

# Evaluating supply chain relationship quality, organisational resources, technological innovation and enterprise performance in the palm oil processing sector in Asia

*Yew Chong Tan*

Public Private Partnership Unit, Prime Minister's Department, Putrajaya, Malaysia, and

*Nelson Oly Ndubisi*

Helsinki Business School, Espoo, Finland

## Abstract

**Purpose** – This paper aims to evaluate the relationship between organisational resources, technological innovation, relationship quality and enterprise performance, as well as the mediating effect of firm–supplier RQ.

**Design/methodology/approach** – A survey was conducted of the palm oil processing sector in Malaysia, consisting milling, refining and oleo-chemical companies. Data were gathered and used to statistically test hypotheses that underpinned a proposed conceptual model.

**Findings** – Organisational resources have a direct impact on RQ, which, in turn, has a direct effect on performance indicators such as financial performance, market effectiveness and strategic objectives. RQ is a mediator in some of the resource-performance relationships, which underpins the genesis of the research undertaken. The mediating role played by RQ in promoting business performance in the palm oil processing sectors, is achieved through translating the effects of organisational resources into improved business performance.

**Research limitations/implications** – The main limitation of this study lies in its cross-sectional nature. A single respondent was drawn from each company, and information from each respondent was obtained only once and at a single point in time.

**Practical implications** – The results offer some suggestions to top management, e.g. on the type of resources to invest in and exploring vital relational issues that enhance performance outcomes and the impact of different sets of resources on relational dynamics.

**Originality/value** – Very little is known about the application of resource-based view in the Asian context, or how RQ affects business performance from the East Asian perspective. By confirming the strong impact of RQ on business performance in the Asian context, the study adds value by providing evidence from the East. The study also makes a contextual contribution, by demonstrating the applicability of the observed relationships among palm oil processing companies from a non-Western, collectivist society.

**Keywords** Resources, Relationship quality, Technological innovation, Business performance, Resource-based view (RBV), Supply chain relationship

**Paper type** Research paper

## Introduction

Understanding how organisations perform successfully and what factors contribute positively towards placing them ahead of the competition remains nebulous and often contentious. It is argued that the same strategy often produces quite different results when applied to similar firms, therefore questioning how a competitive advantage is produced and maintained (Irani *et al.*, 2001; Fahy, 2002). Differentiation in product or service is argued to be strongly underpinned by resources, structure and processes. Central to a need for deeper understanding of the resource-based view (RBV) put forward

by Wernerfelt (1984), is the need for a management tool to determine the strategic resources available to a company in support of its pursuit of competitive advantage. In essence, any competitive advantage is considered to be determined by the bundle of finite resources available to a firm. The RBV of a firm explains its ability to deliver a sustainable competitive advantage with resources managed in such a way that they cannot be replicated by others, which serves as an ideal barrier to entry, thus securing the firm's competitive advantage and market positioning. As a result, RBV claims to offer a thorough description of the principle of competitive advantage. The RBV pays attention to the evaluation of firm-level factors to identify the firm's strengths and weaknesses. The RBV has been adopted to aid a broader understanding of how ownership of critical resources affects the performance of organisations. Russo and Fouts (1997) extend this perspective out from the firm level to the external environment. The RBV of a firm has been applied in the field of strategic management for the past 20 years by authors such as Ambrosini and Bowman (2009), Newbert (2007) and Doh (2005). Its application

The current issue and full text archive of this journal is available at [www.emeraldinsight.com/0885-8624.htm](http://www.emeraldinsight.com/0885-8624.htm)



Journal of Business & Industrial Marketing  
29/6 (2014) 487–498  
© Emerald Group Publishing Limited [ISSN 0885-8624]  
[DOI 10.1108/JBIM-07-2013-0147]

has also been extended into strategic marketing, as explained by [Attia and Hooley \(2007\)](#).

In spite of the growth in empirical and theoretical research on the theoretical foundation of RBV at the firm level, the argument over the value and reputation of the concept from the perspective of strategy continues ([Kraaijenbrink et al., 2010](#); [Newbert, 2007](#)). A critical review identifies a rather narrow list of resources that have been examined, with the need to broaden the lens of analysis. It is therefore suggested that there is a need for a more exhaustive study that covers a comprehensive list of organisational resources that could include, for example, raw materials, technology, corporate reputation, relationship quality (RQ) and human resource practices. There are various advantages of doing so. First, this addresses a relative void in the literature and, second, by proposing ways in which such resources can be implemented by firms that can support them in building relationships with upstream and downstream supply chain partners, it is hoped that this would enhance performance. Although some scholars have documented that RQ is a key firm resource ([Palmatier et al., 2006, 2007](#)), empirical evidence to incorporate RQ into the RBV and performance remains sparse. In seeking to make a contribution towards the normative literature, the authors of this paper have identified cooperation, trust and commitment as the key underpinning constructs of RQ. These foundations of RQ focus at an inter-organisational level, particularly the relationships with suppliers. In this study, the focus is on palm oil processing companies, which involve milling, refining and oleo-chemicals as significant business processes, with the research seeking to examine the relationships within the supply chain.

This paper is structured to allow for easy reading and for the contributory elements to be easily extrapolated while set against a backdrop of theory testing. The background and focal theory identify a strong underpinning through the literature that lead to the offering of a number of hypotheses. Primary data are then generated and tested, with the findings discussed. As this research offers implications for various stakeholder groups, these are structured around academic and management implications. Finally, the limitations of the study are set out.

## Literature review and development of hypotheses

[Wernerfelt \(1984\)](#) defines resources as either tangible or intangible assets controlled by a firm which, in turn, play a prominent role within the RBV. This definition captures what [Constantin and Lusch \(1994\)](#) called *operand resources* (resources on which an operation or act is performed to produce an effect) and *operant resources* (which are employed to act on operand resources and other operant resources). While all organisations have access to resources, [Barney \(2001\)](#) argues that it is only valuable and rare resources that offer the potential to deliver a competitive advantage. This resource-based perspective provides a basis for addressing some key issues in the formulation of strategy for empirical testing rather than a tautology of strategic management that has no application. [Galbreath and Galvin \(2008\)](#) and [Russell et al. \(2008\)](#) argue that persistent differences in organisational performance is driven by their resources, rather than their

products, market strategies or structural characteristics of the industry. In this paper, we further argue that an efficient combination of a firm's raw materials (operand resources) and technological and human resources capabilities (operant resources) determines a firm's performance.

[Schoemaker and Amit \(1994, p. 7\)](#) define strategic assets as firm-specific resources that are difficult to imitate, scarce, durable, have few substitutes and complement each other. While their work has provided useful insight into how firms can gain competitive advantage based on the resources they control, the authors also acknowledge the difficulties in operationalising the RBV from two perspectives. From the normative perspective, which deals with the question of how an organisation's resources can be identified, and what their effect is on performance? And from the practical perspective, which deals with issues of how managers identify strategic resources, and how they determine their relative importance.

