; a diversity that is largely ignored in the straightjacket of fit theories but duly recognized within the equifinality paradigm.

Overall, we find the marketing strategy configurations that MNCs deploy are more heterogeneous than thought. Many MNC managers operate in a more complex and multifaceted world than existing frameworks suggest. Unless we capture this heterogeneity adequately, IB theory will lose its practical significance for MNC managers. In addition, the myriad aspects of the international marketing environment and MNC strategy act and interact in complex ways to deliver the performance outcome. Combined with managerial idiosyncrasies, the uncertainty, diversity and dynamism in large, open-system MNCs inevitably result not only in fit but also equifinality between environment, strategy and performance.

Limitations and future research

Our study has some limitations, including the cross-sectional nature of our survey and the use of self-report data from one key informant. As noted earlier, our response sample is slightly older and larger than the survey sample, which may bias the results. Future research on younger and smaller MNC subsidiaries could validate the generalizability of our findings to the broad population of MNC subsidiaries. In addition, if appropriate secondary data is available, it could be used to cross-validate the findings from the survey data used here. The study could also be extended with longitudinal data to examine the dynamics in MNC marketing mix strategy and performance in response to changing business environment. It would also be useful to consider additional factors that may explain performance in different environments, but which are not fully captured in the IR framework such as national institutional and cultural factors (Banerjee *et al.*, 2018). We acknowledge that nearly half of our managers perceive the environment to be global rather than transnational, contrary to the focus on the latter in the literature. It may be that we need to improve the operationalization of environment pressures, especially of the transnational environment.

In short, existing theories of fit between environment-strategy-performance appear incomplete. Scholars should be cautious in making normative statements without further research. To extend our understanding of the real-world phenomena beyond fit, our configurational approach to examining marketing mix strategy could be extended to other fields such as human resource management, product variety management, global supply chain management and other functions in MNC subsidiaries. The key requirement for applying the configurational AA approach is to identify a set of dimensions that fully capture the phenomena being examined, such as the 7Ps of the marketing mix cited earlier.

Conclusion

Fit-based theories in strategy and management have been applied in international marketing using the well-known IR framework (Prahalad and Doz, 1987; Bartlett and Ghoshal, 1989). However, empirical testing of the IR framework often confounds environmental pressures with firm strategy, potentially resulting in tautological findings (Venaik *et al.*, 2004). Moreover, there is increasing recognition that large, complex, open systems such as MNCs manifest equifinality in addition to fit (Katz and Kahn, 1978). Our

study precisely defines the business environment pressures of global integration and local responsiveness, and the international marketing configurations of standardization-adaptation across the 7Ps of the marketing mix. We measure each construct with multiple components and items that have high discriminant validity, thereby overcoming the problem of tautological results. Using a novel AA approach, we find some evidence of fit, but also of equifinality in MNC environment, strategy and performance. By identifying multiple alternative pathways to superior performance, our study complements and extends the fit theory of environment-strategy-performance, and provides a larger "tool-kit" for managers to conduct their international marketing activities effectively.

Our paper makes three contributions to the international marketing strategy literature. First, we extend the theory of fit with equifinality. Viewing the large, complex, open systems of MNCs through multiple perspectives enables us to identify the diverse strategy configurations that MNCs deploy with equal effectiveness in global markets. Second, we extend the theoretical typology of international marketing strategies by identifying a new hybrid configuration as well as determining the relative frequency of each strategy in a diverse sample of MNC subsidiaries. Our third contribution is methodological. We introduce the novel AA method as a useful additional tool for researchers to study strategy configurations based on the topography of the data. AA identifies a small number of archetypes that summarize complex data in a meaningful way.

These extensions to theory and method open the door to a broader range of strategies that MNC managers can pursue and researchers investigate. We believe our paper makes new theoretical, empirical and practical contributions that will help align our frameworks with the real world in which MNCs operate. Notwithstanding, we conclude with an apposite quote from North (2005, p. 168):

> We still do not know how to create polities that will put in place economic rules with the correct incentives. We still have a very incomplete understanding of the complex institutional and technologically interdependent structure of political economies which is necessary to improving performance.

