Test of a causal Human Resource Management-Performance Linkage Model: Evidence from the Greek manufacturing sector

Anastasia Katou
Department of Marketing and Operations Management, University of Macedonia
540 06 Thessaloniki, Greece
Tel: + 30-2310-819921
Email: akatou@uom.gr

Abstract

Although a number of studies have recognized the relationship between Human Resource Management (HRM) policies and organisational performance, the mechanisms through which HRM policies lead to organisational performance remain still unexplored. The purpose of this paper is to investigate the pathways leading from HRM policies to organisational performance by using structural equation modelling. Specifically, this analytical tool has been used to test a research framework that is constituted by a set of causal relationships between organisational and other contingencies, business strategies, HRM policies, HRM outcomes, and organisational performance. Employing data from organisations operating in the Greek manufacturing sector, results indicate that the impact of HRM policies on organisational performance is mediated through the HRM outputs of skills, attitudes and behaviour, and moderated by business strategies, organisational context and other contingencies. Thus, the paper not only supports that HRM policies have a positive impact on organisational performance but also explains the mechanisms through which HRM policies improve organisational performance.

Keywords: HRM policies, business strategies, HRM outputs, mediating model, organisational context, Greek manufacturing

1 INTRODUCTION

In today's global and highly competitive environment organisations are turning to the human resource management (HRM) function to facilitate the development of a competitive strategy (Ulrich, 1997) that will help the development of the organisation's core competencies (Levine, 1995), which in turn will advance performance (Jackson & Schuler, 1995; Shih, Chiang, & Hsu, 2006). The 'universalistic', 'contingency', 'configuration' (Delery & Doty, 1996) and the 'fully integrated' (Hall & Torrington, 1998) perspectives are identified among existing theories that investigate the relationship between HRM and performance. The universalistic perspective or HRM as an ideal set of practices suggests that a specified set of HR practices (the so called "best practices") will always produce superior results whatever the accompanying circumstances (Pfeffer, 1994; Huselid, 1995; Brewster, 1999; Claus, 2003). The contingency perspective or HRM as strategic integration argues that an organisation's set of HRM policies and practices will be effective if it is consistent with other organisational strategies (Fombrum, Tichy, & Devanna 1984; Gomez-Mejia & Balkin, 1992; Dyer, 1985; Golden & Ramanujam, 1985; Schuler & Jackson, 1987; Lengnick-Hall & Lengnick-Hall, 1988; Milkovich, 1988; Schuler & Jackson, 1987a; Butler, Ferris, & Napier, 1991; Cappelli & Singh, 1992). The configurational perspective or HRM as bundles makes use of the so-called "bundles" of HR practices, which imply the existence of specific combinations, or configurations of HR practices depending on corresponding organisational contexts, where the key is to determine which are the most effective in terms of leading to higher business performance (Arthur, 1992; Guest & Hoque, 1994; MacDuffie, 1995; Huselid & Becker, 1996; Delery & Doty, 1996; Ichniowski, Shaw, & Prennushi 1997; Wright & Snell, 1998; Boudreau, 2003; Alcazar, Fernandez, & Gardey, 2005). Finally, the fully integrated perspective argues that HRM strategy does not exist as a separate functional strategy but both HRM strategy and business strategy are developed "simultaneously" (Katou & Budhwar, 2008) rather than separately (Hall & Torrington, 1998).

Although each of the four perspectives - universalistic, contingency, configurational, fully integrated - complements the others by adding constructs, variables or relationships (Alcazar et al., 2005), a serious limitation that recent reviews of the literature points out is that the link between HRM and business performance is considered like a 'black box', i.e., lack of clarity regarding 'what exactly leads to what' (Park, Mitsuhashi, Fey, & Bjorkman, 2003; Gerhart, 2005; Alcazar et al., 2005). In empirically investigating the four perspectives most studies were based on cross-sectional data and the analysis employed was either 'hierarchical regression models' (Youndt, Snell, Dean, & Lepak, 1996; Delery & Doty, 1996) or 'competing regression models' (Baron & Kenny, 1986) without proving causality. Thus, Becker and Gerhart (1996) and Fey, Bjorkman and Pavlovskaya (2000) exhorted researchers to use 'structural equation modelling' (SEM) to illuminate the 'black box' (Wright, Gardner, & Moynihan, 2003; Wright, Gardner, Moynihan, & Allen, 2005) between HRM systems and organisational performance. This is because the use of SEM is particularly appropriate when testing direct and indirect relationships between HRM policies and organisational performance (Dyer & Reeves, 1995) and when testing theoretically derived paths among various exogenous and endogenous variables (Guthrie, Datta, & Wright, 2004).