All too often, businesses are not able to develop new resources internally or use existing resources quickly enough to meet competitive demands. Organisations in such a predicament may seek strategic partnerships to obtain the necessary resources ([Ndubisi, 2011, 2013](#); [Shook et al., 2009](#); [Selsky and Parker 2005](#)). Overall, firms need to manage their resources in the most efficient way possible, investing in existing resources and seeking to develop new resources or leverage through strategic partnerships. However, where internal expertise or barriers to entry exist, then outsourcing ([Baldwin et al., 2001](#)) or offshoring ([Aron and Singh, 2005](#)) become management options. What emerges as critical to the survival and prosperity of an organisation is the way in which it manages its resources, regardless of the sector. In this study, the authors examine four key (operand and operant) resources of any organisation, which, in this study, are considered most relevant to palm oil processors, namely, raw materials (operand resources), technology, corporate reputation, and human resources (operant resources). These resources (briefly explained below) reflect the current challenges at the firm level in the palm oil processing sector.

### Raw materials – the genesis

Fresh fruit bunches (FFB) are the raw material for the palm oil processing sector and the first step of milling of FFB is the production of crude palm oil and palm kernel ([Malaysian Palm Oil Board, 2009](#)). According to [Chang et al. \(2003\)](#) the oil extraction rate (OER) and kernel extraction rate are two important parameters that are directly related to the profitability of palm oil processors. The Malaysian Palm Oil Board (MPOB) defines OER as the percentage of the weight of oil physically recovered from a known weight of processed FFB. The availability and quality of raw materials also depend on the selection of suppliers. According to [Verma and Pullman \(1998\)](#), the importance of supplier selection (criteria used) depends on their attributes in terms of *quality, cost and delivery performance of raw materials*. In another study, [van der Rhee et al. \(2009\)](#) show how managers trade-off between cost, delivery, flexibility and services features in the supplier selection process for raw materials. They ([van der Rhee et al., 2009](#)) found that flexibility was the most important factor, followed by cost and delivery performance. [Gupta et al., \(2005\)](#) found quality to have the most important influence on

supplier selection for manufacturers seeking volume flexibility. The availability of quality raw materials, competitive price, timely delivery and flexibility to accommodate changing orders all appear to be important for palm oil processors. As a result, processors will try to build a *quality relationship* with suppliers who can help achieve their raw materials needs. Therefore, the authors propose the following:

*H1.* Access to raw materials has a positive relationship with RQ.

### Technology – the wired infrastructure

Wang *et al.* (2004) refer to technology as knowledge that include expertise, methods, procedures and experience, as well as physical devices and equipment. Access to up-to-date technology also represents the superior and heterogeneous technical assets of the firm. Manufacturing technologies consisting of advanced manufacturing technologies, flexible automation, factory automation and flexible manufacturing automation are terms that have been used for studying the effect of technologies on performance of the organisation (Boyer *et al.*, 1997; Heine *et al.*, 2003).

The role of technology reflects the interrelationships between management processes, structure and individual roles that are related to a firm's performance. Wade and Hulland (2004) argue, from an information systems perspective, that resource complementarity and moderating factors are essential when considering RBV within the context of a new technology. Porter and Millar (1985) and Porter and Kramer (2002) appear to suggest that firms that make effective use of modern technology often develop unique products or services to create their competitive advantage. In addition, modern technology enables a company to achieve economies of scale, increase the variety of their products and reduce production costs. New technologies also facilitate the rapid sharing of information during the manufacturing process. In turn, this is able to improve the speed and efficient flow of information. Furthermore, a company can use external sources to obtain technology that enables them to create differentiated products, or to establish a lower cost base. External sourcing can also reduce investment in the development of the firms' internal manufacturing base. Specifically, the use of licensing and/or outsourcing arrangements gives a firm access to highly specialised technology or processes and standardised components. The importance of leveraging technological advances within critical business processes is a determining factor in the quest for performance advantage (Boyer *et al.*, 1997; Das and Narasimhan, 2001; Rust and Espinoza, 2006).

In line with the rapid development of the palm oil processing sector, the MPOB has improved milling technology for extracting oil from FFB. Technological development in palm oil milling is important to increase efficiency in processing, to reduce labour requirements and to minimise the discharge of pollutants into the environment. Furthermore, these mills also participate in the competency scheme of the MPOB to improve their product quality with better OER. Indeed, the OER depends on the quality of FFB, thus MPOB has developed a set of grading standards to help mills improve their OER. Many mills are also gearing up for

ISO certification and good manufacturing practices status. With the establishment of the Palm Oil Milling Technology Centre (POMTEC) at MPOB, many new technologies are being developed. Given the technological development effort by MPOB, access to up-to-date technology will be promoted by building quality relationships with partners that can assist firms or, alternatively, to pool resources together. Therefore, the authors of this paper suggest the following:

*H2.* Access to up-to-date technology has a positive relationship with RQ.

### Corporate reputation – establishing recognition

The concept of corporate reputation refers to a strategic asset of a firm that is unique and inimitable, and it plays an important role in achieving competitive advantage and improving organisational performance (Hall, 1993; Tracey *et al.*, 2005; Wang *et al.*, 2006). It is defined as “a stable, issue-specific aggregate perceptual representation of a company's past actions and future prospects compared against some standard” (Walker, 2010, p. 370). Keller and Lehmann (2006) state that corporate reputation has emerged as a top management priority in the past decade due to a growing realisation that brands are one of the most valuable intangible assets of a firm. According to Calderon *et al.* (1997), brand value is generated by a series of interactive multidimensional assets, namely, loyalty, awareness, perceived quality and identity.

Corporate reputation as a marketing asset is an intangible resource (Hooley *et al.*, 1998) that is created and lives in the minds of consumers. It is difficult to be replicated by rival firms over the short term. The reason for this is that reputation is complex and the key determinants of reputation creation are incorporated into the firm (Dowling, 2001). These are considered to have a very ambiguous causal relationship, and this, therefore, lessens the degree to which it may be imitated by rivals. A good corporate reputation indicates that an organisation is highly esteemed. An increasing number of authors (Gotsi and Wilson, 2001; Ugglu, 2006; Ang and Wight, 2009) argue that good corporate reputation by way of brand imagery has a strategic value for firms. Therefore, it is unsurprising that so many companies engage in explicit reputation-building activities to improve their firm's reputation (Meijer, 2009).

Bruce *et al.* (2004) explain that a partner's reputation in the market has a strong positive impact on the trust-building process when establishing strong supply chain relationships. This is further supported by Ibeh *et al.* (2006), who demonstrated that a *good reputation* in the international market among smaller agriculture-food companies, has been built up through consistent quality delivery and substantial investment in branding and marketing. In turn, this has allowed the sector to become choosier when establishing its supply chain partners. Some organisations build good corporate reputation by building quality relationships with customers and other businesses. Therefore, it would appear that a good corporate reputation is a valuable asset that is related to RQ, and can be enhanced by palm oil processors through high-quality relationships with their supply chain partners and customer base.

*H3.* Corporate reputation has a positive relationship with RQ.

### Human resource practices

The human resources of a firm (Ferris *et al.*, 1999) and human resource practices (Nasution *et al.*, 2011; Giannakis, 2011) of a firm are potential sources of sustainable competitive advantage. Wright *et al.* (2001) distinguish between a firm's human resources (i.e. the human capital pool) and human resource practices (systems that are used to manage the human capital pool). They define the human capital pool as a stock of employee capabilities and human resource practices as multiple practices rather than a single practice. Lado and Wilson (1994) suggest that a firm's human resource practices could provide a source of sustainable competitive advantage because a system of human resource practices is relatively difficult to imitate. Human resource practices are defined as "a set of distinct but interrelated activities, functions and processes that are directed at attracting, developing and maintaining (or disposing of) a firm's human resources" (Lado and Wilson, 1994, p. 701). Another definition offered by Barney and Clark (2007, p. 122) looks at human resource practices as "all the programs, policies, procedures, and activities that firms use to manage their human resources". Human resource practices are considered as one of the most essential organisational resources and are an important strategic asset for any organisation (Wright *et al.*, 2001). As such, a company-level investment should emphasise the importance of investing in complementary or synergetic human resource practices (Subramony, 2009).

