Outsourcing and firm performance: a meta-analysis

Olajumoke A. Awe
Management and Decision Sciences, Wall College of Business, Coastal Carolina University, Conway, South Carolina, USA
Nisha Kulangara
Department of Management, Baylor University, Waco, Texas, USA, and
Demetria F. Henderson
James Madison University College of Business, Harrisonburg, Virginia, USA

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Abstract

Purpose – In the extant literature, the effect of outsourcing activities on the firm performance has been an area of interest for several decades; yet, the body of knowledge lacks a holistic view of this phenomenon. The potential outcomes of outsourcing and its impact on firm performance have not been aggregated in the literature. The purpose of this paper is to conduct a meta-analysis of 51 empirical results using 24 articles to examine the relationship between these variables and firm performance. The authors discuss the extant literature and examine which type of outsourcing has the greatest influence on firm performance. The authors also present the limitations and future opportunities. Theoretical and managerial implications are discussed to highlight which outsourcing functions would be fiscally beneficial for firms.

Design/methodology/approach – This paper takes a granular approach by looking at different outsourced functions in the both the manufacturing and service industry. Using meta- analysis, this paper combined the quantitative study data from several selected studies in an effort to increase power, improve the effect size and resolve the uncertainty about the effects of outsourcing activities on firm performance measures.

Findings – The authors found that outsourcing enhances the firm performance. When outsourcing functions were studied individually, only IT outsourcing had significant effects on firm performance in comparison to other forms of outsourcing. This might be attributed to the fact that IT outsourcing is less costly to implement in the organization compared with other forms of outsourcing.

Originality/value – This paper is the first paper that uses a meta-analytic approach to investigate the relationship between outsourcing and performance measures based on past empirical studies that have used both primary and secondary data.

Keywords Outsourcing, Firm performance, Meta-analysis, Information technology outsourcing

Paper type Research paper

1. Introduction

Most global firms are outsourcing various functions of their firms to save time, cost, intellectual resources and thus utilize their core competencies for their primary competitive strategies. Outsourcing secondary activities have primarily enabled companies into rechanneling their energies toward focusing on the primary value chain activities and strengthening their core strategies (Jiang *et al.*, 2006). Over the years, outsourcing has gained increasing momentum as no firm operates as a single entity anymore. Various functions like manufacturing, IT, accounting, human resources, research and development (R&D) are outsourced locally and internationally by firms. The concept of re-shoring has also begun gaining momentum in the recent times as some scholars and practitioners argue that risks of outsourcing outweigh its benefits. Due to this, a lot of manufacturing jobs are being brought back to the USA to increase local employment. Most US firms are bringing back their globally outsourced functions locally to save cost. Given this background, we felt it was imperative to investigate the relationships between the following main constructs: "outsourcing" and "performance of firms."

According to Kroes and Ghosh (2010, p. 124), outsourcing is defined as "the allocation of business activities from a source internal to an organization to a source outside of

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the organization." Advancement in technology, social media and cloud computing has made outsourcing a very plausible option for most industries as buyers, suppliers and vendors in different parts of the world can collaborate and communicate in a matter of seconds. Some studies have proposed the positive relation between outsourcing and performance while some have counter-argued this point of view. Barthelemy and Adsit (2003) argued that most of these claims about the positive association between outsourcing and firm performance during the nascent stage of outsourcing which is also referred to as the "honeymoon phase" may not be an accurate representation of the relationship. There is a dearth of longitudinal studies to examine whether outsourcing has positively impacted firm performance measures over a span of several years.

Gilley *et al.* (2000) found no association between outsourcing and firm performance, which was moderated by strategy, and environmental dynamism. Jiang *et al.* (2006) found that outsourcing improved the firm's operational efficiency. Kotabe and Mol (2009) used secondary data from manufacturing firms in the Netherlands to assess the relationship between outsourcing and performance. They looked at data encompassing two years (1995 and 1998) and observed that market uncertainty moderated the negative relationship between a firm's outsourcing and its performance measures. Stanko *et al.* (2007) found that the association between higher profit and outsourcing of R&D differed between high-tech and low-tech industries.