Therefore, the aim of this study is to propose a research model that includes the core constituents of the HRM-performance linkage perspective, and to empirically test it by employing the structural equation modelling methodology, instead of the usual regression equation methodology. Furthermore, except the different analytical tool that we use in this study, we consider the path of several contextual variables on organisational performance, such as management style, organisational culture, translation of HRM strategy into clear set of work programmes and deadlines, and the proactiveness of HRM in strategy making. Considering further, that there are no studies that test theoretically derived paths among various exogenous and endogenous variables in the Greek context, an attempt has been made in this paper to investigate how HRM influences organisational performance in the Greek context.

The remaining paper is organised as following. The next section presents the proposed research HRM-performance linkage framework and the hypotheses to be tested. Next, in order to empirically test this framework and the raised hypotheses the methodological approach is presented. Following this section the results of the estimated model are presented and explained. Finally, the paper ends with discussion and conclusions referring to the findings of the study.

2 RESEARCH MODEL AND HYPOTHESES

Although the resource-based-view (RBV) literature had a significant impact on strategic human resource management (SHRM) (Barney & Arikan, 2000), very few empirical studies up to date have tested the complex manner in which HRM policies create organisational value in the form of a sequence of linked variables (Huselid, 1995; Fey et al., 2000; Boselie, Paauwe, & Jansen, 2001; Guest, 2001; Batt, 2002; Park et al., 2003; Paul & Anantharaman, 2003; Katou & Budhwar, 2006; Vlachos, 2009). The usual causal pathway suggested by

theorists, depict the following sequence (Becker, Huselid, Pickus, & Spratt, 1997; Delery & Shaw, 2001; Edwards & Wright, 2001):

HRM (individual policies or systems) → HRM outcomes (skills, attitudes, behaviour) → performance (organisational or financial)

Considering this causal pathway the general framework of mediating models refer to an '*indirect linkage*' through HRM outcomes, between HRM and business performance. In these models we may also see a "*direct linkage*", between individual HRM policies, as well as internally consistent systems of HRM policies, and business performance (Schuler & Jackson, 1999; Harel & Tzafrir, 1999). However, it is not required these linkages to be simultaneously present. It is very possible even in the absence of a direct linkage, some policies to significantly contribute to business performance through the intervening process.

Furthermore, this intervening process may be '*moderated*' according to business strategies relationship between individual HRM policies, as well as internally consistent systems of HRM policies, and business performance (Youndt *et al.,* 1996). The moderation process is implied by the contingency perspective, which as we said supports that business strategies are followed by HRM policies in determining business performance. However, organisational contextual variables (Miles & Snow, 1984; Trompenaars, 1993; Brewster & Hegewisch, 1994; Budhwar & Sparrow, 1997; Budhwar, 2000) and other contingencies (Delaney & Huselid, 1996; Youndt et al., 1996) may also moderate this intervening process.

The major objective of mediating-moderating models has been to determine the extent to which individual HRM policies and/or HRM systems directly or indirectly enhance business performance (Katou & Budhwar, 2006). Such a model is presented in Figure 1, which is constituted by two parts. The mediating part refers mainly to the variables (circles) of HRM policies, HRM output, and Organisational performance. The moderating part refers mainly to the variables of Business strategies, Organisational context, and other Contingencies. The arrows connecting two circles (variables) indicate the hypotheses to be tested, as follows:

H1-1:	Organisational context will be associated with Business strategies
H1-2:	Organisational context will be associated with Organisational performance
H1-3:	Organisational context will be associated with HRM output
H1-4:	Organisational context will be associated with HRM policies
H2-1:	Contingencies will be associated with Business strategies
H2-2:	Contingencies will be associated with Organisational performance
H2-3:	Contingencies will be associated with HRM output
H2-4:	Contingencies will be associated with HRM policies
H3-1:	Business strategies will be positively associated with Organisational performance
H3-2:	Business strategies will be positively associated with HRM output
H3-3:	Business strategies will be positively associated with HRM policies
H4-1:	HRM policies will be positively associated with Organisational performance
H4-2:	HRM policies will be positively associated with HRM output
H5:	HRM output will be positively associated with Organisational performance