Lengnick-Hall *et al.* (2009) discussed the evolution of human resource practices and articulate many of the major findings and contributions and speculate how they will evolve in the future, particularly in the context of the RBV. The RBV of the firm emphasises the importance of core competencies as a critical basis for sustainable competitive advantage; hence, strategic human resources development is viewed as located in the RBV, as a basis for redefining human resource development's role in organisational strategy (Clardy, 2008). Similarly, Lytras *et al.* (2008), indicated that human resource management systems lead to sustainable competitive advantage through the creation and deployment of knowledge-based resources. Ferris *et al.* (1998) explain that intelligent use of human resource practices leads to organisational effectiveness by creating a supportive climate and shaping employee behaviour and attitudes, which can lead to improvements in the quality of the firm's relationships. As a result, it is postulated that, effective human resource practices can enhance RQ, as follows:

H4. Effective human resource practices have a positive relationship with RQ.

### The importance of RQ

There are several strands to defining RQ. The people-based approach looks at RQ as "when the customer is able to rely on the salesperson's integrity and has confidence in the salesperson's future performance because the level of past performance has been consistently satisfactory" (Crosby *et al.*, 1990, p. 70). The business purchasing approach is defined by Smith (1998, p. 78), as:

[. . .] an overall assessment of the strength of the relationship and the extent to which it meets the needs and expectations of the parties, based on a history of successful encounters or events.

In business-to-business approach, Johnson (1999, p. 6) provides a generic definition which portrays RQ as "the overall depth and climate of inter-firm relationships". From the buyer's perspective, the term has been defined as:

[. . .] the degree to which buyers are satisfied over time with the overall relationship, as manifested in product quality, service quality, price paid for the value received and the degree to which the firms operate as a partnership (Huntley, 2006, p. 706).

RQ is the key determinant of inter-organisational relationship performance; it influences the effectiveness of relationship marketing (Palmatier, 2008; Palmatier *et al.*, 2006).

RQ is regarded as a multidimensional construct, particularly linked to *cooperation, commitment and trust*, and offers an overall estimation of the strength of a relationship (Crosby *et al.*, 1990; Palmatier, 2008). In another study, Ndubisi (2007) examined the antecedents of RQ and found that there was a significant positive relationship between trust, commitment, conflict handling and RQ, and that they contribute differentially to RQ. RQ is significant to the palm oil processing sector, as effective relationships assure supply of quality raw materials throughout the supply chain, flexibility in meeting changing demand conditions and effective market representation. It can secure support when opportunism might seem attractive and protects processors from the vagaries of agricultural production. A high-quality relationship can ensure the trust and commitment of parties to the relationship (Ndubisi, 2013). As such, RQ is beneficial and can lead to better business performance and achievement of an organisation's goal/s and objectives. Therefore, the following hypothesis is offered:

H5. RQ has a positive relationship with (a) market effectiveness, (b) financial performance and (c) strategic objectives.

### The mediating effect of RQ

Mediating variables link or explain how the independent variables are related to dependent variables (Baron and Kenny, 1986; MacKinnon *et al.*, 2007). By introducing RQ as a mediator in this study, the authors reason that access to necessary resources will lead to the development of quality relationships between palm oil processors and suppliers and, in turn, to achievement of the organisation's desired level of performance. Consistent with past mediation studies (Zhao *et al.*, 2010), RQ has been modelled as a mediating variable in this study. In doing so, the study helps to identify possible indirect effects of organisational resources on business performance as well as potentially reconciling the findings in the normative literature (Lado and Wilson, 1994; Wright *et al.*, 2001) of the relationship between organisational resources, organisational performance and sustainable competitive advantage.

It is important to understand the role of resources gained through marketing relationships in gaining sustainable competitive advantage. Thus, palm oil processing companies should consider building and maintaining quality relationships with their suppliers to enable sharing and exchanging of resources and capabilities. Through the incorporation of RQ, evolving needs of this fiercely competitive market can be met. Consequently, investigating the mediating effect of RQ

between resources and firm performance is important. Thus, the authors propose the following hypotheses:

- H6. RQ has a mediating effect in the relationship between raw materials and (a) market effectiveness, (b) financial performance and (c) strategic objectives.
- H7. RQ has a mediating effect in the relationship between technology and (a) market effectiveness, (b) financial performance and (c) strategic objectives.
- H8. RQ has a mediating effect in the relationship between corporate reputation and (a) market effectiveness, (b) financial performance and (c) strategic objectives.
- H9. RQ has a mediating effect in the relationship between human resource practices and (a) market effectiveness, (b) financial performance and (c) strategic objectives.

### Business performance

Business performance in this study uses the following three measures:

- 1 financial performance;
- 2 market effectiveness; and
- 3 strategic objectives.

Market effectiveness is the degree to which the mid-term performance goal of the organisation is achieved. The RBV of the firm indicates that mid-term performance will be increased through appropriate resource deployment (Ray *et al.*, 2004). Market effectiveness refers to both growth and positioning of the firm and is measured by indicators such as *product quality*, *new product introduction*, *market share* and *sales growth* (Venkatraman and Ramanujam, 1986). Indeed, Clark (2000) argues that the purpose of market effectiveness is to measure performance in terms of management's objectives.

Financial performance is the measure most consistently used in historical strategy research and refers to the profitability of a firm, measured through items such as return on investment, return on equity and return on assets. The RBV of the firm using resources and capabilities is to explain any variation in a firm's financial performance (Barney and Arikian, 2001; Carmeli *et al.*, 2009; Ray *et al.*, 2004). Johnson and Kaplan (1987, pp. 254–255) assert that the role of short-term financial measures has been weakening due to rapid changes in technology, shortened product life cycles and innovation in production operation. The decreased reliance on direct labour, increased capital intensity and other intangible resources made it invalid to rely on traditional methods of matching revenue to cost as a measure of performance, hence justifying the use of a combination of performance measures in this study.

Achievement of strategic objectives refers to performance measurement, which begins with the organisation's primary objectives as established by its owners or chief executive officers (CEOs) (Atkinson, 1998). The strategic planners who decide to pursue these primary objectives will specify both the nature of and the roles of the organisation's key stakeholders. The give and take between an organisation and its stakeholders will help to define the organisation's secondary objectives, which are the focal point of the strategic performance measurement. A major attribute of a strategic

performance measurement system is that it focuses attention on what planners believe is important to promote the organisation's success (Atkinson, 1998; Sarkar *et al.*, 2001; Neely *et al.*, 2005; Giannakis, 2007).

### Proposed model for supply network relationships

Based on the review of extant literature, strategic resources and RQ offer a suitable theoretical lens for explaining both the direct and indirect effects on firms' business performance. Organisational resources include raw materials, technology, corporate reputation and human resource practices. The mediator, RQ includes the relational dimensions of trust, commitment and cooperation. These factors can play a vital role in predicting performance outcome.