If the highly developed field of economics can acknowledge its limitations in explaining economic performance, then we should be willing to admit that existing international marketing frameworks may be imperfect, and that both fit and equifinal strategies can potentially deliver superior performance for MNCs in the face of conflicting, dynamic and uncertain global and local pressures.

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Appendix. Measures of model constructs

Marketing strategy configurations

This we measure with 25 items, each using a seven-point Likert scale, grouped into seven reflectively measured components of the marketing mix ("7Ps"). Each component and item is listed below, with the number of items used to measure each component, and the factor loadings for each item in parentheses:

(1) *Product (4 items)*: product brand name (0.77), product design (0.84), product range (0.81), product packaging (0.78);
(2) *Price (4 items)*: retail pricing (0.80), wholesale pricing (0.77), customer credit (0.74), price discounting (0.83);
(3) *Place (4 items)*: sales force decisions (0.78), channel decisions (0.80), inventory management (0.73), physical distribution (0.82);
(4) *Promotion (4 items)*: advertising theme (0.83), advertising copy (0.89), media mix (0.81), sales promotion (0.83);
(5) *Positioning (3 items)*: market segmentation (0.91), target segments (0.94), product positioning (0.91);
(6) *Policy (3 items)*: marketing policies (0.82), market research (0.87), budgeting systems (0.82); and
(7) *People (3 items)*: personnel selection (0.89), training (0.91), performance evaluation systems (0.89).

Pressures of global integration and local responsiveness

These we measure with 19 items, each using a seven-point Likert scale. We group these items into six reflectively measured components, with three components for the global integration pressures and three for the local responsiveness pressures. We then compute the two pressures themselves as second-order formative indices of their respective underlying components. Each component and item is listed below, with the number of items used to measure each component and the factor loadings for each item in parentheses:

(1) *Global integration pressures*:
   - *Technological change (4 items)*: rate of product innovation (0.82), rate of process innovation (0.81), technological change (0.89), technological complexity (0.78);
   - *Global competition (3 items)*: extent of global competition (0.83); multinational firms (0.86); globally integrated competitors (0.79); and
   - *Scale of investment (2 items)*: production (0.84), R&D (0.84).
(2) *Local responsiveness pressures*:
   - *Government regulations (4 items)*: product (0.71), price (0.87), advertising (0.90), promotion (0.89);
   - *Infrastructure (4 items)*: physical distribution (0.85), channels (0.90), media (0.76), human resources (0.82); and
   - *Customers (2 items)*: local customer needs (0.89), local segments (0.89).

Performance

We measure performance reflectively with the following three items, each using a seven-point Likert scale (factor loadings in parentheses).

- Market share (0.71);
- Sales growth (0.78); and
- Return on investment (0.80).

A quantile-quantile plot shows the sample of values for performance to be normally distributed with a mean of 4.99 and a standard deviation of 1.10 (expressed on a 7-point scale).

Controls

We use the following additional control variables in the regression analyses. Variables 1-4 are measured with single items, and variables 5-8 are measured with multiple items.

(1) *Sector* (manufacturing) dummy variable;

(2) *Market* (consumer) dummy variable;

(3) *Subsidiary age* (log of years, transformed because of skewed distribution);

(4) *Subsidiary size* (log of number of employees, transformed because of skewed distribution);

(5) *Marketing mix innovation (25 items) (Cronbach's alpha 0.93)*: innovation in marketing mix program and process;

(6) *Inter-unit learning (12 items) (Cronbach's alpha 0.89)*: sharing of knowledge and information between headquarters and subsidiaries and between subsidiaries;

(7) *Subsidiary autonomy (25 items) (Cronbach's alpha 0*.96): marketing mix decisions taken in the local subsidiary; and

(8) *Inter-unit networking* (25 items) (*Cronbach's* alpha 0.98): marketing mix decisions taken in teams and taskforces across the MNC headquarters and subsidiaries.

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