We observe that there is a lack of consensus in the extant literature about the effects of outsourcing on firm performance. There are mixed results across various studies that test the empirical linkage between outsourcing and performance. We take a granular approach by looking at different outsourced functions in manufacturing and services and their impact on various performance measures. To the best of our knowledge, ours is the first meta-analytic study, which investigates the relationships between outsourcing and performance measures based on the past empirical studies that have used both primary and secondary data. We analyze empirical studies that have used both primary and secondary data to look at the relationship between outsourcing and performance. In summary, we ask the following research questions in our meta-analytic study:

RQ1. Does outsourcing HR practices improve performance (operational, financial, innovation and relational)?

RQ2. Does outsourcing manufacturing improve performance (operational, financial, innovation and relational)?

RQ3. Does outsourcing IT improve performance (operational, financial, innovation and relational)?

RQ4. Does outsourcing R&D improve performance (operational, financial, innovation and relational)?

2. Literature review/theory development

Holcomb and Hitt (2007, p. 466) defined outsourcing as "organizing arrangement that emerges when firms rely on intermediate markets to provide specialized capabilities that supplement existing capabilities deployed along a firm's value chain." Outsourcing provides unique opportunities for organizations to concentrate on certain activities to achieve sustainable competitive advantage. Gilley and Rasheed (2000) argued that outsourcing can occur in two ways: substitution—discontinuation of internal activities (production) and replace it with capabilities external capabilities, and abstention—firms outsource activities that have not been produced in-house in the past. Past literature has shown that outsourcing leads to an increased focus on core competences (Kotabe and Murray, 1990; Quinn, 1992), ensures the availability of high-quality products (Kotabe and Murray, 1990; Gilley and

Rasheed, 2000) and leads to cost advantages in terms of decrease in investment in plants and equipment (Bettis *et al.*, 1992), cost advantages in terms of the immediate financial period (Knight and Harland, 2005) and improves flexibility to meet environmental conditions (Knight and Harland, 2005).

Other studies have argued that outsourcing could be detrimental to the organization. For instance, it has been suggested that outsourcing restricts the scope for future organizational innovation (Bettis *et al.*, 1992; Windrum *et al.*, 2009) because its cost gains might be misleading (Gilley and Rasheed, 2000). Martínez-Sánchez *et al.* (2008) found that outsourcing intensity does not lead to firm performance and outsourcing might involve larger inventories due to longer lead times. The inconclusiveness of the literature on outsourcing on performance calls for more research.

The theoretical underpinnings of several outsourcing studies are based on resource dependence theory (RDT). RDT postulates that access to complementary resources will provide a competitive advantage to companies as it saves them both time and money to focus on their core competencies (Hillman *et al.*, 2009; Davis and Cobb, 2010). Strategic joint ventures have enabled several companies like Walmart to sustain a secure position in the global marketplace. RDT suggests that companies will outsource non-core activities for strategic or tactical management of their business operations. These outsourcing initiatives will help companies to achieve competitive advantage at a lower cost and sometimes save them time to focus on other aspects of the business (Pfeffer and Salancik, 1978). Apple has competed on its innovative proposition for providing high-quality products by outsourcing most of its manufacturing to China. While these practices are common in most industries such as healthcare, electronic and electrical equipment industry, the practice of outsourcing is most dependent on the assumption that internal resources cannot meet certain critical requirements of the company, and therefore, one must strategically enter into outsourcing partnerships to sustain a competitive market share in the global environment.

No company can operate on its own in the global marketplace. Most companies have to outsource some of its non-core functions to a domestic or international supplier or service provider for several reasons. Even though traditional outsourcing has focused on non-core competencies, in the recent years we observe a shift from that practice. In today's modern environment, IT firms outsource not only their non-core competencies but even their core competencies. Lack of local resources like raw material availability or skill sets at an HR level, desire to save labor cost and create a global presence are some of the reasons driving outsourcing decisions for major corporations. The unstoppable reality of globalization has put pressure on institutions to merge, causing firms to outsource IT functions, core manufacturing functions and sometimes even research and development activities overseas (Wright and McMahan, 1992). For example, major retail giants like Walmart consider joint ventures when entering foreign countries and thus outsource some of their core functions. In another example, Dell implements offshoring and nearshoring to support their assemble-to-order strategy at low cost while final assembly of laptops is done in the USA, which allows them to stay true to their mass customization strategy.