## Research method

### Sample and data collection

The study was conducted by distributing structured questionnaires by mail to the CEOs/senior managers of palm oil processing companies in Malaysia. The stratified sampling technique was used to select the participants from the directory of the Malaysian Palm Oil Processing Sector, 2009 which served as the study's sampling frame. There were 480 licensed companies in operation. The sampling frame is limited to three major industries in the palm oil processing sector in Malaysia – milling, refining and oleo-chemicals. A total of 330 responses were received, comprising 283 palm oil mills, 31 refineries and 16 palm oleo-chemical plants. This translates to a response rate of 69 per cent.

### Informant and data quality

It is important to ascertain the quality of the informants. For this purpose, the survey included a question regarding how certain the respondent felt in answering all the questions; this served as a sensitivity measure. The informants indicated their degree of certainty on a 7-point scale (1 = "very uncertain", 7 = "very certain") about answering all the questions. The mean for informants was approximately 6.00. In terms of informants positions, the survey was completed by an appropriate person within the organisation (senior managers – 74 per cent and CEOs – 26 per cent), with sound knowledge of the issues under investigation. They also possessed ample industry experience, with a mean of 13 years of palm oil processing industry experience.

The end of data collection was followed by a visit to selected palm oil processing plants, including milling, refining and oleo-chemical. The purpose of these visits was to gain a better understanding and insight into the role and contribution of resources to business performance. Briefings on the companies were given by the general manager/senior manager and followed by questions from the research team. Then, plant tours were arranged to give a clearer picture of the day-to-day operations and to triangulate with the data sources. Overall, these visits were very useful and helped to validate the information from the completed questionnaires from these companies.

### Measure development

Data were primarily collected using a survey form consisting of existing or modified measurement items. The questionnaire

was developed to reduce bias in the research, by taking the following measures:

- A careful consideration of wording, language, general appearance, items, scaling and pre-testing. The authors pre-tested the questionnaire with 16 general managers to validate its content.
- Second, was the choice of scaling. The primary rating scale of the questionnaire was based on a 7-point Likert scale, designed to examine how strongly respondents agreed or disagreed with the statement.
- Finally, the reliability and validity of the measures were confirmed.

The items for the raw material construct was adapted from the five-item scale of Verma and Pullman (1998). Technology was measured using the five-items scale from Walsh and Linton (2002) and Wang *et al.* (2004). The instrument for corporate reputation was adapted from Caruana (1997). Human resource practices items were adapted from Delery and Doty (1996) and Rogg *et al.* (2001). RQ was conceptualised as consisting of three dimensions, namely, trust (six items), commitment (four items) and cooperation (five items), and measured with items adapted from studies by Mavondo and Rodrigo (2001) and Morgan and Hunt (1994). The four items of market effectiveness measure sales volume, sales growth, market share and new product introduction (Venkatraman and Ramanujam, 1986). Financial performance has four items measuring return on investment, gross margin, return on assets and profitability (Shoham, 1996). Strategic objectives were measured with four items adapted from studies by Cavusgil and Zou (1994) and Sarkar *et al.* (2001).

### Common method variance

Common method variance is the “variance that is attributable to the measurement method rather than to the constructs the measures represent” (Podsakoff *et al.*, 2003, p. 879). This method variance and its effects are the focal points of debate in organisational behavioural research (Doty and Glick, 1998; Lindell and Whitney, 2001; Malhotra *et al.*, 2006). There seems to be a concern that common method bias is raised when cross-sectional, self-report surveys are used (Chang *et al.*, 2010), but there are several statistical remedies to detect and control for any possible common method bias, such as Harman’s single-factor test and marker variable technique. In

this study, the marker variable technique proposed by Lindell and Whitney (2001) was used to address the problem of potential bias. Lindell and Whitney (2001) advocate the inclusion of a variable that is theoretically unrelated to at least one or more variables in the survey questionnaire. Then, common methods bias can be examined based on the correlation between the marker variable and existing variables (Malhotra *et al.*, 2006). Based on examination, there was no evidence of common methods bias found in this study, so common methods bias is not considered as a limiting factor in this study. Table I shows the correlation matrix, reliability of the scales and square roots of average variance extracted.

## Results and discussion

The summary of results for the hypothesised relationships is presented in Table II. The first column restates the hypotheses mentioned earlier. The second column indicates the hypothesised direction of the relationship. The measure for direct effect is unstandardised regression coefficients. The last column shows whether the hypotheses were supported or not.

### Hypotheses testing

As hypothesised in *H1*, the relationship between access to raw materials and RQ ( $b = 0.047$ ,  $p < 0.001$ ) is confirmed. The direct effect is positive and significant and hence, *H1* is supported. *H2* shows that access to up-to-date technology is not significantly related to RQ. As hypothesised in *H3*, corporate reputation is found to be positively and significantly related to RQ ( $b = 0.194$ ,  $p < 0.05$ ) and thus, *H3* is also supported. This reflects the need for corporate reputation in building RQ with suppliers. However, human resource practices are not significantly related to RQ thus, *H4* is not supported.

Clearly, raw materials and corporate reputation may have a direct bearing on a firm’s activities and are thus key drivers of RQ. Access to raw materials is very important for smooth operations and processors build relationships with suppliers to meet their raw material needs. The reputation of processors seemingly helps them to build quality relationship with suppliers. Moreover, reputable organisations are often more careful to meet their commitments to customers, as such building quality relationship with suppliers will help organisations meet their quality objectives, as the quantity and

**Table I** Internal consistency, square roots of average variance extracted and correlation matrix

No	Construct	Int. con	1	2	3	4	5	6	7	8
1	Raw materials	0.71	<i>0.61</i>							
2	Technology	0.85	0.24***	0.72						
3	Corporate reputation	0.83	0.39**	0.49***	0.75					
4	Human resource practices	0.84	0.14**	0.49***	0.53***	0.71				
5	Relationship quality	0.93	0.38***	0.27***	0.48***	0.32***	0.85			
6	Market effectiveness	0.67	0.25***	0.31***	0.19**	0.23**	0.27***	0.80		
7	Financial performance	0.80	0.07	0.07	0.09	0.07	0.27***	0.56***	0.61	
8	Strategic objectives	0.90	0.12*	0.30***	0.41***	0.31***	0.35***	0.36***	0.52***	0.83
	Mean		5.81	4.99	5.79	5.52	5.26	5.22	4.74	5.47
	Cronbach’s alpha		0.70	0.84	0.83	0.83	0.86	0.60	0.89	0.89

Notes: The diagonal (in italics) shows the square root of the average extracted for each construct, Int.Con = Internal consistency; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

Table II Summary of results for direct effect of organisational resources on RQ

Hypothesis	Direction	Direct effect		Supported/not supported
		Coefficient	t-value	
<i>H1. Raw materials are related to RQ</i>	+	0.047 (0.099)	4.111***	Supported
<i>H2. Technology is related to RQ</i>	+	0.005 (0.061)	0.082	Not supported
<i>H3. Corporate reputation is related to RQ</i>	+	0.348 (0.097)	3.588***	Supported
<i>H4. Human resource practices are related to RQ</i>	+	0.167 (0.105)	1.590	Not supported
<i>H5. RQ is related to</i>				
<i>a. Market effectiveness</i>	+	0.350 (0.104)	3.365***	Supported
<i>b. Financial performance</i>	+	0.457 (0.154)	2.968**	Supported
<i>c. Strategic objectives</i>	+	0.185 (0.096)	1.927*	Supported

Notes: \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

quality of their output depend largely on the quantity and quality of supplies. For their part, suppliers in such a relationship will be mindful to not disrupt the activities of the firm or be blamed for the firm's failure to meet commitments to customers, either through disruption of materials flow, poor quality supplies or over-pricing of supplies.