Figure 1: The Research Model
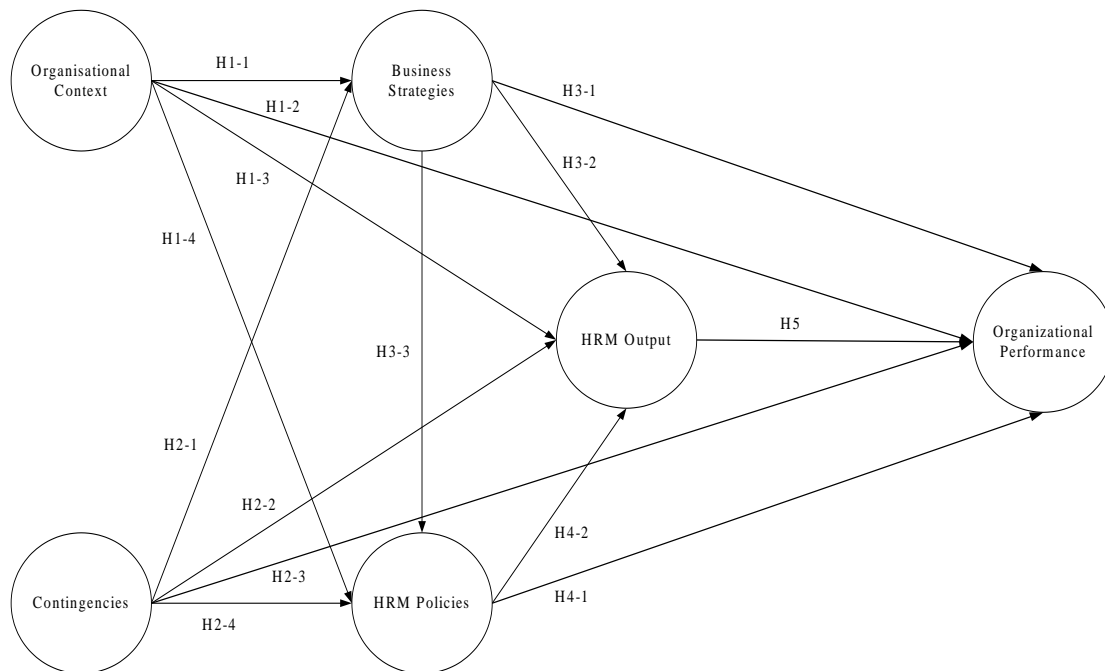
Specifically, although it is expected organisational context and contingencies to be associated with business strategies, organisational performance, HRM output, and HRM policies, the sign of this association depends on the specific variables constituting the organisational context and contingencies constructs. For example, capital intensity and employment size that are two of the major variables constituting contingencies, it is expected to positively be associated with organisational performance (Youndt et al., 1996; Richard & Johnson, 2001). On the contrary, life cycle stage and union intensity may not be positively associated with organisational performance (Delbridge & Whitfield, 2001; Christensen Hughes, 2002). Similarly, the translation of HRM strategy into clear set of work programmes and deadlines, and the proactiveness of HRM in strategy making that are two of the major variables constituting organisational context, it is expected to positively be associated with HRM output (Budhwar & Sparrow, 1997; Budhwar, 2000). On the contrary, management style and organisational culture may not be positively associated with HRM output (Miles & Snow, 1984; Trompenaars, 1993), depending on the specific constructs used.

The picture with respect to hypotheses referring to business strategies is clear. It is expected business strategies such as cost reduction, quality enhancement, and innovation to positively affect organisational performance (Porter, 1980, 1985), HRM policies (Schuler, 1989; Armstrong, 1996; Huselid, 1995; Delery & Doty, 1996), and HRM outcomes (Huselid, 1995; Paul & Anamtharaman, 2003). Furthermore, the picture with respect to the interrelationships of primary interest that are depicted by the hypotheses H4-1, H4-2 and H5, is also clear. For example, Doty and Delery (1997) argued that HRM policies positively influence firm performance by creating a workforce that is skilled, motivated, and empowered. Fey et al. (2000) provided some support for the use of HRM outcomes (motivation, retention and development) as mediating variables between HRM policies and firm performance. Guest (2001) used employee satisfaction and commitment, or employee quality, commitment and flexibility, as mediating variables. Boselie et al. (2001) indicated employee satisfaction, motivation, retention, presence, social climate, and involvement as HRM mediating outcomes between HRM policies and firm performance. Park et al. (2003) used employee skill, attitudes, and motivation as mediating variables between HRM systems and firm performance. Paul and Anantharaman (2003) indicated that the intervening variables of employee competence, teamwork, organisational commitment, and customer orientation affect the organisational performance variables of employee retention, employee productivity, product quality, speed of delivery, operating cost, which then determine financial performance.

In the following section the research methodology is presented that will be employed in order to test the model of Figure 1. The model specifies all the direct and indirect relationships between HRM policies, HRM outcomes and organisational performance, and moderates for business strategies, organisational context, and contingencies that may influence the endogenous variables of interest.