While the accessibility to complementary resources seems lucrative, scholars must investigate the hidden cost of outsourcing such as relationship costs, environmental uncertainty, information asymmetry and transactional costs. Given this background of RDT, this meta-analytic study looks at the extant published literature to investigate the effect of different forms of outsourcing on the performance of the firm. While accessibility to complementary resources to manage strategic and tactical operations of the firm seem attractive, does it truly translate into long-term performance of the firms? Whether outsourcing is just a short-sighted approach to save costs seems unanswered, as most studies provide anecdotal evidence of its perceived benefits. There is a need to establish the external validity of these empirical results of the positive effect of outsourcing on a

firm's performance. Drawing from RDT, this study attempts to provide a holistic view of the relationship between different types of outsourcing and firm performance by investigating the established empirical evidence in the literature (Table I).

3. Hypotheses development

HR outsourcing over the years has increased mainly in industries such as airline, banking and finance, in which functions such as payroll, billing, customer service and training are outsourced to other firms to save cost. It is no longer surprising for customers to anticipate a customer service employee from any part of the world handling their complaints or providing information about products/services. Outsourcing has enabled companies to focus internally on more important activities. Wright and McMahan (1992, p. 6) defined human resources as "the pool of human capital under the firm's control in a direct employment relationship" while human resource practices can be defined as "the organizational activities directed at managing the pool of human capital and ensuring that the capital is employed toward the fulfillment of organizational goals" Wright and McMahan (1992, p. 6).

Keeping these definitions in mind, we looked at studies that investigated outsourcing of human resource practices and its impact on firm performance measures. Also, the literature suggests that there is lack of consensus amongst scholars on what human resource practices should entail (Pauwee and Boselie, 2005). Most common activities that entail these practices include training, payroll, administrative activities, etc. Drawing theoretical background from resource-based view of the firm, Wright *et al.* (1994) in their theoretical paper discussed the necessity of developing human capital to sustain competitive advantages for the firm. As human capital can be rare and inimitable in certain industries, most companies belonging to such niche industries are outsourcing secondary functions such as payroll and customer services to save cost and time.

The relationship between outsourcing of human resources and firm performance is not studied sufficiently in literature. Gilley *et al.* (2004) identified this gap and analyzed the relationship between outsourcing of HR activities such as payroll, training and firm performance using secondary data from 94 manufacturing firms. Their results suggested that outsourcing of payroll and training had a positive impact on financial, stakeholder and innovation performance. However, they could not find conclusive evidence to their hypothesized statements about the moderating effects of firm size on the relationship between outsourcing of HR activities and performance (Gilley *et al.*, 2004).

Pauwee and Boselie (2005) in their working paper again pointed out the dearth of studies exploring the linkage between HRM outsourcing and performance measures. In their paper, they proposed a future research agenda in the field of HRM based on a review of studies examining the link between HRM and performance to date. Guest (1997) was another such scholar who presented a conceptual model on the linkage between HRM strategy and performance measures. Drawing from this, we hypothesize the following:

H1. HR outsourcing has a positive relationship with firm performance.

Independent variables	Dependent variables
Human resource outsourcing (HR activities)	Firm performance measures:
Manufacturing outsourcing	Operational performance
Information technology outsourcing (IT)	Financial performance
Research and development outsourcing (R&D)	Innovation relational performance
	Technological performance

Table I. Relationship explored in the meta-analysis

Manufacturing functions are being outsourced increasingly in the last three decades to save labor costs. Logistics, production and assembling are considered various facets of manufacturing. Manufacturing outsourcing involves getting parts and components from suppliers that were previously manufactured in an organization (Cánez *et al.*, 2000). Pagell and Sheu (2001) conducted a cross-sectional study using primary data to examine the relationship between the percentage of manufacturing outsourced and on-time delivery performance of its suppliers. They looked at a sample of 290 respondents belonging to machine toolmakers and textile makers and found a significant relationship between the percentage of manufacturing functions outsourced and supplier delivery speed. Leachman *et al.* (2005) found a curvilinear U-shaped relationship between outsourcing rate of components/parts and manufacturing performance. Applying data envelopment analysis, they looked at eight automobile companies over a span of five years. The unique contribution of this study was that it was one of the first to utilize a longitudinal perspective on the relationship between outsourcing rate and manufacturing performance.