Access to technology and human resource practices did not show any significant relationship with RQ, albeit the direction of the relationship is as hypothesised. The non-significant result could be because the human resource practices of the processor firm may be considered an internal affair and, if it has no direct bearing on the supplier's business, it may not affect RQ significantly. In addition, if the supplier does not have a need for the processor's technology, or owns a similar technology, or have access to it from other sources such as the MPOB and the Ministry of Plantation Industries and Commodities (MPIC), access to technology may not have a strong effect on RQ.

The results reveal that RQ has a direct relationship with market effectiveness ( $b = 0.350$ ,  $p < 0.001$ ), financial performance ( $b = 0.457$ ,  $p < 0.01$ ) and strategic objectives ( $b = 0.185$ ,  $p < 0.05$ ) (*H5a-c*). The direct relationship is positive and significant. This means that RQ can lead directly to market effectiveness, financial performance and strategic objectives, and a better business performance outcome.

Table III examines the mediation hypotheses (*H6*, *H7*, *H8* and *H9*) and tries to present the results of this fairly complex model in an easy-to-read format. All the hypotheses in *H6a-c* are supported, suggesting that RQ mediates the relationship between organisational resources (namely, raw materials) and business performance. Consistent with our expectations and hypothesising in *H6*, the relationships between the availability of raw materials and market effectiveness ( $b = 0.143$ ,  $p < 0.01$ ), financial performance ( $b = 0.274$ ,  $p < 0.01$ ) and strategic objectives ( $b = 0.158$ ,  $p < 0.01$ ) are indirect effects and supported by the data. The indirect effects clearly show

Table III Mediating role of RQ

Hypothesis	Direction	Mediating effect			Supported/not supported
		Coefficient	SE	t-value	
<i>H6. The availability of raw materials</i>					
<i>a. Raw materials.....RQ.....ME</i>	+	0.143	0.055	2.600**	Supported
<i>b. Raw materials.....RQ.....FP</i>	+	0.274	0.111	2.468**	Supported
<i>c. Raw materials.....RQ.....SO</i>	+	0.158	0.065	2.431**	Supported
<i>H7. Access to up-to-date technology</i>					
<i>a. Technology.....RQ.....ME</i>	+	0.002	0.023	0.087	Not supported
<i>b. Technology.....RQ.....FP</i>	+	0.015	0.418	0.036	Not supported
<i>c. Technology.....RQ.....SO</i>	+	0.151	0.058	0.043	Not supported
<i>H8. Corporate reputation</i>					
<i>a. Corporate reputation.....RQ.....ME</i>	+	0.122	0.040	3.050**	Supported
<i>b. Corporate reputation.....RQ.....FP</i>	+	0.241	0.114	2.114*	Supported
<i>c. Corporate reputation.....RQ.....SO</i>	+	0.140	0.074	1.892**	Supported
<i>H9. Human resource practices</i>					
<i>a. Human resource practices.....RQ.....ME</i>	+	0.058	0.044	1.318	Not supported
<i>b. Human resource practices.....RQ.....FP</i>	+	0.122	0.108	1.130	Not supported
<i>c. Human resource practices.....RQ.....SO</i>	+	0.071	0.057	1.246	Not supported

Notes: RQ = relationship quality; ME = market effectiveness; SO = strategic objective; FP = financial performance; \*  $p < 0.05$ ; \*\*  $p < 0.01$

that RQ plays a mediating role in enhancing business performance.

The results indicate that RQ does not mediate the relationship between access to up-to-date technology and market effectiveness, financial performance and strategic objectives. Hence, *H7* is not supported. This is plausible because investment in technology such as research and development, technology upgrade and/or applying new technology incurs heavy financial outlay and is sometimes firm-specific. As such, if suppliers cannot rely on the technology of the processor and vice versa, RQ may not be enhanced by access to such technology resources for increased performance.

As presented in *H8*, the association between corporate reputation and market effectiveness ( $b = 0.122, p < 0.01$ ), financial performance ( $b = 0.241, p < 0.05$ ) and strategic objectives ( $b = 0.140, p < 0.05$ ) is positive and significant; thus, *H8a-c* are supported. These significant results clearly show that the impact of corporate reputation on market effectiveness and performance is mediated by RQ. This implies that corporate reputation enhances RQ which, in turn, contributes to improved business performance. However, the findings reveal that the mediating effect of RQ in the relationship between human resource practices and market effectiveness, financial performance and strategic objectives is not supported (*H9*). Again, if the human resource practices of the processor firm have no direct bearing on the supplier's business, it may not affect RQ and, consequently, the processor firm's performance. In addition, in line with most Asian culture, where managers will not let another "lose face", if the supplier considers human resource practices as the processor firm's private affair, then even if such practices are poor, it may not affect the relationship between the firms.

## Research implications

### Theoretical implications

The results of this study contribute to enhancing the theoretical understanding and provide empirical support for the RBV of a firm by evaluating the differential contributions of resources to organisational performance. It is also important to generalise the findings in the context of manufacturing sectors in agricultural commodities, particularly in the oils and fats industry. The study also contributes towards expanding the theoretical application by incorporating RQ constructs into the RBV as a mediator in enhancing performance. This study aggregates three constructs: trust, commitment and cooperation to form RQ. It contributes to a new explanation about the mediating effect of RQ on business performance. In sum, the study augments theory mainly by situating RQ at the crux of the organisational resources and performance debate, and underlines its relevance to a range of desired outcomes, including market effectiveness, financial and strategic performance.

### Managerial and policy implications

The results can help senior managers to determine what resources to invest in to achieve desired performance outcomes, particularly in the oils and fats industry in Malaysia. Furthermore, the results can help senior managers in identifying key relational aspects that enhance performance

and the impact of different sets of resources on relational dynamics. Incorporating RQ into resource-based models helps to better understand how palm oil processing companies can improve market effectiveness, financial and strategic performance.

Very little is known about the application of RBV in the Asian context, or how RQ affects business performance from the East Asian perspective. By confirming the strong impact of RQ on business performance in the Asian context, the study adds value by providing evidence from the East. The study also makes a contextual contribution by demonstrating the applicability of the observed relationships among palm oil processing companies from a non-Western, collectivist society. The Malaysian evidence is not only useful for policymakers and directors of the relevant authorities in Malaysia such as the MPOB and the MPIC but also for similar authorities in other Asian economies. Malaysia is a representative Asian country that comprises a unique potpourri of Asian cultures, including Chinese, Indian, Malay, Borneo and others.

## Conclusions

This paper has attempted to look at how organisations improve their performance by drawing their resources and relationships through the RBV lens. It was hypothesised that organisational resources (raw materials, technology, corporate reputation and human resource practices), through their impact on RQ, lead to increased business performance. The authors incorporated RQ as a mediator in the relationship between resources and performance and demonstrated the relevance and criticality of the model to the palm oil processing sector. The interpretation of the RBV also explains the link between the constructs under investigation. The results indicate that in the palm oil processing industry, the quality of relationships between business partners is critical for accessing resources and for improving business performance. In this industry, businesses tend to improve the quality of their relationship with key partners to facilitate access to necessary resources for performance enhancement. Access to raw materials and corporate reputation are the key resources which strongly impact RQ. However, the influence of other resources such as access to up-to-date technology and human resource practices is not as strong. Overall, this research highlights the fact that RQ plays an important mediating role in the model. Specifically, RQ plays a significant mediating role in creating business performance in the palm oil processing sectors, by transmitting the effects of organisational resources into performance outcomes.