3 METHOD

3.1 Sample
A large questionnaire survey in 23 sector industries in the Greek manufacturing sector was carried out between March 2002 and September 2002. A sample of 600 Greek organisations was used from the main Greek directory *ICAP* (2001). The sample was obtained by employing the stratified methodology. The strata were the 23 manufacturing sector industries including organisations with more than 20 employees. 20 per cent of the approximately 3000 organisations were randomly chosen from each stratum of the directory. One hundred and seventy eight (178) usable self-administered questionnaires were received, a response rate of approximately 30 per cent.

3.2 Measures
HRM policies: For the classification of the HRM policies we followed Armstrong (1996) and Foot and Hook (1999). HRM policies were measured by the four key HRM areas of *resourcing* (recruitment; selection; separation; flexible work arrangements), *development* (individual and team training and development; monitoring training and development; careers; work design; performance appraisal), *rewards* (job evaluation; compensation; promotion arrangements; incentive schemes; benefits), and *relations* (employee participation; employee involvement; communications; health and safety). These 18 items were measured on a five-level scale ranging from 1 = not very effective to 5 = highly effective (Cronbach's alpha = 0.952).

Business strategies: For the classification of the business strategies we followed the methodologies of Snell and Dean (1992), Youndt et al. (1996), Sanz-Valee, Sabater-Sanchez, and Aragon-Sanchez (1999) and Huang (2001). Business strategies were measured by 8 items (cost reduction, customer service, distribution channels, quality enhancement, brand image, innovation, improvement of existing products, wide range of products) that define potential competitive priorities in manufacturing, including cost, quality and innovation. The business strategy items were measured on a five-level scale ranging from 1 = not very important to 5 = totally essential (Cronbach's alpha = 0.772).

HRM outcomes: We have classified HRM outcomes with respect to s*kills,* i.e., competent (Guest, 2001; Park et al.*,* 2003) and cooperated (Richardson & Thompson, 1999); *attitudes* – motivation, commitment, satisfaction (Park et al., 2003); and *behaviour,* i.e., employees staying within the organisation (counterpart of turnover) and presence (counterpart of absenteeism) (Richardson & Thompson, 1999; Guest, 2001). The HRM outcomes items were measured on a five-level scale ranging from 1 = very bad to 5 = very good (Cronbach's alpha = 0.952).

Organisational Performance: Organisational performance is usually indicated by indices such as *effectiveness***,** i.e. if the organisation meets its objectives (Dyer & Reeves, 1995), *efficiency*, i.e. if the organisation uses the fewest possible resources to meet its objectives (Rogers & Wright, 1998), *development*, i.e. if the organisation is developing in its capacity to meet future opportunities and challenges (Phillips, 1996), *satisfaction*, of all participants – owners and investors, customers, society, other organizations, and organization members (Schuler & Jackson, 2005), *innovation*, for products and processes (Guest, 2001), and *quality*, % of products of high quality Richardson & Tompson, 1999). The organisational performance items were measured on a five-level scale ranging from 1 = very bad to 5 = very good (Cronbach's alpha = 0.929).

Organisational contextual variables: Several organisational contextual forces may influence the adoption of business strategies such as *'management style'* (1 = heavily centralised to 2 = heavily decentralised) (Miles and Snow, 1984), *'organisational culture'* (1 = power-oriented, 2 = role-oriented, 3 = project-oriented, 4 = fulfilment-oriented) (Trompenaars, 1993), *'type of involvement of HRM department in developing business strategies'* (1 = from the outset, 2 = consultative, 3 = implementation) (Brewster and Hegewisch, 1994), *'translation of HRM strategy into clear set of work programmes and deadlines'* (0 = no, 1 = yes) (Budhwar and Sparrow, 1997; 2002), *'proactiveness of HRM in strategy making'* (0 = no, 1 = yes) (Budhwar, 2000). The five organisational context items used produced Cronbach's alpha = 0.533 that is rather low.

Contingencies: Several contingencies may influence the adoption of business strategies, HRM policies and performance (Delaney & Huselid, 1996; Youndt et al., 1996), such as '*size'* (employment in logs) (Youndt et al., 1996), *'age'* (in logs) (Delaney & Huselid, 1996), *'life cycle stage'* (introductory, growth, maturity, decline, turnaround) (Christensen Hughes, 2002), *'union intensity'* (percent of employees in unions) (Delbridge & Whitfield, 2001), *'capital intensity'* (total assets by employment, in logs) (Richard & Johnson, 2001), '*industry*' (0 = industries that their primary inputs for their production come mainly from the agricultural sector, and 1 =

industries that their primary inputs for their production do not come from the agricultural sector) (Koch & McGrath, 1995). The six contingency items used produced Cronbach's alpha = 0.644.