Dabhilkar *et al.* (2009) made a distinctive contribution by looking closely at the determinants of firm performance measures when outsourcing of manufacturing occurs. They collected primary data from 136 firms that outsourced manufacturing for three years. Outsourcing performance was assessed using the following variables, namely: cost, efficiency, lead time, quality, flexibility, and functionality. They found a positive association between motives for outsourcing, parts outsourcing, supplier operating capabilities and outsourcing performance. Thus, we hypothesize the following:

H2. Manufacturing outsourcing has a positive relationship with firm performance.

IT outsourcing and firm performance are the most extensively studied relationships in literature. Contrary to the popular notion of positive association between these measures, Loh and Venkatraman (1992) conducted a cross-sectional analysis to assess the negative and positive relationships between IT outsourcing and performance measures such as sales, total assets, shareholders equity, ROA, etc. Using Compustat secondary data, they found the business structure to be a significant determinant of IT outsourcing success.

Grover *et al.* (1996) explored and found a positive relationship between IT outsourcing and service quality. Their results suggested that overall outsourcing, weighted by the proportion of each function outsourced, led to success. Hall and Liedtka (2005) explored the risks associated with large-scale IT outsourcing. According to their study, large-scale IT outsourcing decisions were driven by a firm's financial performance, cash needs and CEO's desire to maximize personal compensation. On the other hand, Handley and Benton (2013) found a negative relationship between IT outsourcing and cooperative relationship between the partners. Drawing from transaction cost theory, Thouin *et al.* (2009) found that given low asset specificity, firms that outsourced IT functions experienced improved financial performance. They argued that low asset specificity could have resulted in less opportunistic behavior on either end of the relationship resulting in improved performance in an IT outsourcing relationship. Bardhan *et al.* (2006) empirically tested the relationship between IT outsourcing and plant performance measures such as cost and quality using survey data from automotive and computer industries. They found that IT outsourcing lowered plant costs. Tsai and Wang (2009) found that IT outsourcing led to improved innovation performance. They collected primary survey data from 753 Taiwanese small and medium technology firms, and their results indicated IT outsourcing strategies could lead to technological innovation performance in these sectors. Following this logic, we hypothesize the following:

H3. IT outsourcing has a positive relationship with firm performance.

In addition to the arguments stated above, we suggest that outsourcing positively enhances the performance of the firm. From the extant literature, Gregorio *et al.* (2009) conducted an

empirical study that examined the relationship between offshore outsourcing of administrative and technical activities and firm performance measures. Firm performance measures were assessed using foreign sales as the percent of total sales and foreign sales is calculated as the number of international markets. In their study of 136 companies using primary data and survey methodology, they found statistically significant results between offshoring practices and performance measures. Offshoring is a type of outsourcing where the outsourced activity is managed overseas. They observed that outsourcing of administrative and technical activities in small- and medium-sized enterprises resulted in cost reduction, improvement of customer services, improved relational networks, freeing of rare resources and leveraging international competitiveness. Hence, we posit that outsourcing positively enhances firm performance. Stated formally:

H4. Outsourcing has a positive relationship with firm performance.

4. Methodology

4.1 Database development—literature search and inclusion criteria

To identify the population of studies for this meta-analysis, we conducted keyword search of electronic databases using the terms "outsourcing," "HR outsourcing," "manufacturing outsourcing," "IT outsourcing," "R&D outsourcing" and "firm performance." We also looked at the reference sections of the identified studies for additional empirical studies. Finally, we conducted a manual search of leading journals including *Strategic Management Journal*, *Administrative Science Quarterly*, *Academic Management Journal*, *Academic Management Review*, *Organization Science*, *Journal of Management*, *Journal of Operations Management*, *Production and Operations Management Journal*, *Management Science*, *MIS Quarterly* and *Decision Sciences* in which articles investigating outsourcing are most likely to appear. Keyword searches of electronic databases such as (Sage complete, Gale Cengage Business Insights, EBSCOhost Business Source Complete, Google Scholar, JSTOR and Arts and Sciences were also conducted.). Through these efforts, we identified a total of 230 articles that we further scrutinized for inclusion in our meta-analysis. Together, these efforts yielded approximately 228 articles which we further scrutinized for inclusion in our meta-analysis.