## Limitations and future research

The main limitation of the study lies in its cross-sectional nature. A single respondent was drawn from each company, and information from each respondent was obtained only once and at a single point in time. Therefore, research in the future could use a longitudinal design to assess the effects over a longer period of time. This would give a more dynamic view of current practices and changes over time if the same respondents are studied at different times. In addition, future research can examine the effect of other organisational



capability constructs such as logistics, product branding and physical location.

## References

- Ambrosini, V. and Bowman, C. (2009), "What are dynamic capabilities and are they a useful construct in strategic management?", *International Journal of Management Review*, Vol. 11 No. 1, pp. 29-49.
- Ang, S.H. and Wight, A.M. (2009), "Building intangible resources: the stickiness of reputation", *Corp Reputation Review*, Vol. 12 No. 1, pp. 21-32.
- Aron, R. and Singh, J.V. (2005), "Getting offshoring right", *Harvard Business Review*, December, pp. 135-143.
- Atkinson, A. (1998), "Strategic performance measurement and incentive compensation", *European Management Journal*, Vol. 16 No. 5, pp. 552-561.
- Attia, S.T. and Hooley, G. (2007), "The role of resources in achieving target competitive positions", *Journal of Strategic Marketing*, Vol. 15 No. 2, pp. 91-119.
- Baldwin, L.P., Irani, Z. and Love, P.E.D. (2001), "Outsourcing information systems: drawing lessons from a banking case study", *European Journal of Information Systems*, Vol. 10 No. 1, pp. 15-24.
- Barney, J.B. (2001), "Is the resource based view a useful perspective for strategic management research? Yes", *Academy of Management Review*, Vol. 26 No. 1, pp. 41-56.
- Barney, J.B. and Arian, A. (2001), "The resource-based view: origins and implications", in Hitt, M.A., Freeman, R.E. and Harrison, J.S. (Eds), *The Blackwell Handbook of Strategic Management*, Oxford, pp. 124-188.
- Barney, J.B. and Clark, D.N. (2007), *Resource-Based Theory: Creating and Sustaining Competitive Advantage*, Oxford University Press, New York, NY.
- Baron, R.M. and Kenny, D.A. (1986), "The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations", *Journal of Personality and Social Psychology*, Vol. 51 No. 6, pp. 1173-1182.
- Boyer, K.K., Leong, G.K., Ward, P.T. and Krajewski, L.J. (1997), "Unlocking the potential of advanced manufacturing technologies", *Journal of Operations Management*, Vol. 15 No. 4, pp. 331-347.
- Bruce, M., Daly, L. and Towers, N. (2004), "Lean or agile: a solution for supply chain management in the textiles and clothing industry?", *International Journal of Operations and Production Management*, Vol. 24 No. 2, pp. 151-170.
- Calderon, H., Cervera, A. and Molla, A. (1997), "Brand assessment: a key element of marketing strategy", *Journal of Product and Brand Management*, Vol. 6 No. 5, pp. 293-304.
- Carmeli, A., Sheaffer, Z. and Halevi, M.Y. (2009), "Does participatory decision-making in top management teams enhance decision effectiveness and firm performance?", *Personnel Review*, Vol. 38 No. 6, pp. 696-714.
- Caruana, A. (1997), "Corporate reputation: concept and measurement", *Journal of Product and Brand Management*, Vol. 6 No. 2, pp. 109-118.
- Cavusgil, S.T. and Zou, S. (1994), "Marketing strategy-performance relationship: an investigation of the empirical link in export", *Journal of Marketing*, Vol. 58 No. 1, pp. 1-21.
- Chang, L.C., Rahim, A.A. and Zainon, B. (2003), "An economic perspective of oil extraction rate in the oil palm industry of Malaysia", *Oil Palm Industry Economic Journal*, Vol. 3 No. 1, pp. 25-31.
- Chang, S.J., van Witteloostuijn, A. and Eden, L. (2010), "From the editors: common method variance in international business research", *Journal of International Business Studies*, Vol. 41 No. 2, pp. 178-184.
- Clardy, A. (2008), "The strategic role of human resource development in managing core competencies", *Human Resource Development International*, Vol. 11 No. 2, pp. 183-197.
- Clark, B.H. (2000), "Managerial perceptions of marketing performance: efficiency, adaptability, effectiveness and satisfaction", *Journal of Strategic Marketing*, Vol. 8 No. 1, pp. 3-25.
- Constantin, J.A. and Lusch, R.F. (1994), *Understanding Resource Management*, The Planning Forum, Oxford, OH.
- Crosby, L.A., Evans, K.R. and Cowles, D. (1990), "Relationship quality in services selling: an interpersonal influence perspective", *The Journal of Marketing*, Vol. 54 No. 3, pp. 68-81.
- Das, A. and Narasimhan, R. (2001), "Process-technology fit and its implications for manufacturing performance", *Journal of Operations Management*, Vol. 19 No. 5, pp. 521-540.
- Delery, J.E. and Doty, D.H. (1996), "Modes of theorizing in strategic human resource management: tests of universalistic, contingency, and configurational performance predictions", *The Academy of Management Journal*, Vol. 39 No. 4, pp. 802-835.
- Doh, J.P. (2005), "Offshore outsourcing: implications for international business and strategic management theory and practice", *Journal of Management Studies*, Vol. 42 No. 3, pp. 695-704.
- Doty, D.H. and Glick, W.H. (1998), "Common methods bias: does common methods variance really bias results?", *Organizational Research Methods*, Vol. 1 No. 4, pp. 374-406.
- Dowling, G.R. (2001), *Creating corporate reputation: Identity, image, and performance*, Oxford University Press, New York, NY.
- Fahy, J. (2002), "A resource-based analysis of sustainable competitive advantage in a global environment", *International Business Review*, Vol. 11 No. 1, pp. 57-77.
- Ferris, G.R., Berkson, H.M., Kaplan, D.M., Harrell-Cook, G. and Frink, D.D. (1998), "Toward a social context theory of human resource management-organizational effectiveness relationship", *Human Resource Management Review*, Vol. 8 No. 3, pp. 235-264.
- Ferris, G.R., Hochwarter, W.A., Buckley, M.R., Harrell-Cook, G. and Frink, D.D. (1999), "Human resources management: some new directions", *Journal of Services Marketing*, Vol. 25 No. 3, pp. 385-415.
- Galbreath, J. and Galvin, P. (2008), "Firm factors, industry structure and performance variation: new empirical evidence to a classic debate", *Journal of Business Research*, Vol. 61 No. 2, pp. 109-117.
- Giannakis, M. (2007), "Performance measurement of supplier relationships", *Supply Chain Management: An International Journal*, Vol. 12 No. 6, pp. 400-411.