3.3 Statistical analysis

To test the developed research hypotheses of the proposed framework regression analysis may be used. Specifically, for testing whether business strategies moderate HRM policies, '*hierarchical regression models*' may be used (Youndt et al., 1996; Delery & Doty, 1996) and for testing whether HRM outcomes mediate HRM policies and business performance '*competing regression models*' may be used (Baron & Kenny, 1986). However, it is argued that the methodology of '*structural equation models*' or '*latent variable models*' (Hair, Anderson, Tatham, & Black, 2008; Agresti, 2002) is much more powerful in investigating causal relationships between categorical variables (Bollen, 1989; Bollen & Long, 1993; Mels, 2004), and thus this methodology was used in this study.
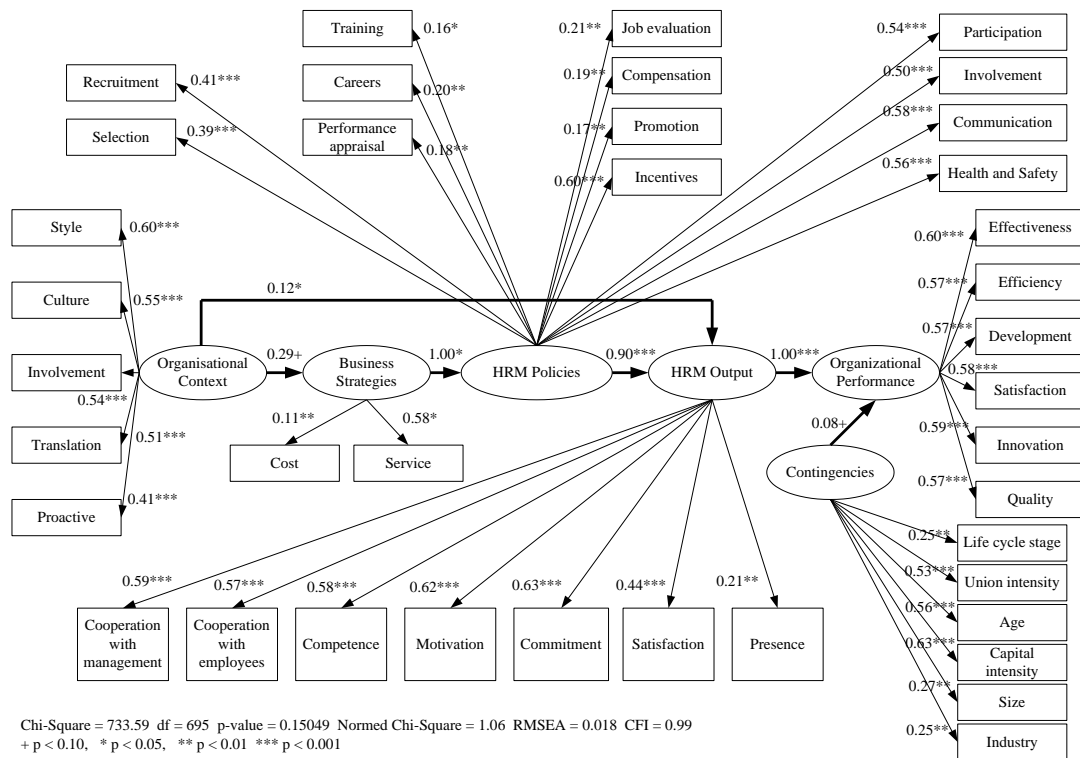
4 RESULTS

We tested the theoretical model presented in Figure 1 using the structural equation modelling (SEM) via the Statistical Package LISREL (Linear Structural Relations) and the maximum likelihood estimation (see Jöreskog & Sörbom, 2004). We used MLE because tests of departure from normality, skewness and kurtosis for all variables used (except union intensity) were all within acceptable statistical limits. Furthermore, the sample size of 178 in this study is within the range of 100 to 200 for using MLE procedures (Hair et al., 2008). Moreover, the general rule for SEM is that the number of observations needed for each parameter estimated must be between 5 and 10 observations (Hair et al., 2008), fact that is fulfilled in the present study. We assessed the overall model fit employing the chi-square test and the normed-chi-square test and examining the root mean squared error of approximation (RMSEA) and the comparative fit index (CFI). A non-significant chi-square (i.e. $p > 0.05$) and a value of the normed-chi-square (i.e. value of chi-square / degrees of freedom) between 1 and 2 or 3 indicate that the proposed model is an adequate presentation of the entire set of relationships (Seo, Han, & Lee, 2005). The RMSEA considers the fit of the model to the population covariance / correlation matrix. A value of RMSEA less than 0.05 indicates a close fit and a value less than 0.08 represent a reasonable approximation (Browne & Cudeck, 1993; Byrne, 2001). The CFI traces the relative improvement of the assessed model over a null where all observed variables are assumed to be uncorrelated. The CFI ranges from zero to 1.00, with values over 0.95 indicating a well-fitting model (Bentler, 1990; Hu & Bentler, 1999).