4.2 Domain specification

To be considered for inclusion in our meta-analysis database, an article had to contain at least one study that articulated at least one hypothesis about the relationship between outsourcing and firm performance. Furthermore, the study had to have reported the correlation coefficient or the *t*-statistic or *F*-statistic that allowed the computation of the correlation coefficient. A lot of studies were not included because their results were only reported in multivariate models. Upon the completion of the retrieval process, we obtained a total of 51 samples reported in 24 studies.

Detailed information is included in Table AI.

4.3 Coding procedures

4.3.1 Coding firm performance. Following the coding techniques suggested by Hunter and Schmidt (2004), we collected data for our meta-analysis that allowed us code for firm performance. Since firm performance is operationalized in a multitude of ways, we coded four dependent variables. Table II presents our coding scheme and provides an overview of the dependent variable in our meta-analytical model. The inter-rater reliability between the authors averaged 95 percent, with disagreements resolved by discussion.

4.3.2 Coding independent variables. In addition to coding firm performance, we also coded four independent variables that could potentially influence firm performance

Variable description	Coding scheme
Financial performance captures whether the firm performance was measured with stock or market response	1 = performance is financial performance 0 = performance is not firm performance
Operating performance captures whether firm performance was measured with strategic competence, cost efficiency and quality	1 = performance is operational performance 0 = performance is not operational performance
Relational performance captures whether performance was measured with cooperative relationship and partnerships	1 = performance is relational performance 0 = performance is not relational performance
Innovation captures whether firm performance was measured with innovativeness of the firm	1 = performance is innovation 0 = performance is not innovation

Table II. Dependent variables used in analysis

(see Table I). Table III presents our coding scheme and provides an overview of the independent variables in our meta-analytical model.

4.3.3 Methodological variables influencing firm performance. 4.3.3.1 Type of industry. We coded the type of industry to check whether the paper data set was collected from a manufacturing or a service industry.

4.3.3.2 Type of data. We coded whether the data used in each study were from primary or secondary data.

4.3.3.3 Geographical setting. We coded whether the data used in each study were collected in the USA or elsewhere. There were 32 studies that had only US samples. The non-US samples were from the western world.

Given the number of studies used in our meta-analysis, we opted to treat the methodological variables as moderators.

5. Results

5.1 Main effects

In this section, we present the results of the meta-analysis for the overall effect of outsourcing as well as the effects of HR outsourcing, manufacturing outsourcing and IT outsourcing on firm performance. Table IV presents the result of our meta-analytical model and shows the effect of outsourcing associated with firm performance.

The correlation between outsourcing and firm performance is 0.0485 (the uncorrelated correlation is 0.0209). As such, the effect size is small (Rosenthal and Rosnow, 2008) and suggests that firm performance is significantly affected by outsourcing business function thereby supporting *H4*. The 95 percent bootstrapped confidence interval ranges between 0.0109 and 0.0812, indicating the effect size is significant. Rosenthal's Fail-safe N ($N_{FS} = 119$) suggests that no publication bias exists. The heterogeneity present within the data set

Variable description	Coding scheme
Information technology outsourcing captures whether the organization outsourced their IT business unit	1 = IT business unit was outsourced 0 = IT business unit was not outsourced
Manufacturing outsourcing captures whether the organization outsourced their manufacturing business unit	1 = Manufacturing business unit was outsourced 0 = Manufacturing business unit was not outsourced
Human resources outsourcing captures whether the organization outsourced their HR business unit	1 = HR business unit was outsourced 0 = HR business unit was not outsourced
Research and development outsourcing captures whether the organization outsourced their R&D business unit	1 = R&D business unit was outsourced 0 = R&D business unit was not outsourced