- Giannakis, M. (2011), "Management of service supply chains with a service-oriented reference model: the case of management consulting", *Supply Chain Management: An International Journal*, Vol. 16 No. 5, pp. 346-361.
- Gotsi, M. and Wilson, A. (2001), "Corporate reputation management: living the brand", *Management Decision*, Vol. 39 No. 2, pp. 99-104.
- Gupta, O.K., Jantan, M. and Ndubisi, N.O. (2005), "The moderator effect of supplier management on the relationship between supplier selection and manufacturing flexibility", *International Journal of Services Operations Management*, Vol. 1 No. 2, pp. 147-167.
- Hall, R. (1993), "A framework linking intangible resources and capabilities to sustainable competitive advantage", *Strategic Management Journal*, Vol. 14 No. 8, pp. 607-618.
- Heine, M.L., Grover, V. and Malhotra, N.K. (2003), "The relationship between technology and performance: a meta-analysis of technology models", *Omega*, Vol. 31 No. 3, pp. 189-204.
- Hooley, G., Broderick, A. and Moller, K. (1998), "Competitive positioning and the resource-based view of the firm", *Journal of Strategic Marketing*, Vol. 6 No. 2, pp. 97-115.
- Huntley, J.K. (2006), "Conceptualization and measurement of relationship quality: linking relationship quality to actual sales and recommendation intention", *Industrial Marketing Management*, Vol. 35 No. 6, pp. 703-714.
- Ibeh, K.I.N., Ibrahim, E. and Panayides, P.M. (2006), "International market success among smaller agri-food companies", *International Journal of Entrepreneurial Behaviour and Research*, Vol. 12 No. 2, pp. 85-104.
- Irani, Z., Sharif, A.M. and Love, P.E.D. (2001), "Transforming failure into success through organizational learning: an analysis of a Manufacturing Information System", *European Journal of Information Systems*, Vol. 10 No. 1, pp. 55-66.
- Johnson, H.T. and Kaplan, R.S. (1987), *Relevance Lost: The Rise and Fall of Management Accounting*, Harvard Business School Press, Boston, MA.
- Johnson, J.L. (1999), "Strategic integration in industrial distribution channels: managing the inter-firm relationship as strategic asset", *Journal of the Academy of Marketing Science*, Vol. 27 No. 1, pp. 4-18.
- Keller, K.L. and Lehmann, D.R. (2006), "Brands and branding: research findings and future priorities", *Marketing Science*, Vol. 25 No. 6, pp. 740-759.
- Kraaijenbrink, J., Spender, J.C. and Groen, A.J. (2010), "The resource-based view: a review and assessment of its critiques", *Journal of Management*, Vol. 36 No. 1, pp. 349-372.
- Lado, A.A. and Wilson, M.C. (1994), "Human resource systems and sustained competitive advantage: a competency-based perspective", *Academy of Management Review*, Vol. 19 No. 4, pp. 699-727.
- Lengnick-Hall, M.L., Lengnick-Hall, C.A., Andrade, L.S. and Drake, B. (2009), "Strategic human resource management: the evolution of the field", *Human Resource Management Review*, Vol. 19 No. 2, pp. 64-85.
- Lindell, M.K. and Whitney, D.J. (2001), "Accounting for common method variance in cross-sectional research designs", *Journal of Applied Psychology*, Vol. 86 No. 1, pp. 114-121.
- Lytras, M.D. and Ordóñez de Pablos, P. (2008), "The role of a 'quomakerdquo or internal human resource management system in Spanish manufacturing companies: Empirical evidence", *Human Factors and Ergonomics in Manufacturing*, Vol. 18 No. 4, pp. 464-479.
- MacKinnon, D.P., Fairchild, A.J. and Fritz, M.S. (2007), "Mediation analysis", *Annual Review of Psychology*, Vol. 58 No. 1, pp. 593-614.
- Malhotra, N.K., Kim, S.S. and Patil, A. (2006), "Common method variance in IS research: a comparison of alternative approaches and a reanalysis of past research", *Management Science*, Vol. 52 No. 12, 1865-1883.
- Mavondo, F.T. and Rodrigo, E.M. (2001), "The effect of relationship dimensions on interpersonal and interorganizational commitment in organizations conducting business between Australia and China", *Journal of Business Research*, Vol. 52 No. 2, pp. 111-121.
- Meijer, M.M. (2009), "The effects of charity reputation on charitable giving", *Corporate Reputation Review*, Vol. 12 No. 1, pp. 33-42.
- Morgan, R.M. and Hunt, S.D. (1994), "The commitment-trust theory of relationship marketing", *Journal of Marketing*, Vol. 58 No. 3, pp. 20-38.
- Malaysian Palm Oil Board (2009), *Malaysian Oil Palm Statistics 2008*, Malaysian Palm Oil Board, Ministry of Plantation Industries and Commodities.
- Nasution, H.N., Mavondo, F.T., Matanda, M.J. and Ndubisi, N.O. (2011), "Entrepreneurship: its relationship with market orientation and learning orientation and as antecedents to innovation and customer value", *Industrial Marketing Management*, Vol. 40 No. 3, pp. 336-345.
- Ndubisi, N.O. (2007), "Relationship quality antecedents: the Malaysian retail banking perspective", *The International Journal of Quality and Reliability Management*, Vol. 24 No. 8, pp. 829-845.
- Ndubisi, N.O. (2011), "Conflict handling, trust and commitment in outsourcing relationship: a Chinese and Indian Study", *Industrial Marketing Management*, Vol. 40 No. 1, pp. 109-117.
- Ndubisi, N.O. (2013), "Role of gender in conflict handling in the context of outsourcing service marketing", *Psychology and Marketing*, Vol. 30 No. 1, pp. 26-35.
- Neely, A., Gregory, M. and Platts, K. (2005), "Performance measurement system design: a literature review and research agenda", *International Journal of Operations and Production Management*, Vol. 25 No. 12, pp. 1228-1263.
- Newbert, S.L. (2007), "Empirical research on the resource-based view of the firm: an assessment and suggestions for future research", *Strategic Management Journal*, Vol. 28 No. 2, pp. 121-146.
- Palmatier, R.W. (2008), *Relationship Marketing*, Marketing Science Institute, Cambridge, MA.
- Palmatier, R.W., Dant, R.P., Grewal, D. and Evans, K.R. (2006), "Factors influencing the effectiveness of relationship marketing: a meta-analysis", *Journal of Marketing*, Vol. 70 No. 4, pp. 136-153.
- Palmatier, R.W., Scheer, L.K., Houston, M.B., Evans, K.R. and Gopalakrishna, S. (2007), "Use of relationship