Each latent variable model is accompanied with a path diagram indicating all the causal relationships between the variables involved. The path diagram for the estimated HRM-performance linkage model proposed in Figure 1 is presented in Figure 2. In this figure the boxes represent exogenous or endogenous observed variables and the circles represent the related latent variables. The light arrows indicate the observed variables that constitute the related latent variable and the bold arrows indicate the structural relationships between the corresponding variables. The figures that are assigned to each arrow show the estimated standardised coefficients. The statistics presented in Figure 2 suggest that our estimated model possesses a satisfactory degree of fit with the data (p of Chi-Square = 0.15, Normed Chi-Square = 1.06, RMSEA = 0.018, CFI = 0.99).

Turning now to the SEM specific results the significant arrows between the various variables of the model suggest the following relationships.

- With respect to contingencies, it is seen that life cycle stage, union intensity, age, capital intensity, size and industry have directly linked to organisational performance (Becker & Olson, 1989; Huselid, 1995).
- Considering the organisational performance variables, management style, organisational culture, HRM involvement in developing business strategies, translation of HRM strategy into clear set of work programmes and deadlines, and proactiveness of HRM in strategy making have directly linked with business strategies and HRM outcomes.
- However, business strategies are followed by HRM policies in determining HRM outcome that consequently determines organisational performance. This result supports the contingency principle (Delery & Doty, 1996), advocating that HRM policies are determined by business strategies, and the mediation principle (Doty & Delery, 1997; Fey et al.*,* 2000), arguing that HRM output mediates HRM polices and organisational performance.

Figure 2: The Estimated Model using LISREL

Chi-Square = 733.59 df = 695 p-value = 0.15049 Normed Chi-Square = 1.06 RMSEA = 0.018 CFI = 0.99
+ p < 0.10,   * p < 0.05,   ** p < 0.01 *** p < 0.001

- Although we used 8 items in describing business strategies, only the items of cost reduction and customer service gave significant results in determining the business strategy latent variable.
- With respect to the 18 HRM policy items used to describe the HRM policies latent variable, 13 items produced significant results. Specifically, recruitment and selection for resourcing, careers for development, incentives for employee rewards and communication, health and safety, participation, and involvement for employee relations presented the highest standardised coefficients.
- With respect to the 8 HRM output items used to describe the HRM output latent variable, 7 items produced significant results. Specifically, cooperation with management, cooperation with employees and competence for skills, motivation, commitment and satisfaction for attitudes, and presence for behaviour presented the highest standardised coefficients.
- All six organisational performance items (effectiveness, efficiency, development, satisfaction, innovation, quality) that describe organisational performance produced significant results.
- Summarising the above, the path estimates displayed in Figure 2 indicate some divergence from the corresponding paths indicated in the proposed model in Figure 1. Specifically, Table 1 presents all testing results with respect to the hypotheses developed in Figure 1.

Table 1: Results of Hypothesis Testing

Path	Hypothesis	Result
Organisational context → Business strategies	H1-1	Support
Organisational context → Organisational performance	H1-2	Reject
Organisational context → HRM output	H1-3	Support
Organisational context → HRM policies	H1-4	Reject
Contingencies → Business strategies	H2-1	Reject
Contingencies → Organisational performance	H2-2	Support
Contingencies → HRM output	H2-3	Reject
Contingencies → HRM policies	H2-4	Reject
Business strategies → Organisational performance	H3-1	Reject
Business strategies → HRM output	H3-2	Reject
Business strategies → HRM policies	H3-3	Support
HRM policies → Organisational performance	H4-1	Reject
HRM policies → HRM output	H4-2	Support
HRM output → Organisational performance	H5	Support

5 DISCUSSION

The contribution of this study is two-fold. First, although previous studies on the HRM-performance linkage perspective are based on regression – like analyses, the present study has adopted the different analytical tool of the structural equation modelling, following thus the suggestion of Becker and Gerhart (1996) and Fey et al. (2000). Second, the proposed and tested conceptual HRM-performance linkage framework put some light into the 'black box' mediating HRM policies and organisational performance, by considering also new organisational context variables.