Table III. Independent variables used in analysis

Table IV.
Main effect results for organizational performance

	Number of samples (k)	Number of observations (n)	Mean correlation (r)	Weighted correlation (r_W)	Mean study variance (var_t)	95% confidence interval (CI_{BS})	Unaccounted variance (χ^2)	Fail-safe sample size (N_{fsR})
Outsourcing	51	11,978	0.0209	0.0485*	0.0076	0.0109 0.0812	151.5885*	119.3

Note: *$p \leqslant 0.00001$

(χ^2 (50) = 151.5885, $p < 0.00001$)) warrants an examination of key moderators to the relationship between outsourcing and firm performance.

Table V presents the result of our meta-analytical model and shows the effects of HR outsourcing, manufacturing outsourcing and IT outsourcing on firm performance.

As shown in Table V, the correlation between IT outsourcing and firm performance is 0.0608 (the uncorrelated correlation is 0.06314). As such, the effect size is small (Rosenthal and Rosnow, 2008). The 95 percent bootstrapped confidence interval ranges between 0.0176 and 0.1016 indicating the effect size is significant and supporting *H3*. Rosenthal's Fail-safe N ($N_{FS} = 96.3$) suggests that no publication bias exists. The heterogeneity present within the data set (χ^2 (51) = 58.0025, $p < 0.00001$)) warrants an examination of key moderators to the relationship between IT outsourcing and firm performance. The effect size of the relationships between manufacturing outsourcing and firm performance as well HR outsourcing and firm performance are not significant, hence, *H1* and *H2* were not supported.

5.1.1 Moderator results. We performed multivariate tests for the moderators using the types of firm performance and the nature of the sample. This is done to capture the type of performance that outsourcing enhances. Table VI shows the generalized least squares regression results, and it shows that IT outsourcing and firm performance are significantly impacted by the moderator variables.

We computed the Huffcutt and Arthur's (1995) sample-adjusted meta-analytic deviancy statistic to detect outlying correlations. On the basis of this analysis, we identified one outlier that was subsequently dropped from the data set. In addition to the moderator analysis, we performed *post hoc* univariate analysis to illuminate the impact that each moderator had on the relationship between outsourcing and firm performance and Table VII provides an overview of the *post hoc* univariate analysis. In the sections that follow, we report results of the GLS analysis for each moderator examined as well as significant findings from our *post hoc* univariate analyses.

5.1.1.1 Performance-related moderators of outsourcing on performance. Results indicate that the studies where relational performance was the measure of interest are significantly different than studies featuring non-relational performance measures of firm performance ($\beta = 0.712$, $p < 0.05$). *Post hoc analyses* reveal that the correlation between outsourcing and firm performance is significantly greater when relational performance measures are captured ($r = 0.06$), as compared to those not measuring relational performance ($r = 0.047$).

Results also indicate that the studies where operating performance was the measure of interest are significantly different than studies featuring non-operating performance measures ($\beta = 0.607$, $p < 0.05$). *Post hoc* analyses reveal that the correlation between outsourcing and firm performance is significantly greater when non-operating performance measures are captured ($r = 0.072$), as compared to those measuring operating performance ($r = -0.0024$).

Similarly, results indicate that the studies where financial performance was the measure of interest are significantly different than studies featuring non-financial performance measures of firm performance ($\beta = 0.724$, $p < 0.05$). *Post hoc* analyses reveal that the correlation between outsourcing and firm performance is significantly greater when financial performance measures are captured ($r = 0.0744$), as compared to those that did not measure financial performance ($r = -0.0162$).

5.1.1.2 Sample-related moderators of network density on performance.. The difference in variation between outsourcing and firm performance was also found to be influenced by the nature of the samples used in the studies comprising our data set. Outsourcing effects were significantly different for studies utilizing samples from the manufacturing industry only, services industry only, primary data only, US sample only as well as studies including non-US samples only.