- marketing programs in building customer salesperson and customer firm relationships: differential influences on financial outcomes”, *International Journal of Research in Marketing*, Vol. 24 No. 3, pp. 210-223.
- Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y. and Podsakoff, N.P. (2003), “Common method biases in behavioral research: a critical review of the literature and recommended remedies”, *Journal of Applied Psychology*, Vol. 88 No. 5, pp. 879-903.
- Porter, M.E. and Kramer, M.R. (2002), “The competitive advantage of corporate philanthropy”, *Harvard Business Review*, December, pp. 5-16.
- Porter, M.E. and Millar, V.E. (1985), “How information gives you competitive advantage”, *Harvard Business Review*, pp. 149-174.
- Ray, G., Barney, J.B. and Muhanna, W.A. (2004), “Capabilities, business processes, and competitive advantage: choosing the dependent variable in empirical tests of the resource-based view”, *Strategic Management Journal*, Vol. 25 No. 1, pp. 23-37.
- Rogg, K.L., Schmidt, D.B., Shull, C. and Schmitt, N. (2001), “Human resource practices, organizational climate, and customer satisfaction”, *Journal of Management*, Vol. 27 No. 4, pp. 431-449.
- Russell, C., Ketchen, D.J., Combs, J. and Samuel, Y. (2008), “Strategic resources and performance: a meta-analysis”, *Strategic Management Journal*, Vol. 29 No. 3, pp. 1141-1154.
- Russo, M.V. and Fouts, P.A. (1997), “A resource based perspective on corporate environmental performance and profitability”, *Academy of Management Journal*, Vol. 40 No. 3, pp. 554-559.
- Rust, R.T. and Espinoza, F. (2006), “How technology advances influence business research and marketing strategy”, *Journal of Business Research*, Vol. 59 Nos 10/11, pp. 1072-1078.
- Sarkar, M.B., Echambadi, R., Cavusgil, S. and Aulakh, P. (2001), “The influence of complementarity, compatibility, and relationship capital on alliance performance”, *Journal of the Academy of Marketing Science*, Vol. 29 No. 4, pp. 358-373.
- Selsky, J.W. and Parker, B. (2005), “Cross-sector partnerships to address social issues: challenges to theory and practice”, *Journal of Management*, Vol. 31 No. 6, pp. 849-873.
- Schoemaker, P.J.H. and Amit, R. (1994), “Investment in strategic assets: industry and firm-level perspectives”, in Shrivastava, P., Huff, A. and Dutton, J. (Eds), *Advances in Strategic Management: Resource-based View of the Firm*, Vol. 10, pp. 3-33, JAI Press, Inc., Greenwich, CT.
- Shoham, A. (1996), “Marketing-mix standardization: determinants of export performance”, *Journal of Global Marketing*, Vol. 10 No. 2, pp. 53-73.
- Shook, C.L., Adams, G.L., Ketchen, D. J. Jr. and Craihead, C.W. (2009), “Towards a ‘theoretical toolbox’ for strategic sourcing”, *Supply Chain Management: An International Journal*, Vol. 14 No. 1, pp. 3-10.
- Smith, J.B. (1998), “Buyer-seller relationships: bonds, relationship management, and sex-type”, *Canadian Journal of Administrative Sciences*, Vol. 15 No. 1, pp. 76-92.
- Subramony, M. (2009), “A meta-analytic investigation of the relationship between HRM bundles and firm performance”, *Human Resource Management*, Vol. 48 No. 5, pp. 745-768.
- Tracey, M., Lin, J.-S. and Vonderembse, M.A. (2005), “The impact of supply-chain management capabilities on business performance”, *Supply Chain Management: An International Journal*, Vol. 10 No. 3, pp. 179-191.
- Uggl, H. (2006), “The corporate brand association base: a conceptual model for the creation of inclusive brand architecture”, *European Journal of Marketing*, Vol. 40 Nos 7/8, pp. 785-802.
- van der Rhee, B., Verma, R. and Plaschka, G. (2009), “Understanding trade-offs in the supplier selection process: the role of flexibility, delivery, and value-added services/support”, *International Journal of Production Economics*, Vol. 120 No. 1, pp. 30-41.
- Venkatraman, N. and Ramanujam, V. (1986), “Measurement of business performance in strategy research: a comparison of approaches”, *Academy of Management Review*, Vol. 11 No. 4, pp. 801-814.
- Verma, R. and Pullman, M.E. (1998), “An analysis of the supplier selection process”, *Omega*, Vol. 26 No. 6, pp. 739-750.
- Wade, M. and Hulland, J. (2004), “Review: the resource-based view and information systems research: review, extension, and suggestions for future research”, *MISQ*, Vol. 28 No. 1, pp. 107-142.
- Walker, K. (2010), “A systematic review of the corporate reputation literature: definition, measurement, and theory”, *Corporate Reputation Review*, Vol. 12 No. 4, pp. 357-387.
- Walsh, S. and Linton, J.D. (2002), “The measurement of technical competencies”, *Journal of High Technology Management Research*, Vol. 13 No. 1, pp. 63-86.
- Wang, Y., Lo, H.P. and Yang, Y. (2004), “The constituents of core competencies and firm performance: evidence from high-technology firms in china”, *Journal of Engineering and Technology Management*, Vol. 21 No. 4, pp. 249-280.
- Wang, Y., Kandampully, J.A., Lo, H.P. and Shi, G. (2006), “The roles of brand equity and corporate reputation in CRM: a Chinese study”, *Corporate Reputation Review*, Vol. 9 No. 3, pp. 179-197.
- Wernerfelt, B. (1984), “A resource-based view of the firm”, *Strategic Management Journal*, Vol. 5 No. 2, pp. 171-174.
- Wright, P.M., Dunford, B.B. and Snell, S.A. (2001), “Human resources and the resource based view of the firm”, *Journal of Management*, Vol. 27 No. 6, pp. 701-721.
- Zhao, X., Lynch, J.G. Jr. and Chen, Q. (2010), “Reconsidering baron and kenny: myths and truths about mediation analysis”, *Journal of Consumer Research*, Vol. 37 No. 2, pp. 197-206.

### Further reading

- Badawy, A.M. (2009), “Technology management simply defined: a tweet plus two characters”, *Journal of Engineering and Technology Management*, Vol. 26 No. 4, pp. 219-224.
- Barney, J.B. (1991), “Firm resources and sustained competitive advantage”, *Journal of Management*, Vol. 17 No. 1, pp. 99-121.

- Georgantzias, N.C. and Shapiro, H.J. (1993), "Viable theoretical forms of synchronous production innovation", *Journal of Operations Management*, Vol. 11 No. 2, pp. 161-183.
- Hooley, G. and Greenley, G. (2007), "The resource underpinnings of competitive positions", *Journal of Strategic Marketing*, Vol. 13 No. 2, pp. 93-116.
- Hunt, S.D., Arnett, D.B. and Madhavaram, S. (2006), "The explanatory foundations of relationship marketing theory", *Journal of Business and Industrial Marketing*, Vol. 21 No. 2, pp. 72-87.
- Lockett, A. Thompson, S. and Morgenstern, U. (2009), "The development of the resource-based view of the firm: a critical appraisal", *International Journal of Management Reviews*, Vol. 11 No. 1, pp. 9-28.
- Makadok, R. (2001), "Toward a synthesis of the resource-based and dynamic-capability views of rent creation", *Strategic Management Journal*, Vol. 22 No. 5, pp. 387-401.
- Mavondo, F., Chimhanzi, J. and Stewart, J. (2005), "Learning orientation and market orientation: relationship

- with innovation, human resource practices and performance", *European Journal of Marketing*, Vol. 39 Nos 11/12, pp. 1235-1263.
- Porter, M.E. (1980), *Competitive Strategy*, Free Press, New York, NY.
- Srivastava, R.K., Fahey, L. and Christensen, H.K. (2001), "The resource-based view and marketing: the role of market-based assets in gaining competitive advantage", *Journal of Management*, Vol. 27 No. 6, pp. 777-802.
- White, G.P. (1996), "A meta-analysis model of manufacturing capabilities", *Journal of Operations Management*, Vol. 14 No. 4, pp. 315-331.
- Zahra, S.A., Matherne, B.P. and Carleton, J.M. (2003), "Technological resource leveraging and the internationalisation of new ventures", *Journal of International Entrepreneurship*, Vol. 1 No. 2, pp. 163-186.

### **Corresponding author**

Nelson Oly Ndubisi can be contacted at: [olynel@hotmail.com](mailto:olynel@hotmail.com)

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.