5.1 Findings

Starting with the latent variable of *'business strategies'* (cost reduction, customer service), path coefficients reveal that it is positively influenced by the *'organisational context'* variable. This means that the more heavily decentralised is the management style, the more fulfilment – oriented (i.e. emphasis on expertise and orientation toward the person) is organisational culture, the more active the involvement of the HRM department is in developing business strategies, the more the HRM strategy is translated into clear set of work programmes and deadlines, and the more proactive of HRM is in strategy making, the more positive is the influence of organisational context variables on the development of business strategies. However, we must note here, that although we used 8 items constituting the three types of Porter's (1980, 1985) business strategies of *'cost'* (cost reduction), *'quality'* (customer service, distribution channels, quality enhancement, brand image), and *'innovation'* (innovation, improvement of existing products, wide range of products), only the variables of cost reduction and customer service fit into the model. This is may be due to the fact that Greek manufacturing firms put more emphasis on cost reduction and customer service than on quality or innovation (World Economic Forum, 1998).

Although, path coefficients reveal that the latent variable of *'HRM outcomes'* (cooperation with management, cooperation with employees, competence, motivation, commitment, satisfaction, presence) is indirectly influenced by the organisational context variable, through business strategies and HRM policies, it has been found that it is directly, moderately and positively influenced by the organisational context variable. This result seems to be very important because it reveals that the internal environment of the organisation influences the skills, attitudes and behaviour of the employees, which in turn affect organisational performance (Keats & Hitt, 1998; Terpstra, Mahamed, & Rozell, 1996; Murphy & Southey, 2003). We must note here that to our surprise the variable of employee retention (counterpart of turnover) did not fit into the model, contrary to the findings of other researchers such as Katz, Kochan, and Weber (1985), Arthur (1994), d'Arcimoles (1997), Boselie et al. (2001), Fey et al. (2000) and Guthrie et al. (2004), who advocate that it affects organisational performance.

The latent variable of '*HRM policies'*, that is constituted by resourcing (recruitment, selection), development (individual and team training and development, careers, performance appraisal), rewards (job evaluation, compensation, promotion arrangements, incentive schemes), and relations (employee participation, employee involvement, communications, health and safety), path coefficients reveal that it is heavily and positively influenced by the *'business strategies'* variable. This result indicating that business strategies are followed by HRM policies in determining business performance supports the contingency perspective, arguing that an organisation's set of HRM policies and practices will be effective if it is consistent with other organisational strategies. The variables of separation, flexible work arrangements, monitoring training and development, work design, and benefits did not fit into the model. Although Becker and Gerhart (1996) have

identified only three HRM policies that influence organisational performance to be common among various empirical studies, we decided to include in this study as many HRM policies as possible, considering that the proposed research model is tested for the first time in the Greek context using structural equation modelling. However, the HRM policies that fit into the model are all included in the classification key HRM areas suggested by Armstrong (1996) and Foot and Hook (1999).

In terms of mediation we found that the latent variable of '*HRM outcomes*' mediates the relationship between '*HRM policies*' and '*organisational performance*'. The results show that HRM outcomes strongly and positively affect organisational performance. Furthermore, it is seen that employee skills (cooperation between management and employees, cooperation among employees, competence), attitudes (motivation, commitment, satisfaction) and behaviour (presence) positively affect organisational performance. This finding demonstrates that the relationships between HRM policies and organisational performance may be mediated by HRM outcomes, such as employee skills, attitudes and behaviour. This finding coincides with Doty and Delery (1997) and Park et al. (2003) who argued that HRM policies influence organisational performance by creating a workforce that is skilled and has the right attitudes and behaviour. It also partially supports Guest (2001) for satisfaction and commitment, Boselie et al. (2001) for satisfaction and motivation, and Paul and Anantharaman (2003) for competence and commitment, arguing that these HRM outcomes affect organisational performance.