Table V.
Results of different types of outsourcing on organizational performance

	Number of samples (k)	Number of observations (n)	Mean correlation (r)	Weighted correlation (r_W)	Mean study variance (var_t)	95% confidence interval (CI_{BS})	Unaccounted variance (χ^2)	Fail-safe sample size (N_{fsR})
IT outsourcing	19	5,404	0.0631	0.0608*	0.006	0.0176 0.10160	58.0025*	96.3
Manufacturing outsourcing	24	5,822	−0.0081	0.0423	0.0078	−0.0420 0.0927	78.9703	0
H&R outsourcing	8	752	0.0075	0.0079	0.011	−0.0729 0.1067	12.3937	0

Note: *$p \leqslant 0.00001$

Factor	*Z*-values
Nature of performance	
Operational performance	7.4041*
Financial performance	8.7800*
Relational performance	8.4397*
Nature of the sample	
Manufacturing only	−4.8584*
Services only	−4.1278*
Primary data only	−2.1002*
Secondary data only	1.1966
US sample only	−7.1740*
Non-US sample only	−7.1356*
Number of observations	51

Notes: The correlations reported above are weighted by sample size. *$p \leqslant 0.05$

Table VI. Moderator analysis results for information technology outsourcing correlations

Nature of sample	Sample size	Number of observations	Mean effect size	Mean study variance
Manufacturing*	31	7,511	0.0413	0.0083
Non-manufacturing	20	4,467	0.0607	0.0066
Non-US sample*	19	5,886	0.0432	0.0064
US sample	32	6,092	0.0538	0.0084
Primary*	31	5,362	0.0123	0.0062
Non-primary	20	6,616	0.0777	0.0098
Services*	1	1,444	0.0597	0.0007
Non-services	50	10,534	0.047	0.0078
US sample*	31	5,802	0.0476	0.0085
Non-US sample	20	6,176	0.0494	0.0062

Note: *$p \leqslant 0.05$

Table VII. Univariate results for performance moderators

Studies with samples from service industry alone are significantly different from studies with samples from both manufacturing and service industries ($\beta = -0.173$, $p < 0.05$); studies with US samples alone are significantly different from samples that combined studies with US and non-US samples ($\beta = -0.483$), $p < 0.05$) and studies with non-US samples only are significantly different from samples that used both US and non-US samples ($\beta = -0.432$, $p < 0.05$); and studies that used primary data only are significantly different from studies that used a combination of primary and secondary data ($\beta = -0.084$, $p < 0.05$).

Outsourcing has a stronger impact on performance when the studies involved service industry only ($r = 0.0597$) vs non-service industry ($r = 0.047$); manufacturing and service industries ($r = 0.0607$) vs manufacturing industry alone ($r = 0.0413$). Significantly stronger correlations exist between outsourcing and performance of correlations observed in studies comprised of both US and non-US samples only ($r = 0.0538$) vs non-US samples ($r = 0.0432$), studies comprised of combination of primary and secondary data ($r = 0.0777$) vs primary data only ($r = 0.0123$). The *post hoc* analysis *t*-tests for the studies with US samples only vs a combination of US and non-US samples were not significant.

6. Discussion

Our study reveals that outsourcing activities positively enhance firm performance and this relationship is moderated by the measure of firm performance captured (financial, operating and relational). *Post hoc* analysis suggests that outsourcing is positively related to financial

performance, operating performance and relational performance. Our study also suggests that the nature of the sample also affects the relationship between outsourcing and the firm performance. Studies with manufacturing industry, US samples, non-US samples, primary data, service industry only moderates the relationship. However, the *post hoc* univariate analysis above suggests that studies with both manufacturing and service industries, combination of US samples and non-US samples, both primary and secondary data, service industry are what is important when the nature of the sample used in the study is investigated.

Additionally, our study reveals that IT outsourcing is the only type of outsourcing that had significant effects on firm performance in comparison to other forms of outsourcing when we looked at the effect of the different types of outsourcing. This explains the current trend in the industry as a major proportion of outsourcing is related to IT functions. This study also sheds some light on other aspects of outsourcing. Even though there is an increasing trend of retail manufacturing being outsourced to countries such as China, there are no conclusive results to suggest whether it would lead to improved performance for manufacturing firms. Our study also encourages firms to rethink the longitudinal benefits of HR and manufacturing outsourcing to outside countries. The results reinstate the fact that IT outsourcing is less costly to implement in organizations because there are little or no large financial investments made involving factors such as machinery, factories, equipment and land in comparison to manufacturing and HR. Additionally, there is no significant switching cost when it comes to changing one business partner to another as most of the IT resources used are intangible by nature. The lack of opportunistic behavior on behalf of the supplier also increases the firm's performance overall. This is because most IT suppliers recognize that firms can easily switch their IT outsourcing services to another firm if they are not happy with the services provided. Manufacturing, on the other hand, requires the firm to stay locked in the outsourcing relationship, especially if the manufacturing process is established and investments in machinery are made in the outsourced location. Hence, it would be more practical for firms to outsource only their non-core competencies.

6.1 Limitations and future research

While our research expands upon the outsourcing and performance knowledge, some limitations are noted. First, not all studies on outsourcing and performance had enough data to calculate useable values used in the analysis. Second, our study was constrained to variables that could be coded from the extant literature. Most of the studies on outsourcing and firm performance are conceptual papers and therefore could not be coded. Finally, our meta-analysis did not include unpublished studies. We decided to exclude unpublished studies because they have not undergone the rigorous review process as published studies.

One of the areas of future study would be conducting longitudinal multi-case studies of outsourcing firms to understand if outsourcing different functions indeed lead to improved performance. Another area of investigation would be to understand whether local factors impact this relationship. This is because outsourcing is a complex concept. Therefore, the political environment in the outsourced nation, the existence of unions, legal bonds and organizational cultures are some of the factors that can influence the overall progress of an outsourcing relationship.

There is a dearth of longitudinal studies to analyze the long-term effect of outsourcing on firm performance and the external factors that would affect the strength of this relationship. Even though, we collected a total of 228 articles, the proportion of empirical studies were not enough, which explains our smaller sample for final analysis. Regarding types of outsourcing, most recent studies have looked at IT industry. For example, Dongus *et al.* (2014) conducted a meta-analytic study looking at the contract choices in IT outsourcing. Lyons and Brennan (2014) conducted another meta-analytic study on IT outsourcing frameworks. Alsudairi and Dwivedi (2010) also investigated IT outsourcing applying a

multi-disciplinary approach. This suggests that there is very little empirical research conducted on firms that outsource functions such as HR. There is a need to address this research question as HR outsourcing is done in the banking, airline and even healthcare industries. In conclusion, other areas of outsourcing would be an interesting research topic to address for future researchers to explore given the results of our meta-analysis.

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Further reading

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Appendix

Table AI. Articles used in the meta-analysis

Authors	Year	Journal	Discipline of journal	*n*
Gregorio *et al*	2009	*Journal of International Business Studies*	Management	105
Handley and Bentley	2012a, b	*Journal of Operations Management*	Operations management	102
Gilley *et al.*	2004	*Journal of Business Research*	Management	94
Kotabe and Mol	2009	*Journal of purchasing & Supply Management*	Operations management	1,147
Oke and Kach	2012	*Journal of Purchasing & Supply Management*	Operations management	476
Qu *et al.*	2010	*Journal of Strategic Information Systems*	Information systems	143
Grover *et al.*	1996	*Journal of Management Information Systems*	Information systems	188
Pagell and Sheu	2001	*International Journal of Production Research*	Operations management	290
Leachman *et al.*	2005	*International Journal of Operations and Production Management*	Operations management	30
Thouin *et al.*	2009	*Information and Management*	Information systems	1,444
Stanko *et al.*	2007	*Journal of Business Research*	Management	40,000
Dabhilkar *et al.*	2009	*Journal of Purchasing and Supply Management*	Supply Chain management	136
Bardhan *et al.*	2006	*Journal of Management Information Systems*	Information systems and operations management	287
Bardhan *et al.*	2006	*Journal of Management Information Systems*	Information systems and operations management	266
Verwaal	2017	*Journal of World Business*	Operations management	223
Bertrand	2011	*Journal of International Business Studies*	Management	2,000

Corresponding author
Olajumoke A. Awe can be contacted at: oawe@coastal.edu