With respect to the latent variable of '*organisational performance*' it is seen that all the variables (effectiveness, efficiency, development, satisfaction, innovation, quality) used to constitute this construct fit properly into the model. However, path coefficients reveal that organisational performance is moderately and positively influenced by the other '*contingencies*' variable, supporting thus the argument of Harel and Tzafrir (1999) whereby organisations do not operate in a vacuum. Specifically, with the introduction of the 'life cycle stage' variable we tried to capture maturity effects of the organisation, or to assess the stage of organisational development. It is argued that HRM policies change over time depending on whether the organisation is in a stage of formation, growth, maturity, or decline (Budhwar & Sparrow, 1997). There is much evidence that unions affect a firm's performance (Freeman and Medoff, 1984). In our study we found that union intensity is positively related to organisational performance, supporting thus similar findings of Arthur (1994) and Huselid (1995). Superior performance becomes crucial in firms that make large investment in plant, equipment and other assets. In our research we found that capital intensity is positively related to organisational performance (Hayes, Wheelwright, & Clark, 1988). We also found that the variable of size is positively related to organisational performance. Such results are expected as it is now known that large firms tend to have established HRM systems, which facilitate in improving performance of the organisation (Brewster et al., 1996). Furthermore, we found that the variable of age, that is used to capture any founding values of the organisation (Delaney & Huselid, 1996), positively influences organisational performance. Finally, we found that organisational performance depends on the industry specific effects (Shih et al., 2006).

5.2 Limitations and further research

A number of issues may limit the findings of the study. First, the data was collected using a questionnaire at a single point in time. As a result, the study based on cross-sectional data does not allow for dynamic causal inferences (Cavanaugh & Noe, 1999). Second, a single respondent from each organisation provided information on HRM policies and practices, HRM outcomes and perceived measures of organisational performance, respondent bias may have set in the form of upward or downward reporting of the measures (Paul & Anatharaman, 2003). Third, the survey was conducted in 2002. Although the scope of the study was focused in investigating structural relationships in the HRM-organisational performance framework, this framework may not be relevant today under the context of economic crisis. Last but not least, the study was applied in the context of Greece, with specific labour relations and institutional conditions, and thus the findings from the Greek sample may not generalise across borders (de Jong, Schalk, & Cuyper, 2009). Nevertheless, considering the limitations of the study we may propose paths for future research. Specifically, in this study we tried to explore the question of causality using cross-section data. However, causality can only really be tested with data collected at different points in time. Thus, the field would greatly benefit from some longitudinal studies in the future. Further, considering the pace of globalisation, there is a strong need for such investigations in emerging markets, through the inclusion of organisational context variables (Katou & Budhwar, 2006). Additionally, it would be very interesting to repeat the same study under the context of economic crisis and compare the findings.

5.3 Contribution of the study

In spite of such limitations, the study makes some important contributions. It tests theoretical assumptions in smaller firms and in a non- USA/UK context. It provides support to the mediation and contingency perspective. The study supports for the use of HRM outcomes (skills, attitudes, behaviours) as mediating variables between HRM policies and business performance. Thus, the research suggests that models depicting direct relationships between HRM policies and business performance may be too simplistic and does not show

the causalities involved. This meets the advice of Becker and Gerhart (1996) and Fey et al. (2000) to test models with mediating variables such as HRM outcomes, using the methodology of structural equation modelling, and thus, contributing to this academic area of research.

5.4 Implications

The argument that HRM makes an impact on the bottom line may not be in dispute. However, what is of interest is in knowing how this impact has taken place. Thus, a managerial implication of this study is not only the demonstration that HRM policies are positively related to organisational performance in the Greek context, but also that employee skills, attitudes, and behaviours are three major components of the "black-box" that generate organisational competitiveness from HRM policies. Managers should recognise that changes in employee skills, attitudes, and behaviours that are caused by HRM policies precede changes in organisational performance (Katou & Budhwar, 2006). Specifically, (considering the highest standardised loadings of the constructs in Figure 2) the study argues that HRM policies with respect to employee incentives, communication and health and safety, create positive employee attitudes with respect to employee commitment, motivation and cooperation, which in turn will improve organisational effectiveness, innovation and satisfaction. Thus, practitioners should emphasise the proper use of these HRM policies, in order to improve organisational performance.

6 CONCLUSIONS

Concluding, we may say that although past research has demonstrated that there exists a relationship between HRM policies and organisational performance, it has neglected to investigate the mediating mechanisms, usually called the "black box", through which HRM policies are hypothesised to affect organisational performance (Park et al., 2003). The results of this study support that HRM policies positively affect organisational performance of Greek manufacturing companies. Specifically, the relationship between HRM policies and organisational performance is mediated through the HRM outcomes of skills, attitudes and behaviour, and is moderated by business strategies, organisational context and other contingencies, giving support to the contingency perspective of the HRM-performance linkage. Thus, this paper not only supports that HRM policies have a positive impact on organisational performance, but it additionally explains the mechanisms through which HRM policies improve organisational performance and that too in a non US/UK context where most of research related to this field has been conducted.

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